Barry University
Institutional Repository

Theses and Dissertations

2009

The Effects of a Maternal Prenatal Parenting Class on Mothers'/Fathers' Attachment Styles and on Mother/Father-Infant Attachment Levels

Jodie Scott Rivera.

This work is brought to you for free and open access by the Theses and Dissertations at Barry University Institutional Repository. It has been accepted for inclusion in open access Theses by an authorized administrator of Institutional Repository.

THE EFFECTS OF A MATERNAL PRENATAL PARENTING CLASS ON MOTHERS'/FATHERS' ATTACHMENT STYLES AND ON MOTHER/FATHER-INFANT ATTACHMENT LEVELS

DISSERTATION

Presented in Partial Fulfillment for the Requirements for

the Degree of Doctor of Philosophy in

Counseling in

the Adrian Dominican School of Education of

Barry University

By

Jodie Scott Rivera, M.A., L.M.H.C.

*****

Barry University

2009

Area of Specialization: Marital, Couple and Family Counseling and Therapy

THE EFFECTS OF A MATERNAL PRENATAL PARENTING CLASS

ON MOTHERS'/FATHERS' ATTACHMENT STYLES AND

ON MOTHER/FATHER-INFANT

ATTACHMENT LEVELS

DISSERTATION

BY

JODIE SCOTT RIVERA

2009

APPROVED BY:

Catharina M. Eeltink, Ph.D.
Chairperson, Dissertation Committee

Christine Sacco-Bene, Ph.D.
Member, Dissertation Committee

Marilyn Lutz, Ed.D.
Member, Dissertation Committee

Terry Piper, Ph.D.
Dean, Adrian Dominican School of Education

Copyright by Jodie Scott Rivera, 2009

All Rights Reserved

ABSTRACT

THE EFFECTS OF A MATERNAL PRENATAL PARENTING CLASS
ON MOTHERS'/FATHERS' ATTACHMENT STYLES AND
ON MOTHER/FATHER-INFANT
ATTACHMENT LEVELS

Jodie Scott Rivera

Barry University, 2009

Dissertation Chairperson: Dr. Catharina Eeltink

Purpose:

The purpose of this study was to investigate the effects of a prenatal parenting curriculum, *Promoting Maternal Mental Health During Pregnancy*, on individual attachment styles and prenatal attachment levels of pregnant women/men (fathers of the babies) or women who had recently given birth.

Method:

The research method chosen for this study was a one-group pretest-posttest design. The group of participants were volunteer pregnant women/men and women/men who had recently given birth who were recruited from a flyer distributed in a community organization and local high schools that offered the Teenage Parent Program.

The participants completed the Experiences in Close Relationships Adult Questionnaire (ECR-R) and the Prenatal Attachment Inventory (PAI) as pretests, and then received 10 hours of instruction from the *Promoting Maternal Mental Health During Pregnancy* curriculum. At the end of the curriculum the participants completed the ECR-R and the PAI as posttests. They also completed a demographic survey and a

fifteen minute interview with the researcher. The scores for the pretests and posttests were compared, and a statistical analysis was conducted to assess any changes.

Major Findings:

The results of the study found support for both hypotheses. The participants became more secure in their attachment styles and had higher levels of prenatal attachment after completing the prenatal parenting class. The men participants showed a greater increase in prenatal attachment when compared with the women.

ACKNOWLEDGEMENTS

There are many people I would like to acknowledge and thank for their assistance, encouragement, and continued support over the years it has taken to bring this work to a successful end.

First and foremost, Dr. Kitty Eeltink, thank you for your continuous support and patience with me and this project. We have spent a lot of time together and without your support, there is little doubt that I probably would not have completed this. Having gone through five potential research sites, over more than two years, was certainly an experience in patience and perseverance. And then there was the day when we knew something had to change, and guess what that was? How about the population for which I had written the first three chapters? We had arrived at the pivotal point: to quit or to change. So, change, we did. And, rewrite we did. I sincerely thank you, Dr. Eeltink, for your patience, perseverance and for being there.

To all of my past committee members, Dr. Paul Gallant, Dr. Stephen Livingston, and Dr. Gordon Hatcher, all of whom have moved on to other places, I thank you all. You all made a profound difference in my life. And to Dr. Sacco-Bene and Dr. Marilyn Lutz, thank you for filling the positions left vacant by the aforementioned people. I would also like to especially thank the late Dr. Eugene Tootle, who was the first person I encountered when I contacted Barry University. As I took classes with Dr. Tootle, I and my fellow classmates used to sit in utter amazement as Dr. Tootle would begin teaching. He was like a fountain of information and knowledge, spouting forth so much amazing information, especially on brain based learning. Never, ever, was there a dull moment in any of his classes. Dr. Tootle always offered encouragement and support, and always

shared that each of us had within ourselves, the strength, intelligence, and wherewithal to accomplish whatever we set out to do. Your charisma and energy are missed, Dr. Tootle.

I would like to thank my children, Rachel, Audrey, and James, for allowing me to pursue this dream. Without your support and accommodations this could not have been possible.

I would like to thank my husband, Samuel, for the endless computer assistance I have required, and for your focus and support in completing this project.

And finally, I would like to thank the Barry University family for the experience of having the best of the best in professors. The levels of expertise, caring, sharing, professionalism, and education have greatly exceeded my expectations. It has been a wonderful experience and I have learned so much. Thank you.

DEDICATION

Finally…. First, I dedicate this research study to Dr. Kitty Eeltink. Without her constant, continuous dedication to helping me finish this dissertation, it surely never would have occurred. This is probably the longest running study you have ever been a part of, and for that, I thank you for not giving up, not faltering, and always being positive.

I also dedicate this study to all of the unborn babies of the world, in hopes that it will make a difference in your experience in this journey called life. Maybe because of the research, your life with your parents will be one of love, nurturance, gentle guidance, and lots of joy.

To my children, Rachel, Audrey, and James, who have been so encouraging even in the face of doubt about completing this project, I thank you and I dedicate this to you. Your smiling faces, your willingness to share your mom even when you weren't crazy about the idea, and especially when I worked with other teenagers, when YOU three were teenagers. That unselfishness spoke volumes about what loving and gracious individuals you are. You, too, have earned this degree.

To my deceased husband, Tom, I am sorry you are not here to share the triumphant ending and the new beginning this brings. Thanks for all of your support and encouragement over earning the doctorate.

To my husband, Sam, now you can relax, for all of the computer assistance I needed is complete. You are now married to a doctor.

To God, thank You for all the challenges this research study entailed. I have successfully navigated all of the challenges I need for a while. Thank You more for all of the people You put in my path to help me through. Amen.

TABLE OF CONTENTS

ABSTRACT……………………………………………………………………………...iv

ACKNOWLEDGEMENTS……………………………………………………………... vi

LIST OF FIGURES…………………………………………………………………... xiii

Chapters

I. PROBLEM STATEMENT………………………………………………………… 1

Introduction………………………………………………………………………… 1
Background………………………………………………………………………… 4
Foster Care System……………………………………………………………….. 4
Theoretical Framework…………………………………………………………….. 7
Attachment theory………………………………………………………………… 7
Infant Mental Health……………………………………………………………… 10
Statement of the Problem…………………………………………………………... 12
Purpose and Design of the Study…………………………………………………... 13
Research Question…………………………………………………………………. 14
Definitions………………………………………………………………………….. 14
Organization of the Study………………………………………………………….. 15

II. REVIEW OF THE LITERATURE……………………………………………… 16

Introduction and Overview………………………………………………………… 16
Attachment Theory…………………………………………………………………. 17
The Strange Situation……………………………………………………………….. 20
Internal Working Models…………………………………………………………… 21
Defining Attachment Disorders…………………………………………………….. 25
Treatment of Attachment Disorders……………………………………………. 31
Implications for Residential Treatment………………………………………... 34
Infant Mental Health and Prenatal Attachment…………………………………….. 36
Treatments for Prenatal Attachment………………………………………………... 42

III METHODOLOGY……………………………………………………………… 56

Research Design and Rationale…………………………………………………… 56

Independent and Dependent Variables………………………………………………….. 57
Research Questions and Hypotheses…………………………………………………. 58
Participants……………………………………………………………………………. 58
Selection of Participants……………………………………………………………… 59
Procedures…………………………………………………………………………….. 59
Confidentiality……………………………………………………………………….. 61
Risks………………………………………………………………………………….... 61
Instrumentation……………………………………………………………………….. 62
Experiences in Close Relationships-Revised (ECR-R) Adult Attachment…….. 62
Purpose…………………………………………………………………………… 62
Reliability………………………………………………………………………… 63
Validity…………………………………………………………………………... 63
Promoting Maternal Mental Health During Pregnancy………………………………66
Description…………………………………………………………………….. 66
Fifteen Minute Interview…………………………………………………………….... 66
Description…………………………………………………………………….. 66
External Validity………………………………………………………………………67
Data Analysis…………………………………………………………………………67
Limitations……………………………………………………………………………67
Summary………………………………………………………………………………68

IV. RESULTS…………………………………………………………………………..69

Introduction……………………………………………………………………………69
Descriptive Statistics…………………………………………………………………..70
Demographic Figures…………………………………………………………………71
Inferential Statistics………………………………………………………………….... 87
Summary………………………………………………………………………………90

V. SUMMARY/CONCLUSIONS/RECOMMENDATIONS……………………………91

Introduction……………………………………………………………………………91
Restatement of the Methodology……………………………………………………...92
Conclusions……………………………………………………………………………93
Recommendations for Practice……………………………………………………….. 96
Summary………………………………………………………………………………98

REFERENCES……………………………………………………………………….. 100

APPENDIX A………………………………………………………………………….. 123

APPENDIX B…………………………………………………………………………... 124

APPENDIX C…………………………………………………………………………... 126

APPENDIX D………………………………………………………………………….. 127

APPENDIX E…………………………………………………………………………... 128

APPENDIX F…………………………………………………………………………... 130

APPENDIX G…………………………………………………………………………...131

APPENDIX H…………………………………………………………………………...133

APPENDIX I………………………………………………………………………… 135

LIST OF FIGURES

Figure 1 Age of Participants……………………………………………………….. 71

Figure 2 Marital Status…………………………………………………………….72

Figure 3 Currently Receiving Food Stamps…………………………………………73

Figure 4 Currently Receiving Medicaid……………………………………………. 74

Figure 5 Currently Receiving Counseling………………………………………….. 75

Figure 6 Currently Received Food Stamps…………………………………………76

Figure 7 Number of Participants Who Previously Received Medicaid………………..77

Figure 8 Number of Participants Who Previously Received Counseling……………...78

Figure 9 Number of Children of Participants………………………………………. 79

Figure 10 Education Level of Participants……………………………………………80

Figure 11 Grade Level of Participant…………………………………………………81

Figure 12 Work Status of Participants………………………………………………... 82

Figure 13 Income Level of Participants………………………………………………83

Figure 14 Was Class Helpful………………………………………………………… 84

Figure 15 Number of Participants Who Recommend Class…………………………….. 86

Figure 16 Pretest ECR-R Scores……………………………………………………87

Figure 17 Posttest ECR-R Scores…………………………………………………….. 88

CHAPTER I

PROBLEM STATEMENT

Introduction

Considerable research and evaluation have been conducted on Bowlby's Theory of Attachment (Sable, 1997). Bowlby hypothesized four attachment styles that people exhibit based upon relationships that were established with caretakers at very young ages. He believed that people continue their particular attachment style throughout the life cycle. If the attachment style were a secure attachment, there would be few or no relationship problems. If the attachment style were any of the other styles, there would be so much discord in relationship to/with others that a person would eventually find his/her way into therapeutic counseling.

There is little published research on how to treat attachment disorders effectively. What is known is that relationships are important throughout the life span. Parlakian and Seibel (2002) state:

> For very young children they are critical to survival itself. Infants depend on adult caregivers to meet their physical as well as their emotional needs. As babies get older and become more self-sufficient, they continue to need physical care and to depend on the emotional nurturance of the important adults in their lives. (p.52)

All children are born wired to form relationships. Establishing a close, nurturing bond with a primary caregiver is a major developmental task for infants and toddlers. The process of relationship building begins in pregnancy, continuing throughout the infants' first twelve months and beyond (Seibel, 2002).

Research shows that supportive relationships have a tangible, long term influence on children's healthy development, contributing to optimal social, emotional, and cognitive development for infants and toddlers (Zeanah & Zeanah, 2000). As a child grows, supportive relationships with parents and caregivers shape his or her self-image and provide the child with the resilience needed to face new challenges.

Greenough, et. al. (2001) state that nurturing, sensitive, adult-child interactions are crucial for the development of trust, empathy, compassion, generosity, and conscience. These relationships are far reaching; research has shown that they provide a context for supporting the development of curiosity, self-direction, persistence, cooperation, caring and conflict resolution skills. Healthy maternal-child relationships are a precursor of school readiness for older children. Throughout the life span, nurturing and supportive relationship experiences provide a model for loving relationships (Sanoff, 2002).

A convergence of diverse research supports the premise that the early years provide the foundation for an individual's healthy social/emotional functioning in society. This is an essential component of school readiness and life success. Even before their first birthday, infants can suffer from clinical depression, traumatic stress disorder, and a variety of other mental health problems (Graham, White, Clarke, & Adams, 2001). The core principle of infant mental health, creating a healthy emotional attachment between the child and the primary caregiver, is derived predominantly from attachment theory (Ainsworth, 1964 & Bowlby, 1982). According to the 1999 National Household Education Survey, many children under the age of five spent a significant amount of time with caregivers other than a parent, and 61% of children under age four were in regularly

scheduled child care. Therefore, it is important to help others who come into contact with young children to recognize early signs of unmet emotional needs.

Graham, White, Clarke, and Adams (2001) state that a child's mental health evolves from multiple contexts: the characteristics of the infant, the relationship the infant has with adults, including the caregiving settings where these relationships take place, and the environment. Promoting infant mental health requires addressing all front-line caregivers who may be a part of a young child's life, including: parents, extended family, child care providers, health care providers, home visitors, parent educators, social workers, police officers, foster parents, child protection workers, judges, and caregivers in faith-based communities. It touches many programs such as Healthy Start, Early Head Start/Head Start, Teen Parent programs, home visiting programs, Healthy Families, health care providers, subsidized and other early child care, and education programs. Ensuring that our programs are indeed supporting our children's emotional development is the challenge. The principles of infant mental health that are common across caregivers and programs include strengthening the caregiver-child relationship through focusing on the importance of human touch and proximity to the caregiver, responsive caregiving, continuity of care, and emotional nurturance and comfort.

In the late 1960's, researchers began to investigate how to identify children with failure to thrive, abuse, or neglect. As a result, education, prevention, and intervention programs, as well as assessment tools were developed which focused on early child development. Programs such as "Circle of Security" (Cooper, Hoffman, Powell, Marvin, 2002), the Parent-Child Interaction (PCI) Program (http://www.ncast.org/about.asp), Keys to CaregivinG Program (http://www.ncast.org/about.asp), Healthy Start, Head Start,

and many others began to be used to meet the needs of families and/or mother-infant relationship problems.

This study will investigate the effects of a parent education class, "Promoting Maternal Mental Health During Pregnancy" (http://www.ncast.org/p-pregnancy.asp) on adult attachment styles of a group of volunteer pregnant mothers/fathers in a county in Central Florida. Adult attachment styles, prenatal attachment levels, and changes in the attachment styles after the parent education class will be measured.

Background

Foster Care System

The growing number of children in the foster care system and the costs to take care of this vulnerable population is staggering. According to Fromm (2001) Prevent Child Abuse America estimated child abuse and neglect costs the United States over $258 million dollars per day. In 2006, Scarcella, Bess, Zieleweski, Hecht, and Geen reported the total (federal, state, and local) Child Welfare Spending expenditures for fiscal year 2004 were over $23 billion. According to the Department of Health and Human Services, in 2001, 2.6 million referrals concerning the welfare of 4.5 million children were reported to child protective agencies. Of these 2.6 million referrals, 896,000 children were determined to be victims of child abuse or neglect (Administration for Children and Families, 2002). Fifty-nine percent of these cases were neglect, 18.6% were physical abuse, 9.6% were sexual abuse, 6.8% were emotional maltreatment, and 19.5% "other" such as congenital drug addiction and abandonment. These numbers total over 100% because many cases are found to have multiple issues (Badeau & Gesiriech, 2003). The majority of maltreatment victims are harmed by their parents: 47% by their mother;

18.7% by their father; 19.3% by mother and father; 11.9% by a non-parent; and 3.1% unknown. An estimated 1400 children died from abuse or neglect in 2002. Children with special needs were more likely to be abused or neglected; 35.5 per 1000 for children with special needs as compared to 21.3 per 1000 children without special needs (Tackett-Kendall, 2002).

The National Foster Care Coalition (NFCC), (http://www.nationalfostercare.org/fact/fostercare.php) states that the number of children in foster care has decreased gradually over the past ten years, but there are still 510,000 children in foster care in the United States. According to *Child Welfare in the United States* (2006) there are over 517,000 children in foster care with child abuse and neglect cases totaling over 872,000. (Not all abused and neglected children are in foster care.) Of these children, 64.5% were neglected and suffered medical neglect, 17.5% suffered physical abuse, 9.7% suffered sexual abuse, and 21.5% suffered psychological and other maltreatment.

The majority (60%) of children enter foster care due to abuse or neglect while 17% enter foster care due to absence of parents due to illness, death, disability, incarceration, or other problems. Other reasons for entering foster care include: delinquent behavior (10%), juvenile offenses such as truancy or running away (5%); and 5% for disability or the lack of access to care for their disability (Badeau & Gesiriech, 2003).

In 2003, the Administration for Children and Families reported there were 542,000 children in the foster care system in the U.S. because of abuse and/or neglect; over 800,000 children spent some time in foster care during that year, and that the average length of stay for a child in foster care was 33 months. In 2006, The National Foster Care

Coalition (http://wwwnationalfostercare.org/facts/fostercare.php) reported a decline, (28.6 months) in the average length of stay in the foster care system. During that time children experienced an average of three different placements, disrupting everything familiar to them. Many of these young people, ill-prepared for adulthood and lacking a safety net to fall back on in times of need, struggled with housing, food, and education. Forty percent of foster care children are between 13 and 21 years of age. In 2001 over 19,000 children “aged out” of foster care with no permanent home of which to return (Administration for Children and Families, 2003). In 2006, the NFCC reported that even though the overall number of children in foster care decreased, the number of youth who “aged out” of the system because their age made them ineligible for services increased to an all time high of over 26,000. Twenty thousand had been the estimated number of young people who “age out” of the foster care system. Fifty-four percent of these young people earned a high school diploma, 2% obtained a bachelor’s degree of higher, 84% became a parent, 51% were unemployed, 30% had no health insurance, 25% had been homeless, and 30% were receiving public assistance.

Adoption is the permanency goal for 22% of the children in foster care and in 2001, 18% of the children exiting foster care were adopted (Administration for Children and Families). In 2006, NFCC reported about half (49%) of all children in foster care were waiting to be reunited with their birth families; 127,000 children (about 25%) were eligible to be adopted. However, these children and youth waited, on average, more than 3 years (39.4 months) to join permanent adoptive families. Studies indicate that 33% of those leaving foster care and returning to the parents re-enter the foster care system within three years due to continued maltreatment (Perex, O’Neil, & Gesiriech, 2003).

The damaged attachment style of these children rears its' ugly head throughout the child's life. Many mental health issues arise out of the broken relationships with the parents as well as the many placements within the foster care system children are sometimes subjected to as a result of the child's disruptive, defiant, and belligerent behaviors. Because the attachment issues have been overlooked, often children are moved from one placement to the next because foster parents are unable to cope with the demands made by a child with attachment issues. The National Foster Care Coalition http://www.nationalfostercare.org/facts/fostercare.php (2006) reports that during the average stay of 28.6 months in foster care, children experienced an average of three different placements, disrupting routines, changing schools, and moving away from brothers and sisters, extended families, and everything that is familiar. Thus, the system perpetuates itself, and the children, as well as society, suffer. The literature suggests that attachment issues may be related to the problem behaviors children in foster care exhibit: the damaged attachment style leaves a child unable to accept love from a caregiver because of abuse and neglect so the child sabotages the relationship with the defiant behaviors, which often results in another placement and hence, the cycle continues. Often in the mental health system, even clinicians are not aware of the root of the issues these clients exhibit and bring to counseling sessions.

Theoretical Framework

Attachment Theory

John Bowlby (1907-1990) was involved in child guidance work with children raised in institutions. He believed the emotional disturbances of these children were the result of the inability to develop and maintain intimate and lasting relationships with others; that

they were unable to love because they had missed the opportunity to form a solid attachment to their mother figure in early life. He also noted that children who grew up in normal homes but who had suffered prolonged separation from the mother exhibited the same symptoms. From these observations Bowlby was convinced that one cannot understand human development without taking into consideration the mother-infant bond.

Bowlby suggested that "humans, like other primates, throughout most of human history, probably moved about in small groups, searching for food and often risking attack by predators" (Bowlby, 1979, pp. 201-210). He believed that in order to secure protection when threatened, infants develop specific types of communication, for example, crying, cooing, smiling, eye contact, etc. that would draw the mother or caregiver back to close proximity and provide security. At this point, the caretaker becomes the "secure base" from which the child can explore its surroundings. This is the foundation for a secure attachment style. When a child does not develop this secure attachment, insecure variations of attachment occur. These styles include: insecure-avoidant, insecure-ambivalent, and insecure-disorganized (Bowlby, 1988).

Ainsworth's pioneering naturalistic observation studies of mothers and infants (1967, 1978) identified a group of infants whose bids for comfort were rejected. The mothers of these babies were also uncomfortable with close bodily contact. Main and Solomon (1996) proposed that infants in a caregiving environment in which activation of their attachment system consistently led to painful rejection might develop a strategy in which their attachment system would be activated as little as possible. Such a strategy would be adaptive to their circumstances and might be considered the use of avoidance as a defensive mechanism, hence, the name insecure- avoidant attachment.

Ainsworth also observed that the mothers of insecure-ambivalent infants were inconsistent; sometimes loving and responsive, but only when convenient for the mother and not in response to the infant's signals. One strategy for the infant in response to a mother who was sometimes responsive, other times not, sometimes too preoccupied, too overwhelmed, or too inept to respond would be to stay near the mother (Cassidy & Shaver, 1999). Because the infant cannot depend on the mother to monitor its needs, the child would cling to the mother, monitoring the mother's availability should the child need the mother. Bretherton (1985) suggests that the infant has to take on more than his/her share of the burden of maintaining the connection, thus using hypervigilance and hyperactivation of the attachment system in which to gain quick access to the mother if needed. It is the infant's lack of confidence in the caretaker's availability that drives this attachment style.

The Strange Situation behavior of infants classified as ambivalent is characterized by extreme distress on separation and difficulty in calming on reunion; these infants display angry, resistant behavior toward the parent (Ainsworth et al., 1978). Cassidy (1994) and Main & Solomon (1986) believed this heightened negative emotionality can be viewed as part of the child's strategy to gain the mother's attention. This negative emotionality of the insecure-ambivalent child can become exaggerated and chronic because the child recognizes that to relax and allow him/herself to be soothed by the presence of the attachment figure is to run the risk of losing contact with the inconsistently available parent.

The insecure-disorganized attachment style is becoming better understood following increased research involving high-risk samples (Cassidy & Mohr, in press; Hesse &

Main, 2000; Lyons-Ruth & Jacobvitz, 1999; Main & Hesse, 1990; Solomon & George, 1999a; van IJzendoorn, Schuengel, & Bakerman-Kranenburg, 1999). These children have had experiences of maternal behavior that is so frightening or unpredictable that they could not develop an organized, strategic response to it, and so the attachment system is behaviorally disorganized. It may be these children who have the most severe problems related to seeking care, and perhaps these are the children involved in the foster care system who are moved repeatedly from one foster home to the next, who are never adopted out of the foster care system into loving homes, and who "age-out" of the system with no home to which to return.

Attachment behavior is thought to be present from the cradle to the grave (Bowlby, 1979). On the basis of day to day experience of the responsiveness and accessibility of caregivers, children build internal working models of attachment figures and of themselves. Expectations about the likely behavior of others, initially preverbal, characterize the approach of the individual to other persons. These early experiences are the experiences that infants and young children are likely to continue in their lives and will probably pass on to their own children unless the cycle is interrupted.

Infant Mental Health

Graham, White, Clarke, and Adams (2001), stated that "the core principle of infant mental health, creating a healthy emotional attachment between the child and the primary caregiver, is derived predominantly from attachment theory" (p. 14). Ainsworth (1979) stated that the early mother infant relationship is of critical importance because it forms the basis for the child's future social, emotional, and cognitive development. For the past two decades, researchers have identified many aspects of the mother-infant relationship

which include sensitivity, co-operation, and acceptance of the unborn child. These have been associated with the establishment and maintenance of a positive relationship with the infant (Ainsworth, 1979). Furthermore, there is evidence that maternal sensitivity and affection have their origins in pregnancy (Leifer, 1977 & Ballou, 1978). Other research in the psychology of pregnancy suggests that there is growing affection for, and relationship with, the unborn child during pregnancy (Leifer, 1977, Mercer, 1995, & Rubin, 1984). This relationship increases gradually during the progress of pregnancy and there is a marked, rapid increase of the relationship after the first perception of fetal movements. This fact results in an increased feeling of affection from the mother towards her unborn child. Leifer (1977) goes on to report that the women who expressed more affection toward their unborn child displayed more confidence in their new role, showed better postpartum adjustment than mothers who were less attached and who expressed difficulties in their role as an expectant mother.

According to Stack (1983) mother-infant relationship problems are the core issues which, if unaddressed, can result in child abuse, neglect, and severe behavioral problems in the child throughout his/her life. Sudden infant death syndrome, failure to thrive, colic, and many others, have all been associated with the mother-infant relationship.

Because of these issues, mental health professionals, nurses, doctors, educators, and others, have and continue to develop programs to address attachment issues. Up to this point in time, there is little research on the developing relationship between the unborn infant and the father. In this study, this researcher has chosen to use a parent education curriculum, " Promoting Maternal Mental Health During Pregnancy "

(http://www.ncast.org/about.asp) which focuses mainly on the mother-infant relationship but can also be used by the father to learn about attachment to his unborn baby.

The theoretical basis for this study includes John Bowlby's Attachment Theory which stated that there is a biological base of which we are born that aids in our survival in that it provides security from danger and harm. This is established through the relationship between the mother/father or primary caregiver and the infant. When the infant's needs are met appropriately, the attachment is a secure attachment. When this relationship is not secure in nature, it becomes an attachment that is insecure. It may be these insecure attachments that are the problematic basis for many of the behaviors we see in foster care children as well as in other children and adults.

Statement of the Problem

Interest in the conceptual foundations and clinical implications of attachment disorders has increased dramatically in recent years. Since the establishment of 'disorders of attachment' in the DSM-III in 1980, there is still no consensual definition or assessment strategy for attachment disorders nor are there clinical guidelines for treatment or management of these disorders (O'Connor & Zeanah, 2003). Several therapies have been attempted e.g., holding therapies, treatments that focus on parent-child interactions, individual treatment for the parents to help them become a secure base, and most drastically, placement of the child with adoptive/foster caregivers. Several particular interventions are moderately effective, but the mechanisms underlying the treatment response are as yet not clear. Sheparis, Renfro-Michel, and Doggett (2003) state that while some therapies appear to work for some attachment disordered children, and result in a somewhat healthy attachment, or at least some form of attachment, some

attachment disordered children do not develop even a “normal” insecure attachment. Why these children do not respond in the formation of an attachment, especially after years of placement with a nurturing, sensitive caregiver who does provide a secure base, remains unresolved.

Because clinicians have struggled with treating attachment issues effectively for many years, and deeply rooted behavioral and relational problems continue to exist between caregivers, parents, and children, researchers are now theorizing that attachment actually begins in-utero and that the first relationship actually begins between the unborn child and the mother. It is this initial relationship that must be nurtured and hopefully will be the intervention that Bowlby talked about some 60 years ago.

Purpose and Design of the Study

The purpose of this study was to measure the effects of a parent education curriculum, Promoting Maternal Mental Health During Pregnancy, on adult attachment styles and on prenatal attachment levels of a group of volunteer pregnant women/men, (fathers of the unborn babies or recently born babies) in central Florida. The design of the study is a one-group pretest-posttest design in which participants consisted of volunteer pregnant mothers/fathers or mothers, ages 16 years to 28 years of age, who had recently given birth, who responded to a flyer about the research study.

The participants were first given the Experiences in Close Relationships-Revised (ECR-R) Adult Attachment Questionnaire (Brennen, Clark, & Shaver, 1998) to identify their individual attachment styles followed by the Prenatal Attachment Inventory (PAI; Muller, 1993) to identify their attachment level to their unborn or recently born child. The participants completed a five week parenting class, Promoting Maternal Mental Health

During Pregnancy, and afterwards, were given the ECR-R and the PAI attachment scales again. The findings of this study may be of benefit to the parent-infant dyad if the parenting class improves attachment between the parents and the children.

Research Question

The literature presented thus far suggests there is a need for further research in the treatment for attachment disordered children as well as for mothers/fathers with attachment issues from their own childhoods. Attachment problems are at the root of many behavioral problems seen in children and yet have not, as to date, been adequately addressed. The study posed two research questions: (1) Does the prenatal parenting class, Promoting Maternal Mental Health During Pregnancy, positively impact an individual's attachment style as measured by the ECR-R? and, (2) Does the prenatal parenting class positively impact an individual's degree of prenatal attachment, as measured by the PAI?

Definitions

Experiences in Close Relationships-Revised (ECR-R) questionnaire is a revised version of Brennan, Clark, & Shaver's 1998 Experiences in Close Relationships designed to measure attachment anxiety and avoidance in adults. This instrument is available on the internet and can now be modified to use with children and adolescents.

Prenatal Attachment Inventory (PAI) is designed to assess the relationship that develops between a woman and her unborn fetus. The PAI was also used by the men in this research study because there were no attachment scales specifically for men or fathers.

Promoting Maternal Mental Health During Pregnancy (PMMHDP) is an educational curriculum designed to assist pregnant women/men in moving beyond the physical

dimensions of pregnancy by examining the emotional and psychological challenges new mothers/fathers face, including postpartum depression, unresolved grief or loss, and other mental health disruptions. Men/fathers also participated in the curriculum because there are no curriculums designed specifically for men or fathers.

Pregnant Women/ Men: The term was used in the study to include men as participants in the research. These men were the fathers of the unborn babies and/or the recently born babies.

Attachment Style is derived from Attachment Theory, as a way of conceptualizing the tendency of individuals to build strong emotional bonds to specific others, and of understanding the varied forms of affective disturbance to which the disruptions of affectional bonds give rise (Bowlby, 1969). There are two attachment styles: Secure and Insecure. On the ECR-R Adult Questionnaire, the insecure attachment style is broken down into 3 different categories: Preoccupied, Fearful-Avoidant, and Dismissing-Avoidant.

Organization of the Study

Chapter I presents an overview, background, theoretical framework, and purpose of the study. In Chapter II, related literature is reviewed to provide the reader with an expanded understanding of the subject area. The methodology, procedures, and data analysis techniques are described in Chapter III. The results of the study are reported in Chapter IV, and Chapter V contains conclusions, implications, and recommendations for further study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction and Overview

The revolving door syndrome of the foster care system needs to be addressed. While there are many children who benefit from foster care, there are many children who do not. McWey (2004) reported that a number of studies have demonstrated that maltreated children exhibit insecure attachment styles and these studies have identified two types of abuse experienced by maltreated children and their effect on attachment styles. "Acts of omission" are those experienced by neglected children and "acts of commission" are those in which children have been physically maltreated (Fenzl, 2000, p. 440). In this study children who had experienced acts of omission were anxiously attached and children who experienced acts of commission were avoidantly attached. "Differences in quality of attachment relate to different behavioral patterns exhibited in foster care" (McWey, 2004, p. 440). These behaviors can cause foster parent's great frustration and eventually results in the child being removed from the home. These repeated moves from foster home to foster home could influence the child's internal working model of loss and abandonment thereby reinforcing the child's avoidant attachment style. This becomes the child's way of relating to others throughout his/her life and later may be propelled forward when this child becomes a parent.

This research project proposes that integrating Attachment theory with an educational component, Promoting Maternal Mental Health During Pregnancy (NCAST-AVENUW, 2006) a program that addresses prenatal attachment, with a population of pregnant women/men (or who have recently given birth), may be an effective treatment that

breaks the cycle of disrupted attachments in children exhibited in and perpetuated by the foster care system. Perhaps beginning with the initial attachment relationship that begins before birth between the mother and the unborn child is the place to start to address attachment issues. This study is designed to measure the effects of an educational parenting curriculum, Promoting Maternal Mental Health During Pregnancy, on pregnant women/men's individual attachment styles and on the individuals' attachment levels with their unborn or recently born children.

A comprehensive review of Bowlby's theory of Attachment, the Treatment of Attachment disorders, Infant Mental Health and Prenatal Attachment, and the Treatment of Prenatal Attachment are discussed and reviewed in Chapter II.

Attachment Theory

Attachment theory, as formulated by Bowlby (1969, 1973, 1980) is a way of conceptualizing the tendency of individuals to build strong emotional bonds to specific others, and of understanding the varied forms of affective disturbance (e.g., anger, despair, and detachment) to which the disruptions of affectional bonds (through separation or loss of attachment figures) give rise. The theory is interdisciplinary and draws from psychoanalysis, ethology, and cognitive science to explain the nature of attachment in human relationships (Biringen, 1994). Unlike learning theorists and psychoanalysts who believe that affectional bonds exist because individuals discover that another human being can reduce primary drives, for example, feeding in infancy, Bowlby's first statement of attachment theory in 1958 proposed that attachment behavior was separate from the instinctual behaviors such as feeding and sexual activity. He believed that it was the social and emotional relations to others that preceded and

facilitated the development of attachment and that this behavior is instinctual and biological in functioning in that it serves to promote survival and protection from predators rather than to satisfy primary drives.

Bowlby was influenced by the work of Lorenz and Harlow (Biringen, 1994) who studied imprinting with birds. The imprinting indicated that bonds to the mother figure were formed without connection to food but in the context of social availability and that baby birds would become attached and seek proximity to the first parental figure they are exposed to after birth. This study was duplicated (attachment with no connection to food) with infant rhesus monkeys reared on surrogate mothers. It appeared the attachment was due to the softness and comfort provided by the surrogate mother and not by feeding.

Bowlby defined attachment as an affectional tie with “some other differentiated and preferred individual who is usually conceived as stronger and/or wiser” (1979a, p. 203). Attaining or maintaining proximity to an attachment figure is the goal of attachment behavior and this behavior is seen in humans as well as in animals. Human attachment appears to develop slowly during the first year of life, while baby birds bond immediately after birth. According to Ainsworth (1982) once this normative attachment to the mother is established, the infant uses the mother as a secure base from which to explore the environment. Feeling safe and secure in the presence of the mother, the child is able to move away from the mother and explore the environment freely. As distance from the mother increases, the attachment system becomes more activated and as a result of feelings of fear or anxiety or in the face of apparent danger, the infant will seek proximity to the mother once again. The balance between the activation of the attachment system and the exploratory system continues, changing according to the situation.

To further understand attachment disorders, a discussion of the nature and development of attachment in healthy human relationships is described by Sheperis, Renfro-Michel, & Doggett (2003). They state that Bowlby (1969) proposed that attachment is a four stage evolutionary process that functions as an instinctual drive toward survival of the species. The attachment process begins with the infant's communication of the need for proximity and physical contact through vocal and behavioral cues such as crying, latching on, and grasping. Between eight and twelve weeks of age, the second stage begins by indicators of caregiver preference through behavioral cues such as reaching and scooting. The third stage begins at about age twelve weeks through the second birthday. Some authors believe this begins the true process of attachment because infants and toddlers begin to anticipate caregiver actions and adjust their own behavior according to these anticipated events. Therefore, primary caregiver consistency in the display of affection and attention to the needs of the child are critical components in the formation of healthy adjustments on the part of the child. And finally, the fourth state of attachment development is an understanding of caregiver independence and the development of reciprocity in the relationship between caregiver and child. Wilson (2001) according to Sheperis, et al. (2003) stated the key facet across all of the stages is consistency in the provision of behavioral reinforcement to infant and toddler basic emotional and physical needs, which in essence, is a method of conditioning the child to utilize human relationships as a sense of security and comfort.

When the provision of infant and toddler basic needs is not conducted in a consistent fashion, attachment becomes disrupted causing problems in the conditioned response to rely on human relationships and results in insecure attachment patterns. Persistent

disregard of emotional needs, especially affection, persistent disregard of physical needs, repeated changes of primary caregiver, and deficits in the organism such as Attention Deficit Hyperactivity Disorder (ADHD), infant illnesses, Fetal Alcohol Syndrome, or mild brain damage are some of the presumed causes of insecure attachment. In research, attachment insecurity or disturbances have been linked to psychiatric syndromes, criminal behavior, and drug use (Sheperis et al., 2003).

The Strange Situation

The concepts of secure base and secure attachment to an older and wiser caregiver developed through the research of the Strange Situation. This was a 20-minute test in a laboratory setting where infants were exposed to two separations and reunions with the primary caregiver. Based on the responses to the separations, the children were classified as secure or insecure.

The securely attached infant maintained a smooth balance of proximity-seeking and exploration prior to the separation, distress during the separation, and contact-seeking, contact-maintaining, and easy sooth-ability and comforting upon reunion.

The insecurely attached infant could show one of three various coping styles with the stressful situation. The first possibility is an infant with avoidant behaviors. This child displays independent behavior without much referencing of the mother prior to separation, minimal distress during the separation, and avoidant behavior (vocal, physical, or postural) during reunification. Although the apparent behavior is one of disinterest, heart rate studies indicate high arousal during this time (Biringen, 1994).

The second of the insecure coping styles is the ambivalent infant. This child compromises exploration by remaining close to the mother prior to separation, is highly

distressed during the separation, and shows a combination of contact-seeking, contact-maintaining, temper tantrums, and shows avoidant behaviors at reunification and during the normal comfort time during reunion (Ainsworth, Blehar, Waters, & Wall, 1978).

The third possibility of coping styles is the disorganized type where the infant exhibits disorientation and fluctuation in attachment strategies. These behaviors include (a) freezing upon reunion, (b) staring at the caregiver in a dazed fashion, (c) intense proximity-seeking followed by intense avoidance and (d) a display of simultaneous contradictory behavior patterns, such as gazing away while in contact with the mother (Main & Solomon, 1990). The infant adopts no organized strategy toward the mother. This child may exhibit an avoidant pattern during the first reunion and a resistant pattern in the second reunion, or a secure pattern in one reunion and a resistant pattern in the next reunion. It is this particular coping style that is associated with insecurity in attachment and is prevalent in high risk samples of abused children (Cicchetti & Carlson, 1989).

From the research on the Strange Situation, many basic tenets have been established. A professional who is trained in attachment theory can observe the relationship behaviors between an infant and mother or caregiver, and be able to identify the attachment style.

Internal Working Models

Internal working models of attachment figures are dynamic, complex representations of early relationships, operating at different levels of the individual's memory system, including the semantic, episodic, and procedural (Biringen,1994). Fairbairn (1952), Winnicott (1965), Sullivan (1953), and Bowlby (1973) advanced the view that early patterns of relating to primary caregivers become internalized and then govern relationship patterns with others. Bowlby (1969, 1973, & 1980) stated that interaction

patterns with parents are the matrix from which human infants come to construct "internal working models" of self and other in attachment relationships. These models function to interpret and anticipate a partner's behavior as well as to plan or guide one's own behaviors in relationship. The term "internal working model" originated with Craik (1943), a British psychologist who wrote about the advantages that an internal working model of the environment confers on individuals by permitting the simulation of alternative courses of action internally before they are put into action externally. Bowlby was attracted to the term because it suggested dynamic representational structures from which an individual could generate predictions and extrapolate to hypothetical situations. Bowlby choose to introduce the term internal working model as opposed to traditional labels such as cognitive maps, or representations because he thought the older terms suggested static connotations whereas internal working model suggests a dynamic mental structure capable of simulating small scale scenarios or practice situations in the head (Bowlby, 1969).

Bowlby continues with the hypothesis that internal working models of self and caregiver develop out of dyadic transactional patterns, such as communication, and that this naturally suggests that they should be complimentary. If an individual, for example, experienced a rejecting relationship with a primary caregiver, the working model of the rejecting parent is likely to be complemented by a working model of self as unlovable. If, on the other hand, an individual has experienced a supportive, positive parent-child relationship, then the working model of the loving parent is likely to be complemented by a working model of the self as worthy of love and support. Bowlby (1973) also suggests that rejecting parents have probably been subjected to the same experience by their own

parents in childhood and therefore the patterns of parenting tend to be transmitted across generations.

Bowlby proposed that the translation of these interpersonal transaction patterns into working models begins during the last quarter of the first year of life, as infants grasp the idea of permanence of objects (Bretherton, 1990). Later, the onset of verbal communication both further facilitates and complicates the development of working models because language can interfere with their adequate construction or elaboration. Rejection, for example, or other traumatic interactions experienced during the sensorimotor period or later may be untruthfully reinterpreted for the child by parents, or they may be banned from discussion altogether. The child may, as an attempt to cope with the anguish caused by the resulting mental contradictions, defensively exclude his or her own interpretation of the experience from awareness, thus giving rise to two incompatible working models of self and caregiver in relationship. One of these models is easily accessible to consciousness (the one verbally transmitted by the parents) and the other (based on the original experience) of the child, is repressed but continues to influence behavior. Because the function of the internal working models is to guide the interpretation and planning of interactive behaviors in relation to others, we now have a split in working models which causes confusion for the individual (Bowlby, 1969).

Bowlby (1973) stated that understanding internal working models of attachment as dynamic representations of real life experiences with attachment figures is a crucial concept of attachment theory. Internal working models make possible the “secure-base” phenomenon described by Ainsworth. With an internal representation of the caregiver as responsive and reliable in case of threatening circumstances, the child can safely venture

forth and explore the environment, creating new social relationships in the process. A well-functioning attachment relationship provides more than protection for a child. Within the intimacy of this "partnership" the child learns how to modify his or her own goals in the relationship to accommodate the goals of the caregiver/partner. Therefore, a wide array of social skills are first learned within the attachment relationship (Bowlby, 1980). These include (a) how to express ones emotions to others and call attention to one's own needs for security and (b) how to negotiate mutually satisfying resolutions to conflicting desires. Also, through these processes children understand that their attachment figures/partners possess a point of view separate from their own, referred to as "perspective-taking" and they develop skills to accurately appraise that viewpoint. "Perspective-taking" abilities have been found to be related to attachment security in preschool children, and to their capacity to provide caregiving to an infant sibling in the Strange Situation, as well as the well known laboratory-based attachment assessment protocol. This evidence, therefore, suggests that the attachment partnership provides children with fundamental lessons in interpreting social cues and empathic responsiveness to others. The development of these internal working models, formed during actual interactions with caregivers, is heuristic, and can become a template for future relationships. Bowlby (1980) proposed that they operate largely outside of conscious awareness and are, therefore, resistant to change. It may be that the more severely disturbed children in the foster care system are the children with the split working models. Perhaps it is the repression of the child's own experiences and the incompatible parental internal working models that result in the irrational behaviors of

some children; and this may explain why some children do not adapt to nurturing environments even when they are provided. Main and Hesse (1990) hypothesized that the mastery of formal thought in adolescence may provide an opportunity for the reconstruction of inadequate working models, but formal thought alone may not be enough to accomplish the job. A secure attachment relationship and a period of heightened emotional experience may be necessary.

Defining Attachment Disorders

One major difficulty in the attachment literature, according to Minde (2003), is the fact that the initial description of attachment patterns came primarily from developmental psychologists who had little direct knowledge of psychopathology, especially in children, and its possible relationship to attachment. Their primary interest, therefore, was in describing an important developmental principle that would be valid for all human beings, but not a clinical condition that included core symptoms that could be researched and documented. When Bowlby began to investigate and research the child development theories, he identified that it was the emotional well-being within the home, or the lack of it, that resulted in the children displaying a remarkable lack of warmth or feeling for anyone. These children tended to be solitary, unresponsive to punishment, and indifferent to kindness. Many lied brazenly and had no real friendships. Bowlby (1980) however, believed that this behavior was superficial. He believed that beneath the antisocial attitude was a profound and unreachable depression, as if when they had lost their loving universe, a switch had been turned off in them that could not be turned back on. “Behind the mask of indifference,” he wrote, “its bottomless misery, and behind the apparent

callousness, despair." Sixty years later we still identify these children and sixty years later treatment is still a mystery.

In general, core symptoms for any behavior disorder will likely be most frequently present when describing the more severe cases of the disorder. Attachment disorders are no exception. Specifically, there is good agreement in the literature on the presence of some specific behaviors in children that denote serious aberrations in regular attachment patterns and are also described as disorders of non-attachment (Minde, 2003). These behaviors reflect a disinterest or inability of these children to seek out and value individuals who could and may be willing to function as protective and/or supportive figures in fostering their exploration, play, or other social behaviors. The Diagnostic and Statistical Manual Fourth Edition (DSM-IV) describes two clusters of behaviors: one is a lack of preference for anyone and a blindness toward potential dangers in the world and the other shows the affected children to be inhibited and/or severely withdrawn and to actively resist intimate contact. The DSM-IV-TR (2000) defines Reactive Attachment Disorder of Infancy or Early Childhood which applies only to infants and small children. The behaviors are described as "developmentally inappropriate social relatedness" and the conditions must begin before age five years. Two forms of the disorder are described: the inhibited type shows a persistent failure to respond socially as manifested by "excessively inhibited, hyper vigilant, or highly ambivalent and contradictory responses" and the disinhibited type which can be identified by indiscriminate sociability with clear inability to show appropriate "selective attachments." These categories do not, however, follow the categories described by Ainsworth (1978). The American Academy of Child and Adolescent Psychiatry (2002) in its "Facts for Families' publication on Reactive

Attachment Disorder includes such criteria as 'severe colic and/or feeding difficulties' as well as 'failure to gain weight' and 'preoccupied and/or defiant behavior' among the six official criteria for this disorder. And finally, Brisch, in his book, *Treating Attachment Disorders,* describes 'aggressive and exaggerated' attachment disorder and adds a section of 'psychosomatic symptoms' to his criteria (Minde, 2003, pp. 289-296). Other terms such as 'superficially affectionate,' 'indiscriminate exhibition,' 'excessive need for adult attention,' 'indiscriminately friendly,' and 'affectionless psychopathy' are only a few of the diverse descriptions of attachment disorders that cause confusion among clinicians and that need clarification in order to effectively treat attachment disorders (O'Connor & Zeanah, 2003, p. 224).

Because the symptoms of attachment disorder are not clear, diagnosis is often difficult and inaccurate. Low self-esteem, lack of self-control, anti-social attitudes and behaviors, aggression and violence, and among other things, a lack of ability to trust, show affection, or develop intimacy are only a few symptoms (Sheperis et al., 2003). Cline (1979) identified attachment disorder signs and symptoms as (1) superficially charming, (2) indiscriminate affection to strangers, (3) lack of affection with parents, (4) little eye contact with parents, (5) persistent nonsense questions and chatter, (6) inappropriate demanding and clingy behavior, (7) lying about the obvious, (8) stealing, (9) destructive behavior to self, others, and material things, (10) abnormal eating problems, (11) no impulse control, (12) lags in learning, (13) abnormal speech patterns, (14) poor peer relationships, (15) lack of cause and effect thinking, (16) cruelty to animals, and (17) preoccupation with fire. Children diagnosed with attachment disorder have a lack of cause-and-effect thinking similar to that of children diagnosed with severe Attention

Deficit Hyperactivity Disorder (ADHD). Eighty percent of Oppositional Defiant Disorder (ODD) children showed a history of early insecure attachment (Greenberg, 1999). Insecurely attached children are at high risk for the development of ODD. Biederman et. al., (1997) state that ODD develops into Conduct Disorder as children get older. Insecure attachment 80% of the time develops into children who have a very high need for control, anger, and poor socialization, leading to offending the rights of others. Symptoms of attachment disorder are expressed in different domains including: (a) behavior, (b) cognition, (c) affect modulation, (d) socialization, (e) physical/sense of self, and (f) spiritual/moral development. Attachment symptoms and behaviors exist on a continuum from mild to severe and each child may experience symptoms from mild to severe within each of the domains. Behaviorally, these children are often self-destructive, suicidal, self-mutilating, and self-defeating. Pathological lying is not uncommon, as is stealing both inside and outside the home (Biederman et. al., 1997). Overt aggression and passive aggression, ingenious manipulation even to professionals who think the child is sincere, while in fact, he/she is devious and controlling, as well as sadistic cruelty towards animals which can also be directed toward people are just a few of the behaviors exhibited by attachment disordered children (Sheperis et al., 2003). Also many children with the more severe attachment disorders have a history of sexual and physical abuse which some experts believe leads to abuse, reactive and predatory behaviors including sexualized attitudes, excessive masturbation, sexual grooming of other children and adults, and sexualized play. These children may perceive themselves as perpetual victims even while victimizing others.

Cicchetti and Carlson (1989) state that self regulation and affect modulation are also learned in the early stages of development. Many children who experience early and chronic maltreatment and neglect cannot modulate behaviors, emotions, and impulses. Children whose caregivers are not attuned to their emotional and physical needs due to depression, substance abuse, or otherwise neglectful patterns of interaction are left with little or no form of regulatory support (Lynam, 1996). As a result, these children are also unlikely to learn how to modulate their own states of arousal, cannot self-soothe and often internalize caregivers as uncaring or a threat to their well-being. Typically, affection is never given on anyone's terms but the child's. These children often invade the space of others inappropriately only to reject the efforts of affection at appropriate times and usually these inappropriate displays of affection occur in front of others in an effort to get a reaction from those watching. No pleasure from normal activities is prevalent in these children and they are often diagnosed with major depressive episodes (Rosenstein & Horowith, 1996). Social relationships are marked by exploitation and victimization (Levy & Orlans, 1998). Though superficially engaging and charming, the behaviors are manipulative in nature. Children with severe attachment disorder blame others for mistakes they have made and have difficulty tolerating external control or limits set by authority figures. Trust and intimacy are not experiences children with attachment disorder allow themselves because they view emotional relationships as threatening at very basic levels.

Levy and Orlans (1998) state that physically, children with severe attachment issues may experience body distortion. This distortion may include disturbances in physical/self (feeling of depersonalization), body image distortions, poor impulse control resulting in

aggression toward themselves and others, and a lack of ability to enter into trusting intimate social relationships (Rosenstein & Horowitz, 1996). Some children will use poor personal hygiene as a means to control physical distance of others and exhibit over-reactive behaviors to minor physical injury while being completely non reactive to significant physical trauma. Although these descriptors differ greatly, they all convey a similar quality in the child's disturbed manner of social behavior and more specifically, the child's approach toward and interactions with strangers.

Most research on attachment disorders is derived from studies of children who have experienced institutional care, but similarities in behaviors toward and with strangers exist even though there is wide variation in the institutional rearing conditions. For example, children in Romania experienced global severe deprivation whereas children in the reports from Tizard and colleagues (O'Connor & Zeanah, 2003) experienced adequate nutrition and social and play opportunities- that is, generally adequate care except for the absence of a consistent caregiver. The implication is that the absence of a consistent caregiver and selective attachment may play a central etiological role in the development of attachment disorders.

McWey (2004) states that for infants and toddlers, behaviors that may indicate mental health problems include (1) the display of very little emotion; rarely coos, babbles, or whimpers, (2) sad affect; rejects being held or touched, (3) unusually difficult to soothe or console, (4) extremely fearful or on guard, (5) does not turn to familiar adults for comfort or help, (5) rarely makes eye contact with caregiver, (6) clings unceasingly to caregiver, and (6) is unable to comfort or console him/her self.

For the preschooler, symptoms may include: (1) the inability to play with others or objects, (2) sad or flat affect, withdrawn, expressionless, (3) absence of language or communication, (4) extreme mood swings, (5) inappropriate responses to situations (laughs instead of cries when hurt), (6) loss of earlier skills like toileting, language, or motor skills, (7) reckless behavior, accident prone, destructive to self, and (8) frequently fights, and destructive to others (McWey, 2004).

Treatment of Attachment Disorders

According to Minde (2003, p. 289) “there is no known effective treatment for children with attachment disorder.” O”Connor and Zeanah (2003) support this position and go on to state that not only are there no effective treatments but there is no ‘gold standard’ for assessing attachment disorders and without such, progress in this area is not likely to occur. However, a number of treatments have been proposed and there is much interest in trying to meet the high level of needs of children with attachment disorder and their families.

Sheperis, Renfro-Michel, and Doggett (2003) quote Hanson and Spratt stating that beneficial treatment for attachment disorder should include the following: (a) proper diagnosis at an early age, (b) placement in a secure and nurturing environment, (c) instruction in empirically based parenting skills, (d) emphasis on family functioning, coping skills, and interaction as opposed to focusing on vague pathologies, and (e) working with the child’s and family’s more naturalistic environments as opposed to more restrictive and artificial settings. Being able to assess the child’s and family’s readiness to change is also important, but this is a difficult task because when love and intimacy

enter the attachment disordered child's life, it scares them and they will sabotage the relationships (Sheperis, Renfro-Michel, & Doggert, 2003).

Holding therapies, according to O'Connor and Zeanah (2003) are the only form of treatment to be applied with any regularity to children with attachment disorders. Although there are various perspectives on what holding therapies are, they originate from a history of alternative therapies, from 'rage reduction' with aggressive children to children with autism. Despite the fact that these techniques were unsuccessful, the use of holding in therapy has been carried over and is now being used with attachment disordered children. The essential element in holding therapy is the close physical contact with a therapist. Touch and eye contact between the child and therapist are necessary throughout the therapy. The sessions are 45 minutes or longer on a daily basis for a 2 week period. Holding is thought to provide the child with an experience of safety and security that is contrary to previous experiences of severe abuse or neglect. This holding is thought to mimic the experiences of normative attachment processes that usually occur between caregivers and infants. However, none of the above assertions for the use of holding therapy have received empirical support or systematic evaluation and from an attachment perspective. To some, the holding approach is viewed as intrusive, non-sensitive, counter-therapeutic, and may actually be traumatizing to the already traumatized child. In the United States there have been six reported deaths attributed either directly to holding therapy and its variants (e.g., 'rebirthing therapy' or 'compression holding') or to children whose parents were being advised by therapists practicing these methods. One great limitation in assessing the effects of holding therapy is that studies have not included reliable measures of attachment between child and

caregiver but have relied on measures of general behavioral/emotional problems as the index of response. Any change in attachment quality on reliable instruments would be an important piece of evidence supporting the use of holding therapy. Rigorous clinical research is needed before this treatment can be recommended as a form of treatment for attachment disorders.

Parent training and family support for adoptive and foster parents of ex-institutionally reared children have been developed and this reflects the importance of social networks among this population, and also is a result of the dissatisfaction of these parents with the traditional services available from social service agencies. Information can be found on the internet for both national and international networking opportunities. Difficulties arise however, when including the parents in the treatment process for the children. The role of the foster parent or adoptive parent is not yet understood as far as the effect these might have on the development of healthy development and formation of attachment relationships with these children. Although the foster/adoptive parent is not the causal agent in the origin of the attachment disorder, their contribution to the longitudinal course of this disturbance is not known. The manner in which the parent is brought into the treatment process needs to be handled carefully. The parents' frustration and detachment may or may not be the source of the child's problem but may be the result of it.

Another treatment for attachment disorders is the social-cognitive approach. In this approach, the focus is not on the attachment relationship but on the social and cognitive disturbances that underlie or accompany the attachment disorder behavior. Attachment disordered behaviors include peer rejection and difficulty forming relationships. This may be the result of misinterpreting social situations, which, according to O'Connor and

Zeanah (2003), may be attributed to severe immaturity rather than disturbances found in other clinical groups.

Several interventions have been developed for children who have been rejected by their peers (Lochman, Coie, Underwood, & Terry, 1993). This research is important because it may be useful in treating the children in a safe and low-cost manner, and also may test the hypothesis that improvement among attachment disordered children can come about only through substantial change in the child's relationship with the caregiver.

Implications for Residential Treatment

Many residential treatment facilities base their programs on social learning theory. This approach is compatible with the institutional need of residential facilities to maintain control of children with serious behavioral problems (Moore, Moretti, & Holland, 1998). The use of "level systems" operates on the rule that residents must earn privileges through good behavior based on contingencies in the immediate environment. This is thought to insure consistency of treatment and conformity. Cunningham and Page (2001) however, believe that the pitfall to effective treatment in this situation is the assumption that staff are interchangeable, and that individual relationships with staff members are secondary to the client's response to the operant conditioners. An attachment theory perspective challenges this viewpoint through explicit emphasis on the primary importance of the client's relationship with the therapist as the sine qua non of effective treatment (Berlin, 1997; Moore, Moretti, & Holland, 1998). A child who has been maltreated needs first and foremost a close, trusting relationship that provides an opportunity to learn the sorts of social skills not provided in the maltreating environment. They continue with the supposition that the absence of this trusting relationship will

reinforce the child's feelings of isolation and attachment behaviors and promote antagonistic feelings toward their environment. The nurturing relationship with a specific adult cannot be sacrificed for the sake of cost-effectiveness and need for control. The presence of committed, supportive individuals who can remain consistent in their lives (although the length of any relationship cannot be guaranteed) is mandatory. Programs that emphasize environmental contingencies also teach children that the same response is required no matter what the actual conditions of the situation are. The use of attachment theory can provide a framework for understanding deeper interpersonal meanings of disruptive behavior and can point the way to helping the child build the social skills needed to express themselves pro-socially (Moore, Moretti, & Holland, 1998). Also, disruptions in placements, due to the departure of therapists or changes in contractual arrangements among agencies, are common events in the lives of many institutionalized children. Programs that focus on the children's therapeutic relationships with specific, committed adults, and the children's developmental needs are most likely to provide these children with the best chance for healthy growth and development and positive social adjustments.

Clinical data would support the facilitating effect of supportive relationships. Two ideas have been put forward: (1) that reorganization of working models is facilitated when the therapist provides a secure base or "holding environment" from which an individual can explore his or her inner world (Bowlby, 1985; Osofsky, 1982; Winnicott, 1965); and (2) that an accepting therapeutic context can provide the experience of new interpersonal patterns of relating (and hence the construction of new interaction schemas)

that will contribute to a coherent working model of secure attachment relations, disengaged from memories of earlier adverse attachment experiences (Bretherton, 1990).

Infant Mental Health and Prenatal Attachment

The importance of the relationship between mother and infant, as conceptualized by attachment theory (Bowlby, 1969), is well documented. However, in the last 20 years, there has been increasing speculation and recognition that this relationship begins before birth whilst the mother is pregnant and the child is still a fetus. Craley (1981) stated that at birth, “for five months or longer she (the mother) has had a physical and kinesthetic awareness of the fetus and for even longer she has had intellectual knowledge of her child” (p. 281). The nature of this experience has been referred to as prenatal attachment. Its importance is illustrated by the fact that prenatal attachment and postnatal attachment styles have been found to be associated (Muller, 1996) and attachment in early infancy has been recognized to be important for the future development of the child (Bowlby, 1969).

The meaning of the term prenatal attachment requires clarification. Condon (1993) proposed a model of adult attachment which he applied to the maternal-fetal relationship whereby the mother seeks: to know; to be with; to avoid separation or loss; to protect; and to identify and gratify the needs of the fetus. Other concepts of prenatal attachment have evolved from Rubin’s (1975) tasks of pregnancy. For the mother, these are specified as: (a) seeking safe passage for herself and the child, (b) ensuring that the child is accepted by significant others, (c) binding-in to the fetus, and (d) giving of herself.

Stack (1983) states that during the first trimester of pregnancy, the woman may view the fetus as an intrusion from the outside of her body. Although seen as an outside love

object and welcomed, the woman may experience ambivalence about the possible effects of the pregnancy on her career, her relationship with her man, her baby, and even her existence. During the second trimester, the mother is usually able to identify the pregnancy as part of herself to be nurtured and protected as one would normally protect the self. She will develop the ability to shift her libidinal energy to a narcissistic caring for the fetus as part of self. Later, there are many tangible signs that someone separate from herself is inside her. She can begin to invest in the fetus as a love object separate from herself (Bibring, 1961). She usually makes a major investment in the infant and has a "primary maternal preoccupation" with the needs of the infant (Winnicott, 1975). She uses ego-functions such as projection upon and identification with the infant to anticipate, know, and respond to its needs for nutrition, nurturance, and comfort.

These are usually healthy, unnoticed, unconscious, sophisticated, and smooth stages in maternal and infant development. In infant mental health, we are coming to recognize disruptions in these normal psychological developmental processes.

While the concept of prenatal attachment originated from attachment theory, it is different from post-birth attachment due to the difference in conceptual frameworks. One of the major ways of understanding attachment is in terms of feelings and behaviors which relate to the mother's own cognitive representations of herself as a care-giver (Bowlby, 1982). This internal working model is viewed as a way of organizing care-giving behavior and while not identical to prenatal attachment, is hypothesized as reciprocally related (Solomon & George, 1996). The goal of attachment in infancy is hypothesized as protection of the offspring and viewed as a dynamic process influenced by care-giving experiences and the child themselves. Pregnancy is hypothesized as a

developmental stage in these cognitive processes in terms of shifting from seeing oneself as a care-recipient to care-giver (Solomon & George, 1996). During the pregnancy, there are limited opportunities for reciprocal interactions and experiences that can shape the relationship after birth. Prenatal attachment is therefore likely to be influenced more by factors such as the mother's own attachment experiences, the impact of the changing role to care-giver, and the support available during the pregnancy.

While maternal postnatal internal representations have been categorized as secure, rejecting, uncertain and helpless (Solomon & George, 1996), these measurements are inapplicable to the unborn child. Therefore, the majority of work has conceptualized prenatal attachment in terms of intensity (referring to the mother's preoccupation with the fetus) and quality (referring to the concept of closeness/distance, tenderness/irritation, and positive/negative feelings towards the fetus).

Factors that may be possible influences on prenatal attachment are gestational age and perception of fetal movement. The effect of gestational age on prenatal attachments has been studied mainly in relation to specific populations, but the finding that prenatal attachment increases throughout gestation is repeatedly reported (Berryman & Windridge, 1996; Bloom, 1995; Wayland & Tate, 1993; Zachariah, 1994). Caccia et al. (1991) found women undergoing prenatal diagnosis developed prenatal attachment as early as 10 weeks gestation. Therefore, it could be hypothesized that mental representations of the self as a care-giver may precede this development. Also, prenatal attachment would require the recognition of another to be attached to.

Fetal movements may well influence prenatal attachment as the unborn baby appears to become more real. Bloom (1995) found that the prenatal attachment developed

particularly after fetal movements were first felt, typically in the second trimester. Zeanah et al (1990) conducted a study with 43 women completing different measures including the Maternal Fetal Attachment Scale. They found that mothers with higher levels of prenatal attachment perceived their unborn babies to move more. The study could not be generalized, however, because the participants were mainly middle-class. Also, it is impossible to distinguish whether perception of fetal movement causes fetal attachment to increase or whether women who were already attached were more likely to be vigilant of any sensations and therefore more easily detect fetal movements. This, too, may be linked to the maternal representational systems.

From a clinical point of view, the concept of prenatal attachment provides a way of understanding the pregnancy period. If increased prenatal attachment (referring to greater preoccupation with and emotional closeness to the fetus) is found to be associated with better outcomes for both mother and infant, it is possible that the interventions to influence prenatal attachment through the mother's representation models or preventative strategies could be developed in cases where difficulties in prenatal attachment may occur.

Most research has been on the relationship between the mother and unborn fetus, and there is little information on the relationship between the unborn fetus and the father. Gerner (2006) measured the quality of the marital relationship, a father's attachment to a childhood caregiver, a father's self-esteem, and the number of ultrasound visits that a father attended as predictors of paternal prenatal attachment in 39 expectant fathers. The analyses identified the number of ultrasound visits the father attended during the mother' pregnancy was the strongest predictor of paternal fetal attachment, whereas self-esteem

and the quality of the marital relationship were moderate predictors. Results suggested that fathers do become attached to their unborn children, and ultrasounds help to facilitate this attachment.

A challenge in mental health interventions for infants is that although it is infants who are of greatest clinical concern, the actual focus of treatment is on the parents. This is most commonly performed either by directly altering parents' behaviors with their infants (Bakermans-Kranenburg, Juffer, & van IJzendoorn, 1998; McDonough, 1992) or by altering their mental representation of their relationship with their infant (Bakermans-Kranenburg et al., 1998; Cramer et al., 1990; Fraiberg, Adelson, & Shapiro, 1987; Lieberman, Weston, & Pawl, 1991; Robert-Tissot et al., 1996; Stern, 1995). As Fraiberg, Shapiro, and Cherniss (1993) state:

> A baby has none of the conventional attributes of a psychiatric patient. He can't talk about his problem. He can't form a therapeutic alliance. He has no capacity for insight. Such patients are usually labeled not suitable for treatment in the language of psychotherapy. (p. 56)

Because most emotional and behavioral problems in infancy are viewed as relational, there is general agreement that the focus of mental health interventions for infants must be on improving parent-infant relationships.

Attachment refers to a biologically primed behavioral system which, under threatening conditions, enables infants to seek safety through proximity to their mothers (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969). Bowlby suggested that attachment security depends on the experience that infants have with their mothers, especially in relation to their emotional responsivity and physical proximity when distressed, and

physical accessibility when exploring. Considerable evidence has accrued to indicate that for secure attachments to form, and for development to proceed optimally, mothers must perceive their infants' emotional signals, respond to them sensitively, display affection, and accept their infants' behaviors and feelings (Ainsworth et al., 1978; Belsky, Rovine, & Taylor, 1984; Emde, 1987; Grossmann, Grossmann, Spangler, Suess, & Unzer, 1985; Sroufe, 1988). Even though recent evidence suggests that the relation between sensitivity and attachment is statistically modest (De Wolff & van IJzendoorn, 1997) because of the centrality of infant-parent attachment relationships and their potential for change, interventions have focused on altering maternal sensitivity and responsiveness to infants' signals. This has been done by changing maternal behaviors directly (Bakermans-Kranenburg et al., 1998; McDonough, 1992), by altering the mother's mental representation of her relationship with her infant, which is presumed to effect behavioral change toward the infant (Bakermans-Krananburg et al., 1998; Cramer et al., 1990; Fraiberg et al., 1987; Lieberman et al., 1991; Robert-Tissot et al., 1996, Stern, 1995), or by working at the representational and behavioral level simultaneously (Muir, 1992; Muir & Thorlaksdottir, 1994).

It is presumed that infants who are securely attached are able to regulate their emotions and have a sense of inner confidence and efficacy. They are more curious and eager to explore their environment, thus taking opportunities for growth and facilitating cognitive development (Murray, 1992). The importance of the initial relationship between the mother and the unborn child cannot be minimized.

Treatments for Prenatal Attachment

According to Stack (1987) the psychodynamics of normal pregnancy include ambivalence, identification with the fetus as an outside object, as a part of self, and finally, as a separate person. Positive and negative attributes can be projected upon the fetus. One type of treatment for the mother-infant relationship is infant-centered maternal psychotherapy. Here the infant often serves as a transference object. Transference is a concept developed by Sigmund Freud. It is usually thought of in the context of psychoanalysis and/or psychotherapy and as it usually is conceived, the therapist is the transference object.

Transference is the unconscious assignment to others of feelings and attitudes that originally were associated with important figures in one's early life.
These feelings and attitudes belong to past objects and are displaced and projected upon the therapist, mistaking the past for present. Transference is powered by the repetition compulsion (Blanck & Blanck, 1974).

Greenacre (1959) regards the mother-child dyad as contributing the roots of the transference. She asserts that transference is not uniform, but fluctuates with the varying unconscious factors that exert pressures on the reality alignment of the ego.

Spitz (1965) states the dyadic maternal-infant relationship is central to
the transference phenomena. He states that "capacity to engage in transference has its roots in the multiform, silent ebb and flow, the mute invisible tides, powerful and at the same time subtle, which pervade these relations" (p. 202-204). Although we usually discuss transference in relation to the therapist, it is clear that transference - both positive

and negative - occurs outside the analytic situation in relation to other people and in the person's environment.

During psychotherapy with mothers of infants or small children, the clinician must be alert to messages contained in the context of the maternal-infant relationship or generated out of the mother-infant dynamic relationship. Mothers through their infants may show the clinician something that they cannot verbalize or may verbalize as a coded message. They may make a statement or ask a question about their baby that has a latent meaning from their own past. In the emerging techniques of infant-centered psychotherapy, the clinician/psychotherapist must attempt to hear and see these behavioral and latent messages (Trout, 1982). As in traditional psychotherapy, the messages often are communicated in the context of the transference experience.

In infant-centered psychotherapy, the therapist must be aware of the transference toward the therapist as well as the parent's use of the infant as a transference object upon which the parent is projecting distortions from people in the parent's past. With disorders of parenting, the parent may project upon the infant negative characteristics of his or her own past.

In the psychotherapy concepts developed in infant mental health work, with the baby at the center of the psychotherapy, it is recognized that the baby may become a transference object. According to Fraiberg (1980):

> Where there is a baby at the center of psychotherapy, we are given extraordinary insight into the repetition of the past in the present, one in which the baby himself is endowed with attributes and qualities, and sometimes malignant influence and

> malevolent intention, which *cannot* belong to a baby and *must* belong to other figures in the parental past. It is as if the baby has become a transference object. (p. 71)

There is very little discussion of prenatal psychotherapy in the literature. Lieberman and Blos (1980) review the prenatal course of psychotherapy in a woman whose early conflict with her mother led to difficulty in her ability to attach to her unborn baby. Lieberman (1983) reports on the prenatal and post-partum psychotherapy, which began at 30 weeks gestation when a 42-year-old mother-to-be refused medical treatment for severe hypothyroidism. This mother's ambivalence toward her baby had its origin in the role of the fetus as a transference object to siblings for whom she had to assume care at a very young age.

In another case study, Asch (1966) discusses very severe abuse in a 2-year-old child by a mother who became pregnant during therapy. When her abused child was removed to her mother's home for reasons of safety, she turned her anger toward herself and her fetus and killed both by suicide. She experienced extreme confusion of the identities of herself, daughter, fetus, and mother. Asch (1966) observed that the actual physical reality of pregnancy closely resembles the concept of psychic introjection, wherein the mental representation of the physical phenomenon is cathected with the mental representation of the introject. He observed that reversals of identity with the fetus, which are reversals of self and object representations, appear frequently with confusion of identities between mother and baby, the confusion of self and object. Colman and Colman (1971) note that it is common for expectant parents to identify with a baby in the same position in the birth order as their own.

Abarbanel (1983) stated “The revival of the sibling experience during the mother’s second pregnancy,” suggests that if the mother were a second child and “sees herself as the growing fetus, then the firstborn child would represent the older sibling” (pp. 353-379). She describes clinical cases of two pregnant women who were younger sisters and whose first born were daughters. In the first case, the mother’s feelings of sibling rivalry with her older sister were so intense and unresolved that, as she identified with her fetus, she had problems with her 2-year-old daughter, who was a transference object to her sister. In the second case, in which the mother’s relationship with her older sister had been generally good, she could help her 2-year-old daughter anticipate with pleasure the birth of the new baby.

According to Benedek (1959) motherhood offers a woman a new chance to reconcile herself intrapsychically with her own mother. In an emotional symbiosis with the infant, there is a “reciprocal interaction,” a “spiral of interpersonal processes. The yes of the infant represents a manifestation of a satisfactory projection of the [parent’s] self-image” (pp. 389-417).

Another model of treatment for mother-infant relationships includes supportive interventions, which have their roots in social work and nursing. In this approach, mothers are assisted to access community resources, such as housing, work, child care, or to gain support through counseling, social skills training, or participation in a self-help group (Booth et al., 1987; Fraiberg, Adelson & Shapiro, 1987; Landy et al., 1984; Larson, 1980; Minde et al., 1983; & Searight et al., 1989). Support is almost always provided in conjunction with other intervention such as developmental and relational guidance (Minde et al., 1983). Support has been used as a means to build trusting

therapeutic relationship where psychotherapy was the main treatment (Fraiberg et al., 1987).

Development and relational guidance of mother-infant interventions have their roots in infant stimulation programs (Bricker & Veltman, 1990; Simeonsson, Cooper & Scheiner, 1982), transactional theory (Sameroff & Chandler, 1975), and medical research with medically compromised or disadvantaged populations. Developmental guidance focuses on increasing maternal knowledge of the infant's abilities, developmental milestones, and needs, as well as practical caretaking issues (Anderson & Sawin, 1983; Belsky, 1985; Field et al., 1980; Liptak et al., 1983; Myers, 1982; Nurcombe et al., 1984b; Siegel et al., 1980; Trad, 1992; Whitt & Casey, 1982; Widmayer & Field, 1981). Information may be provided individually, in group format, through reading material, or demonstration with the infant. The intervenor is seen as an information provider and expert on child development. Relational guidance helps mothers increase their knowledge of and experience with their infant in the context of spontaneous interactions (Barrera, Rosenbaum & Cunningham, 1986; Bromwich, 1976, 1990; Bromwich & Parmelee, 1979; Greenspan, 1992; Greenspan & Greenspan, 1989; McDonough, 1992; Metzl, 1980; Seifer, Clark & Sameroff, 1991; Trad, 1992; Van Boom, 1989).

Consistent with attachment theory, both approaches aim to enhance maternal sensitivity and responsiveness toward the infant. Both approaches involve the infant indirectly with the goal to help the mother who, in turn, helps the infant.

Infant-led psychotherapy is a relatively recent intervention for mothers and their infants (Guy, 1987; Johnson, Dowling & Wesner, 1980; Mahrer, Levinson & Fine, 1976; Muir, 1992; Muir, Stupples & Guy, 1990; Muir, Lojkasek & Cohen, 1991; Wesner,

Dowling & Johnson, 1982; Ostrov et al., 1982). Infant-led psychotherapy involves the setting aside of a regular period of time where spontaneous and undirected activity of the infant is acknowledged by the mother in the same way a therapist does with an adult patient. It directly involves the infant in treatment and aims to enhance mutual sensitivity and responsiveness.

The intervention requires the mother to get down on the floor with her infant, observe and follow her infant's lead, and to respond to the infant's initiations but not initiate activity on her own. She learns to relax, that she does not always have to intervene, and to appreciate her infant's individuality. As a result, she learns to read her infant's signals more objectively and hence becomes more sensitive and responsive to the infant's needs.

Following the infant-led activity, the mother is asked to discuss her observations and experiences of the session. The therapist does not instruct, give advice, or interpret the infant's play, but provides a safe, supportive environment, empowering the mother to give expression to her own thoughts, feelings, and interpretations of the infant's play and their relationship. This allows the mother to examine her internal working models of her relationship with her infant and to revise them to be more in line with her new experiences. Although the primary purpose of this is to enhance observations and understanding of her relationship with her child, it also allows an opportunity for the mother and therapist to examine intergenerational influences on parenting behavior as well as transference issues that arise during the session.

Infant-led psychotherapy, compared with other models, is more consistent with attachment theory. This approach includes both the mother and infant and works directly to enhance the mother-infant relationship by increasing mutual sensitivity and

responsiveness in the presence of a therapist who functions as a secure base. There is however, minimal empirical evidence evaluating this approach.

Working with infants with emotional and behavioral problems, Johnson and colleagues (1980) reported benefits accruing to the majority of over 100 mother-infant dyads participating in an infant-led program. Muir et al., (1990) informally evaluated the effects of treatment over six sessions for mother-infant dyads where a behavioral or adjustment problem was described in the infant. By the fourth session, all mothers reported a diminution or absence of the presenting problems, an increased sense of satisfaction and pleasure in their interactions with their infant, and more confidence in their maternal role. Improvements in sensorimotor skills and language development were observed, a finding also reported by Ostrov et al., (1982). Mothers and fathers also reported improved marital relationships and on the infant's part, more cooperative play with siblings, and increased attachment behavior to fathers.

There is little research evaluating psychotherapy and infant-led psychotherapy, but what does exist is consistent with the notion that different therapeutic models can enhance the mother/father-infant relationship. For instance, Cramer et al. (1990) directly compared psychotherapy with relational guidance and found that both were effective in enhancing the mother-infant relationship.

Hoffman, Marvin, Cooper, and Powell (2006) state that clear evidence has emerged that the quality of attachment between caregiver and child in the first years of life is central to a child's later functioning. Much of this evidence comes from research within the framework of attachment theory which has noted patterns of individual attachment quality that can be identified reliably in both the behavior and representational models of

both parent and child (Bretherton & Munholland, 1999; Britner, Marvin & Pianta, 2005; Sroufe, Egeland, & Collins, 2005; Weinfield, Sroufe, Egeland, & Carlson, 1999). There is converging evidence that attachment has important influence on the success of a child's developmental pathway toward self-reliant adulthood. Given this substantial body of evidence that insecure attachment is a risk factor for later psychopathology, attempts to reduce the risk of insecure and disorganized attachment patterns are particularly important.

Hoffman et. al (2006) quote Casper et al. (1990) "that there is evidence from individual laboratories of successful outcomes of particular interventions" (p .2). However, there is disagreement among attachment researchers about the efficacy of these existing intervention models. Some researchers label these successes as "marginally successful" (Egeland et al., 2000) and others view these as "successful" (van IJzendoorn et al., 1999, p. 226). What is clear, however, is that there continues to be a need for researchers to examine the interventions designed to reduce the risk of insecure attachment.

There is some research based on the analysis of attachment classification in attachment research (secure, insecure, and disorganized), however none has contained a systematic treatment protocol with individualized treatment. Given the significant role that a specific attachment pattern plays in the developmental trajectory of children, Marvin, Cooper, Hoffman, and Powell (2002) have developed a new group-based intervention protocol, Circle of Security (COS) which draws upon the dynamics of secure and insecure attachment patterns.

COS is a 20-week, group based parent intervention program designed to alter the developmental pathway of at-risk parents and their young children. The goal of COS is to enhance relationships between young children and their parents or caregivers. The integration of congruent developmental theories and object relations theory into the intervention process makes COS unique.

The protocol of COS are to (a) establish the therapist and the group as a secure base from which the caregiver can experience relationship with the child; (b) increase caregiver sensitivity and appropriate responsiveness by providing careful attention to the child's basic attachment needs; (c) increase caregiver's capacity to recognize and understand both the obvious and subtle verbal and nonverbal cues that children use to signal their internal states and needs when using the secure base for exploration and as a haven of safety; (d) increase caregiver empathy by supporting reflection of the caregiver's and the child's behaviors, thoughts, and feelings regarding attachment-oriented interactions; and caregiver reflection about how his or her own developmental history affects current caregiving behavior.

In developing the protocol, one working assumption was that, when taught to caregivers in a user-friendly format, attachment theory can be understood and will be useful to caregivers when interacting with their children. The educational component consists of explaining attachment so that the parent can see themselves as a secure base from which the child could explore and return in times of trouble, pointing out how children signal wishes for attachment directly, and sometimes send misleading cues, and how the child really wants responsiveness from the parent.

The Circle of Security differs from other interventions in several ways. First, it uses classification coded from the Strange Situation. Secondly, the focus is on both caregiver and caregiver mental representations (Berlin et al., 2005). Third, there are graphic presentations for the parents to see. Fourth, the parents are invited to reflect behaviors in themselves and their children, which are triggered by nonconscious anxiety, and last, COS has a standard based group model to share with participants on a weekly basis (Marvin et al., 2002).

Other research on COS (Hoffman, Marvin, Cooper & Powell, 2006), researchers used group treatment to provide parent education and psychotherapy based on Attachment Theory. Sixty-five toddler or preschoolers from Head Start and Early Head Start programs were studied. The findings resulted in significant within-subject changes from disorganized to organized attachment classifications and in improving relationships between children and caregivers.

In the late 1960's, researchers began to investigate how to identify children with failure to thrive syndrome, abuse or neglect. In 1971, Dr. Barnard, a scientific consultant for NCAST-Avenuw, (http://www.ncast.org/p-pregnancy.asp) initiated research that brought the ecology of early child development to the level of clinical practice by developing methods for assessing behaviors in children and parents. She identified environmental factors that are critical to the child's well-being and demonstrated the importance of parent-child interaction as an indicator of later cognitive and language development.

Methods that Barnard developed, widely known as the Feeding and Teaching

Scales, were initially taught in 1979 in a series of eight classes via satellite in the US where 600 nurses received training in the use of a series of tools for assessing parent interactions during those sessions. After the satellite experiment ended, NCAST became a self–sustaining organization that reached beyond traditional academics or continuing education programs to advance knowledge that could benefit families and children around the country. Other programs developed by NCAST include the Parent-Child Interaction (PCI) Program. Since its beginning in 1994, consultants have trained over 800 Certified Instructors representing almost every state in the U.S. and also in several foreign countries. NCAST's Certified Instructors have trained more than 20,000 health care professionals in the use of the PCI Feeding and Teaching Scales which have been applied in many settings, including state and county health departments, community outreach programs, hospitals, clinics, and universities, as well as various disciplines such as public health nursing, social work, child care, parent-occupational therapy, psychology, psychiatry, and pediatrics. The PCI Feeding and Teaching Scales are also widely used in research all around the world. They have been used in major studies including the Administration of Youth and Families' study, the Memphis New Mother Project, Birth Cohort, Comprehensive programs and projects promoted by the National Committee to Prevent Child Abuse (http://www.ncast.org/about.asp).

Other NCAST-AVENUW programs include: (1*) BabyCues: A Child's First Language Cards & Video* - an innovative new program that helps parents, home visitors and other caregivers become more "tuned in" to the young child's feelings and needs by learning to understand and respond to behavioral cues; (2) *Promoting First Relationships* which trains service providers to help parents and caregivers meet the social and emotional

needs of young children by building caring and responsive relationships; (3) *Sleep Activity program*, which can help pregnant mothers and caregivers promote predictable behaviors in their babies through specific activities; (4) *Keys to CaregivinG program*, which gives insight into baby ways of communicating; and (5) *Promoting Maternal Mental Health During Pregnancy*, which is designed to assist the pregnant woman in moving beyond the physical dimensions of pregnancy to the emotional and psychological challenges new mothers face, including depression, unresolved grief or loss, and other mental health disruptions.

Research by Campbell (1994) included a home visitation program for high risk mothers who were assessed from pregnancy up to the babies' fourth year. Unhealthy behaviors of mothers, dysfunctional care giving, and stressful social environments were identified as problems that interfere with effective maternal care during pregnancy and early childhood. Although this research did not focus specifically on prenatal attachment, it did support the idea that an intensive, comprehensive, and systemic intervention can result in significant improvements in child abuse and neglect, low birth weight babies, and the cycle of poverty-all of which are closely related.

In 1992, Cox, Owen, Henderson, and Margand conducted a longitudinal study of early development. Security of attachment was predicted from the qualities of interaction with the babies at three months of age, and again using the "strange situation" when the babies were 12 months of age. Parental attitudes, time spent with the babies, and parental roles were discussed. The results indicated that the infant-father attachment relationship at the baby's first birthday could be predicted from the interactions which occurred during the

baby's first year of life. Although this study did not address prenatal attachment, it did address father-infant attachment.

New studies in prenatal attachment include Quantum Healing (McCarty & Glenn, 2008), which states that our earliest experiences become our foundation of who we are. They set in motion life patterns that we may not even be aware of, yet they are influencing every aspect of our being: physical, emotional, mental, relational, and spiritual. McCarty (2008) states that during the past thirty years, a wealth of clinical experience with adults, children, and babies has been reported, and a much deeper understanding of our earliest experiences is now available. The new field of Prenatal and Perinatal Psychology (PPN) is "dedicated to the in-depth exploration of the psychological dimension of human reproduction and pregnancy and the mental and emotional development of the unborn and newborn child" as stated in *The Journal of Prenatal and Perinatal Psychology and Health* (p. 118). The heart of the field's unique contribution is the exploration and understanding of prenatal life, birth and bonding, and infancy from the baby's point of view (McCarty, 2008). Prenatal and Perinatal Psychology (PPN) research demonstrates early experience involves consciousness beyond (before) the biological human self. In 1999, Glen and McCarty co-founded the prenatal and Perinatal Psychology program at Santa Barbara Graduate Institute to help further the field and train professionals (www.sbgi.edu).

While there is relatively little research available on prenatal attachment, mental health professionals have begun to realize the importance of the initial bonding that occurs between the biological mother/father and the unborn child. As a professional community, researchers are expanding to include the concept of prenatal attachment but still have a

long way to go. Bowlby began this journey over 60 years ago. He would be proud of the advances that have been made today.

CHAPTER III

METHODOLOGY

The goal of this study was to investigate the effects of a prenatal parenting curriculum, Promoting Maternal Mental Health During Pregnancy, on individual attachment styles and prenatal attachment levels of pregnant women/men, or women who had recently given birth. Chapter III includes a description of the research design and discusses the rationale for the approach. The sample population, research procedures, participant selection, and instrumentation are described and issues of internal and external validity, data analysis, and limitations are also addressed.

Research Design and Rationale

The research design chosen for this study was a one-group pretest-posttest design. (Isaac & Michael, 1995). The design procedures included (1) administering O_1 (the pretests) to measure the individuals' attachment styles and the individual prenatal attachment scores before exposure to the parenting class, (2) exposing the subjects to X, (the parenting class), and (3) administering O_2 (the posttests) to measure the attachment styles and the prenatal attachment scores after exposure to X. Then we compared O_1 and O_2 to determine what differences, if any, the exposure to X had on the scores. According to Isaac and Michael (1995) the advantage to this design is that it supports internal validity because it provides a comparison between performances by the same group of subjects before and after exposure to the experimental treatment.

The researcher used the one-group pretest-posttest design because the Teenage Parent Program (TAPP) and the participating agency would not allow the researcher to have a

control group. The immediate need of the parenting class and the needs of the participants were such that a control group would not have been plausible or ethical. Internal validity refers to the confidence one can have in inferring a causal relationship among variables while simultaneously eliminating rival hypotheses.

Since there is no random assignment in this type of design, it reduces the internal validity of the study. Some possible threats to internal validity in this design include the following. First, there is no assurance that the treatment is the only or even the major factor in the pretest posttest difference. Secondly, history - some subjects may have had their babies between O_1 and O_2, therefore requiring the parents to remember back to before the birth of the babies in order to respond to some questions; and thirdly testing effects - the experience of taking the pretest by itself may alter attitudes, increase motivation, or induce learning.

Two pretests were administered in this study. The first pretest instrument was the Experiences in Close Relationships-Revised (ECR-R) Adult Attachment Questionnaire (Brennan, Clark, & Shaver, 1998) which was used to identify the attachment styles of the participants. The second pretest was the Prenatal Attachment Inventory (PAI) (Muller, 1993) which was used to assess the prenatal attachment levels of the participants.

Independent and Dependent Variables

The independent variable in this study was the parenting class, Promoting Maternal Mental Health During Pregnancy. The dependent variables were the attachment styles of the individual participants as identified by the ECR-R and the prenatal attachment levels as identified by the PAI. While "Promoting Maternal Mental Health During Pregnancy"

is written for women, the information can also be used by fathers who wish to learn about attachment and improve their own attachment to their unborn babies.

Research Questions and Hypotheses

To explore the effects of Promoting Maternal Mental Health During Pregnancy on individuals' attachment styles and prenatal attachment levels, this study proposed the following research questions and hypotheses:

Research Question 1: Does the prenatal parenting class, Promoting Maternal Mental Health During Pregnancy, positively impact an individual's attachment style as measured by the ECR-R?

Hypothesis 1: There will be a statistically significant change in the insecure attachment styles of the participants who received the parenting class.

Research Question 2: Does the prenatal parenting class positively impact an individual's degree of prenatal attachment, as measured by the PAI?

Hypothesis 2: There will be a statistically significant change in the level of prenatal attachment of the participants as measured by PAI.

Participants

The participants were recruited from the Child Care Association (CCA) of Brevard County and four of the Brevard County High Schools. Four high schools in Brevard County offer the Teenage Parent Program (TAPP) which is a program that allows young mothers and fathers to continue their high school education and bring their babies to the schools' child care study labs. The participants ranged from 15 to 28 years of age. CCA had a total of 5 participants. The total number of participants from the schools was 28. The prenatal parenting class was also offered to fathers of the babies in the schools who

were interested in learning about attachment. Four fathers and twenty nine women and mothers-to-be participated. The common characteristics that the fathers and women shared were they were new mothers and/or fathers, pregnant, or had recently given birth. Some participants had more than one child. The participants were married, divorced, single, cohabitating, and/or had domestic partners. Cohabitating means that the couple were living together in the same household; domestic partners means the two were committed to each other but were not living together.

Selection of Participants

The women/men clients of the Child Care Association and the students at the four high schools were offered the prenatal parenting class and to participate in the research study.

Procedures

This researcher contacted the Child Care Association of Brevard County, Inc. Volunteer Coordinator to discuss the research study. The researcher was referred to the Parent Involvement and Parent Connection Coordinator and the Director of Training and & Staff Development, both of whom were receptive to the study and gave consent to proceed.

On January 14, 2009, the researcher met with the group of women and explained the prenatal parenting class and the research study. Flyers (Appendix A) were distributed to the women at the meeting and distributed later to other clients in the program who were not present. All participants were told about confidentiality laws, the right to withdraw at any time without any adverse consequences, and about how the data would be stored by the researcher in a locked file cabinet for 5 years, and then destroyed.

The first prenatal parenting class was then scheduled for the following Wednesday night from 5:00 -7:00 P.M.

At the first class any remaining questions were addressed and Informed Consent Forms (Appendix B), Assent Forms (Appendix G), and Parent Consent Forms (Appendix H) were signed. The participants then took the pretests, (the Experiences in Close Relationships-Revised (ECR-R) (Appendix C) and the Prenatal Attachment Inventory (PAI) (Appendix D).

The researcher then met with this group, Wednesday evenings, 5 - 7 P.M. for 6 weeks, teaching the Prenatal Parenting Class. On the last meeting, the participants took the ECR-R and the PAI as posttests, then completed the demographic survey (Appendix E) and the Fifteen Minute Interview (Appendix F) with the researcher.

The researcher then entered the ECR-R questionnaires (pre and posts tests) into the computer for each client. Scores were generated for each ECR-R. The researcher then hand scored the PAI (pre and post tests).

Next the researcher contacted the Brevard County School Board to discuss the research study. This researcher was referred to the Research Coordinator for the Brevard County School Board. An application was submitted, whereupon permission was granted to proceed with the research and to contact the principals of the four high schools. Contact with the principals occurred, permission was then given to researcher to contact the teachers of the four TAPP programs. Meetings were arranged for the researcher to meet the teachers, present the research proposal, deliver flyers, and meet the prospective participants.

The schedules were set, and the first class meetings began. Due to the different high schools operating on different bell schedules, the researcher had to be flexible. At Eau Gallie High School the schedule was to teach two times per week, one hour classes, with two different classes. In Palm Bay High School, the researcher taught two times per week for one hour with one class. In Titusville High School the researcher taught one time per week for two hours with the same group and in Cocoa High School, the researcher met one time per week, one hour per class, with two different classes. Each of the classes received 10 hours of instruction on prenatal parenting.

Confidentiality

Confidentially was fully discussed with all teachers and participants. Participants were told that names would not be used in the research, and that information would be revealed in group averages or in group numbers versus individual information. Participants were also told that all personal information and research data would be kept in separate locations and locked in file cabinets in the researcher's office. All information would be maintained for a period of five years and then destroyed.

Risks

The participants were made aware that there were no known risks involved in participating in this study, but should they experience any emotional distress they would contact the Parent Involvement and Parent Connection Coordinator, who would refer them to a Licensed clinician for counseling. In the school setting, the students were told they could contact their teacher of the TAPP program and she would make the appropriate referral to the school guidance counselor.

Instrumentation

The idea that romantic relationships are similar to attachment relationships has had a significant influence on modern research on close relationships. One implication is that if adult romantic relationships reflect attachment relationships, then we should observe the same kinds of individual differences in adult relationships that Ainsworth observed in infant-caregiver relationships. Secondly, if adult romantic relationships are attachment relationships, then the way adult relationships “work” should be similar to the way infant-caregiver relationships work; and thirdly, whether an adult is secure or insecure in his/her adult relationships may be a partial reflection of his/her attachment experiences in early childhood (Fraley, 2004).

Experiences in Close Relationships-Revised (ECR-R)

The ECR-R is a 36- item self-report attachment measure developed by Fraley, Waller, and Brennan (2000). The on-line interactive survey takes about 10 minutes to complete. The Experiences in Close Relationships-Revised (ECR-R) questionnaire is a revised version of Brennan, Clark, and Shaver’s (1998) Experiences in Close Relationships (ECR) questionnaire (Fraley, 2005). On the ECR-R, items were selected using techniques based on the Item Response Theory, but were selected from the same item pool as those from the ECR. Both the ECR and the ECR-R are designed to assess individual differences with respect to attachment-related anxiety (i.e., the extent to which people are insecure vs. secure about the extent of their partner’s availability and responsiveness–in this case the availability and responsiveness of a caregiver or parent) and attachment related avoidance (i.e., the extent to which people are uncomfortable being close to others vs. secure depending on others).

Norms for the ECR-R are based on people who have taken the ECR-R online. The sample consists of 22,000 people (78% female) with an average age of 24 (SD = 1). Fifteen percent of the sample was married. Overall (the full sample) under the avoidance domain, M = 2.93, SD = 1.18 and under Anxiety, M =3.64, SD = 1.33. Internal consistency was reported as high: r = .69 to .81, and test-retest stability after 2 weeks was high, r = .87 to .95. There is an on-line measure based on the ECR-R where one can have responses scores and plotted on the two dimensional framework. That site is http://www.yourPersonality.net/.

The ECR-R is offered in a 7-point Likert scale ranging from (1) *disagree strongly* to (7) *agree strongly.* Summary scores for attachment-related avoidance were generated by calculating the mean of the items along the avoidance dimension and then again for the attachment-related anxiety along the anxiety dimension. Scores range from 1 to 7. This questionnaire has been widely used in adult attachment research and its psychometric properties have been well established (Brennan et al., 1998; Crowell, Fraley, & Shaver, 1999).

The instrument is readily available for use and requires minimal preparation to use. An example of a question on the ECR-R is “I am very comfortable being close to romantic partners.” The Likert circle would then be filled in from strongly disagree to strongly agree. This researcher described the ECR-R to the participants and that the end result would be participant’s attachment style.

In using the ECR-R, this researcher had hoped to categorize people into a specific attachment category (i.e., secure, fearful, dismissing, or preoccupied) on the basis of their scores on the two ECR-R dimensions. Fraley questions whether attachment styles are

categorical variables (matter of kind) or continuous variables (matters of degree). Taxometric analyses of multiple samples suggest that variation in attachment is at best modeled with dimensions rather than categories (Fraley & Waller, 1998; Fraley & Spieker, 2003a, 2003b).

The Prenatal Attachment Inventory (PAI)

The PAI was developed by Muller (1989, 1993) to assess the extent of the unique and affectionate relationships that develop between a woman and her unborn fetus. It is an affective, unidimensional, and norm-referenced measurement. The instrument consists of 21 Likert-type items arranged on a 4-point response set ranging from (1) "almost never" to (4) "almost always." Total scores can range from 21 to 84, with higher scores indicating higher levels of prenatal attachment. Examples of the PAI items are: "I get very excited when I think about the baby" and "I imagine what part of the baby I'm touching." Cronbach's alpha is .81. It takes approximately 5 minutes to complete.

The original PAI was developed according to the pregnancy adaptation and attachment literature, identifying 48 items. These 48 items were reviewed by an expert panel of 11 theoreticians, nurses providing prenatal care, and pregnant women, to establish content validity. These 11 experts rated items on a 4-point scale from "not relevant" to "quite relevant."

The psychometric tests of validity and reliability were based on a sample of 336 low risk pregnant women who were recruited from a clinic setting, two midwifery practices, a private obstetric practice, and two childbirth preparation classes (Muller, 1989). The majority of the sample were well-educated, middle-class Caucasian.

Construct validity was tested by correlating PAI scores with scores from instruments measuring constructs taken from the attachment model: pregnancy adaptation and marital satisfaction. The PAI was found to be significantly related to maternal adjustment to pregnancy ($r = .25$, $p < .001$). To assess concurrent validity of the PAI, the Maternal-Fetal Attachment Scale (MFAS) was also administered as a parallel measure. PAI scores correlated strongly with MFAS ($r = .72$, $p < .001$). The PAI did not correlate with marital satisfaction. The correlations of the MFAS with the same variables showed a similar pattern to that of the PAI. Moreover, both the PAI and MFAS demonstrated significant correlations with some demographic variables, such as gestational weeks, marital age, and educational level. PAI and MFAS scores increased with weeks of pregnancy and decreased with marital age and years of education. Neither PAI nor MFAS scores correlated with number of previous children (Muller, 1993). The results support the construct validity of the PAI.

The reliability was assessed by internal consistency. Cronbach's alpha coefficient of reliability was above .85 for the total scale. The item-scale correlations fell between .30 and .70 for all PAI items (Muller, 1989, 1993).

To date there is very little research available on prenatal paternal attachment and there are no assessments, specific or general, to evaluate or rate prenatal paternal attachment. This researcher used the PAI for the men and substituted the word father for mother.

In one study found by researcher, "*Exploring prenatal attachment: Factors that facilitate paternal attachment during pregnancy,"* (Gerner, 2006) measured marital satisfaction, father's attachment to childhood caregiver, a father's self-esteem, and the number of ultrasound visits that a father attended as predictors of paternal prenatal

attachment in 39 expectant fathers. The analysis identified the number of ultrasound visits the father attended during the mother's pregnancy was the strongest predictor of paternal fetal attachment. Results suggested that fathers do become attached to their unborn children, and ultrasounds help to facilitate this attachment.

The book, *Promoting Maternal Mental Health During Pregnancy*, by JoAnne Solchany RN, Ph.D. was used in the curriculum. There are three sections to the book: Theory, Practice, and Intervention. The class included the theory of prenatal attachment, the practice of identifying mental health during pregnancy, and the interventions, (56 different activities and handouts). The first 15 minutes of each class were lecture, followed by activities, handouts, and processing of information. The same curriculum was taught to all participants.

The 15 minute exit interview was an interview that consisted of four questions. The first two questions were quantitative with yes/no responses: "Do you feel the prenatal parenting class was helpful to you? The second question was "Would you recommend this class to any of your friends or acquaintances? The third and fourth questions were qualitative: What did you like most about participating in the research study? And what did you like least about participating in the research study? Graphs for the quantitative questions are shown in Chapter IV and the results of the qualitative questions are discussed.

External Validity

The participants in this study were volunteers, and the results of this study may not generalize to non-participants. In addition, the participants were clients of a specific agency or in high school, which may limit the generalizability.

Data Analysis

The primary concern of the data analysis was (1) to determine if the implementation of the Independent variable, Promoting Maternal Mental Health During Pregnancy, would result in an improvement on the attachment dimensions of the ECR-R and (2) if the implementation of the independent variable, Promoting Maternal Mental Health During Pregnancy, would result in improvement in the PAI scores. If these shifts should occur, it would be possible for a participant to move into the “securely attached” attachment category versus “insecurely attached” category. The Statistical Package for the Social Sciences (SPSS) was used to process the data. Descriptive statistics were used for supplementary analysis purposes, and both descriptive and inferential data are displayed in graphs and tables.

Limitations

Limitations of the study include that the study may not generalize to other populations of women/men. The small population size is also a limitation. Concerning the Prenatal Attachment Inventory (PAI), there are no known assessment scales designed for expectant fathers so the researcher adjusted the wording to apply to men. One complication in this use was that if the mother and father were not together then the father would not have the experiences of sharing pregnancy, which might therefore alter his perceptions of the unborn fetus, thus affecting the attachment between father and baby.

Summary

Chapter III includes a description of the research design, rationale for the design, subjects, procedures, variables, instrumentation, hypotheses, and data collection.

Issues of external and internal validity, data analysis, and limitations were also discussed. Chapter IV contains the results of the study and Chapter V includes the findings, explanations, and recommendations for further study.

CHAPTER IV

RESULTS

Introduction

Chapter IV provides an analysis of the data generated from this study to ascertain if the volunteers who were involved in a prenatal parenting class showed improved individual attachment styles and/or prenatal attachment styles to their unborn child or recently born child. The Experiences in Close Relationships-Revised (ECR-R) Adult Attachment Questionnaire (Brennan, Clark, & Shaver, 1998) was used to identify the adult attachment style of the adults and the Prenatal Attachment Inventory (PAI) (Muller, 1993) was used to measure the extent of the unique and affectionate relationship that develops between a woman/man and the unborn or recently born child.

The focus of this study was based on two research questions: (1) Does *Promoting Maternal Mental Health During Pregnancy* positively impact the individual's attachment style as measured by the ECR-R? and (2) Does *Promoting Maternal Mental Health During Pregnancy* positively impact the prenatal attachment levels of pregnant women/men (new fathers) or women who had recently given birth who received the parenting class as measured by the PAI? The answers to these questions were examined by recruiting participants for the research study. Women and men from the community and students who attended the high schools which offered the Teenage Parent Program (TAPP) participated. The participants ranged from 15 to 28 years of age. *T*-tests were used to analyze the data with a significance level of 95%.

A one-group pretest-posttest design was used in the research. This design, described by Isacc and Michael (1995) entails administering the pretests (O_1) to

subjects, exposing the subjects to the parenting class (X), and administering the posttests (O_2) to measure any differences between O_1 and O_2. The purpose of this design is to provide a comparison between performances by the same group of subjects before and after exposure to X (the parenting class). The use of this design requires the researcher to be aware of threats to internal validity in the study. Internal validity refers to the confidence one can have in inferring a causal relationship among variables while simultaneously eliminating rival hypotheses.

Descriptive Statistics

Data were collected and analyzed on a total of 33 participants. Of these 33 participants, the age proportions were as follows: eight participants were ages 15-16 (24%), eighteen were ages 17-18 (54%), four were ages 19-20 (12%), one was age 22 (3%), and two were ages 27-28 (6 %). The average age for the 33 participants was 18 with a standard deviation of 2.80. Figure 1 presents the participants' ages in a histogram format.

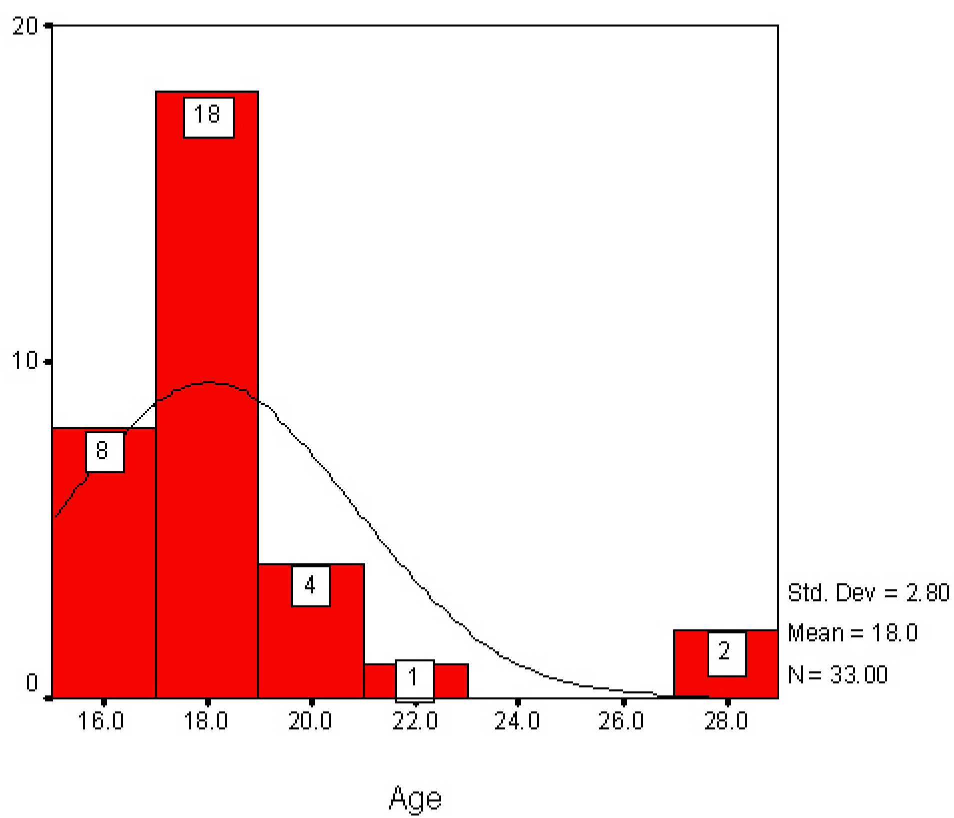

Figure 1. Age of Participants

Marital Status

The Marital Status fell into 4 categories: single, married, cohabitating, and domestic partners. Twenty one (63.6%) were single, one (3.0%) was married, five (15.2%) were cohabitating (living together), and six (18.2%) were domestic partners (boyfriend-girlfriend, not living together). Figure 2 presents the results graphically.

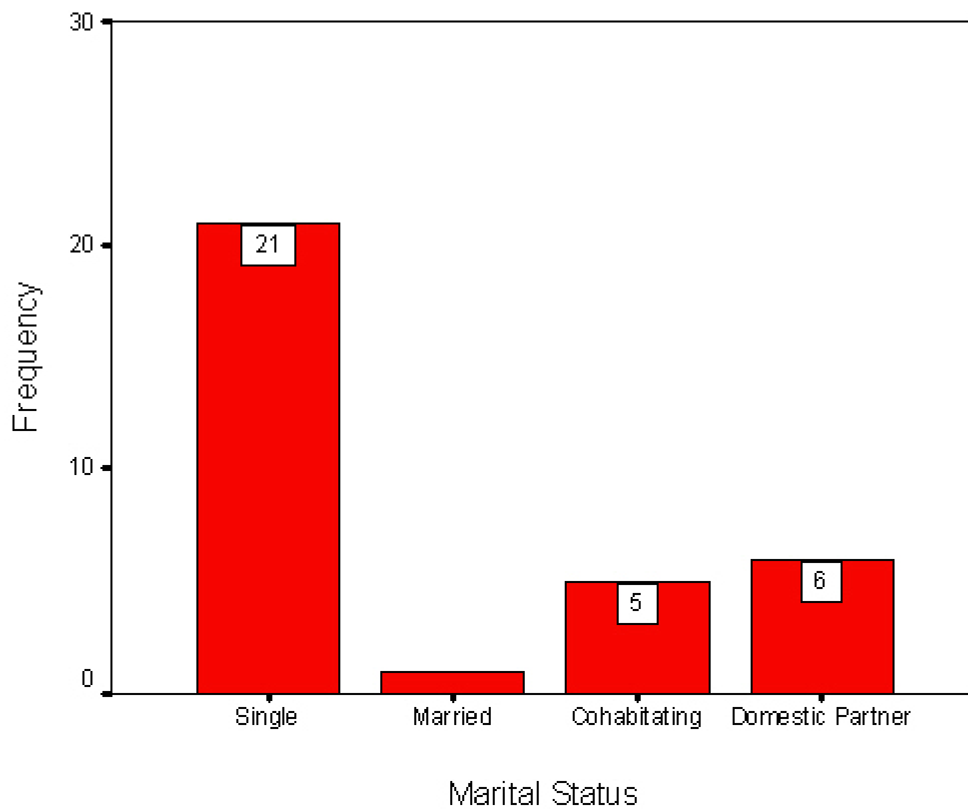

Figure 2. Marital Status

Current Food Stamps

Eight (24.2%) of participants were currently receiving foods stamps. Twenty-five (75.8%) were not currently receiving food stamps. Figure 3 presents the results graphically.

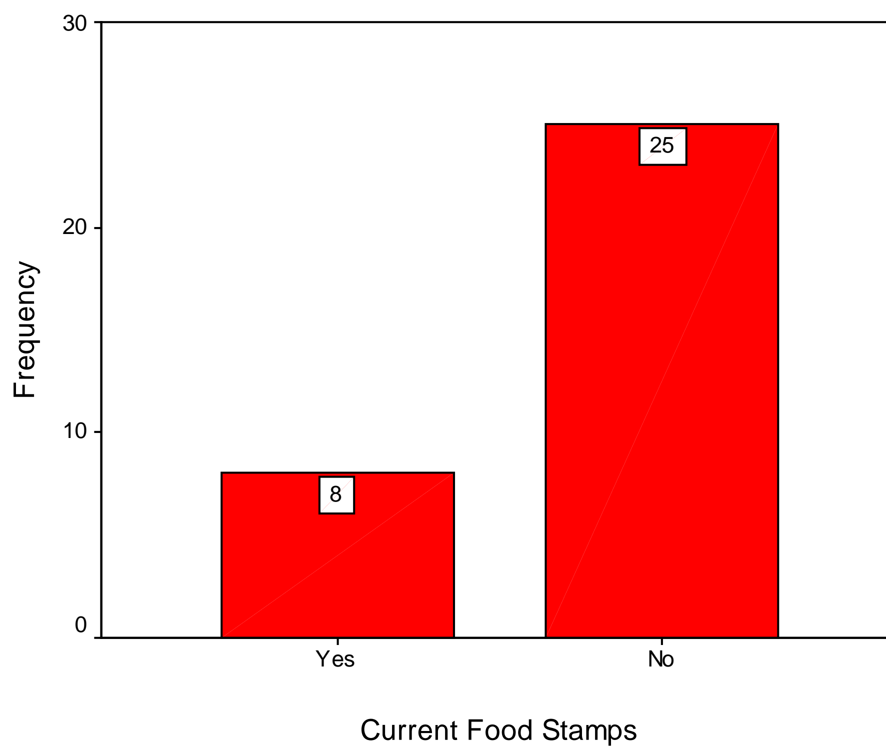

Figure 3. Currently Receiving Food Stamps

Current Medicaid

Twenty (60.6%) of participants were currently receiving Medicaid. Thirteen (39.4%) were not currently receiving Medicaid. Figure 4 presents the results graphically.

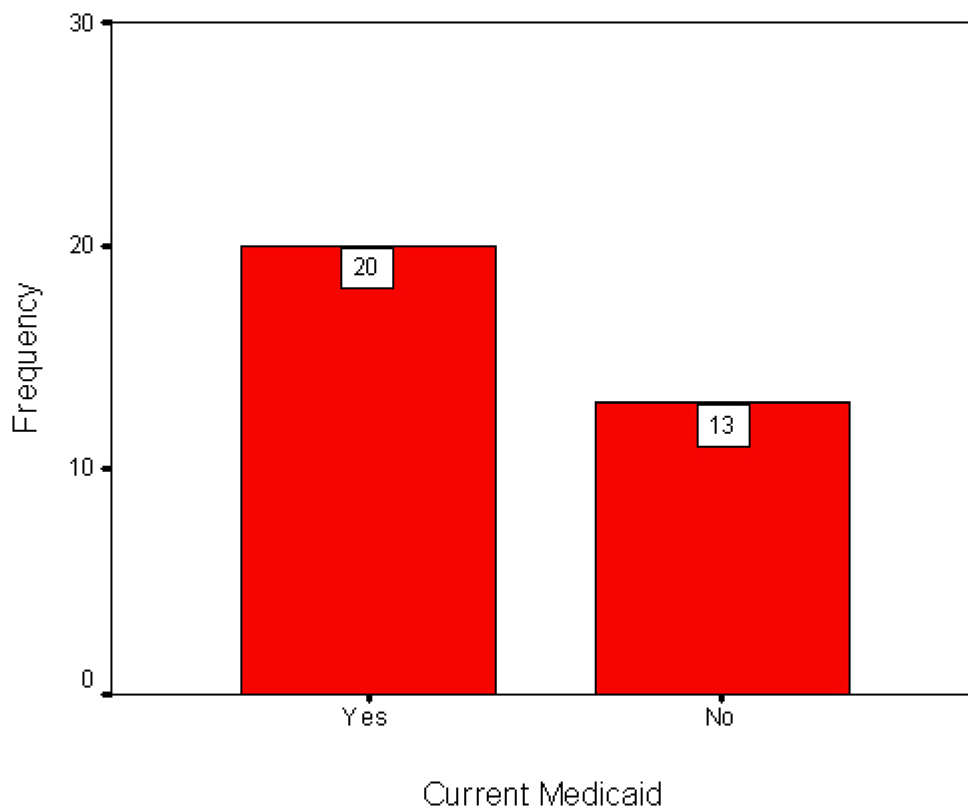

Figure 4. Currently Receiving Medicaid

Current Counseling

Two (6.1%) of participants were currently receiving Counseling. Thirty-one (93.9%) were not currently receiving Counseling. Figure 5 presents the results graphically.

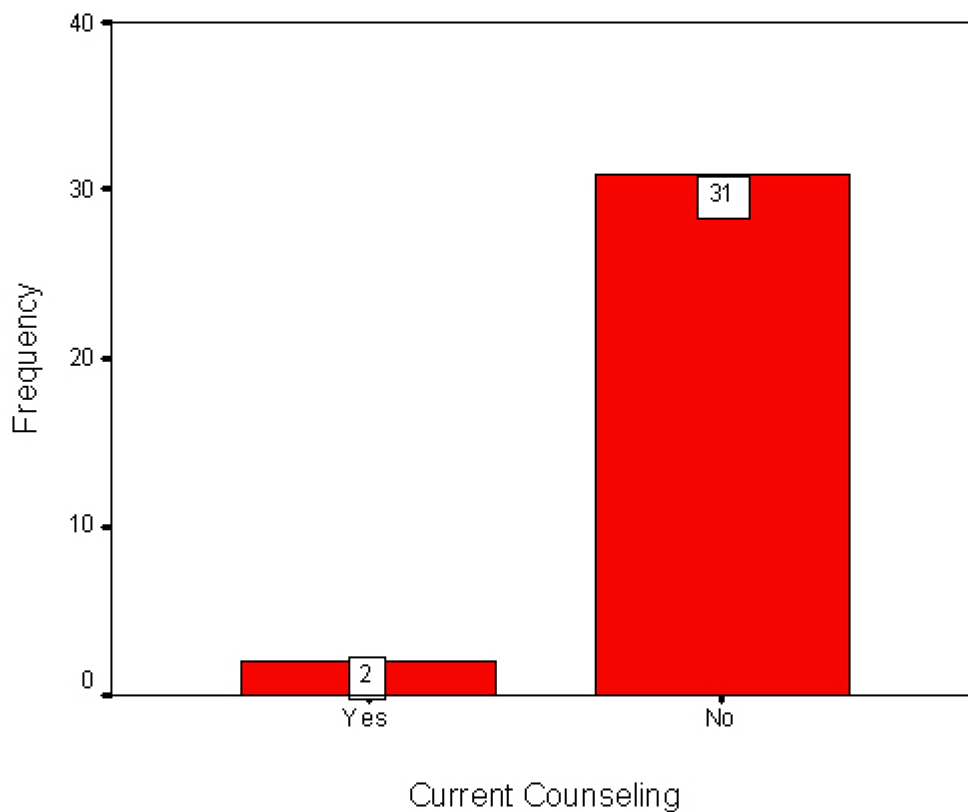

Figure 5. Currently Receiving Counseling

Previous Food Stamps

Eight (24.2%) of the participants had previously received food stamps while 25 (75.8%) had not previously received Food Stamps. Figure 6 presents the results graphically.

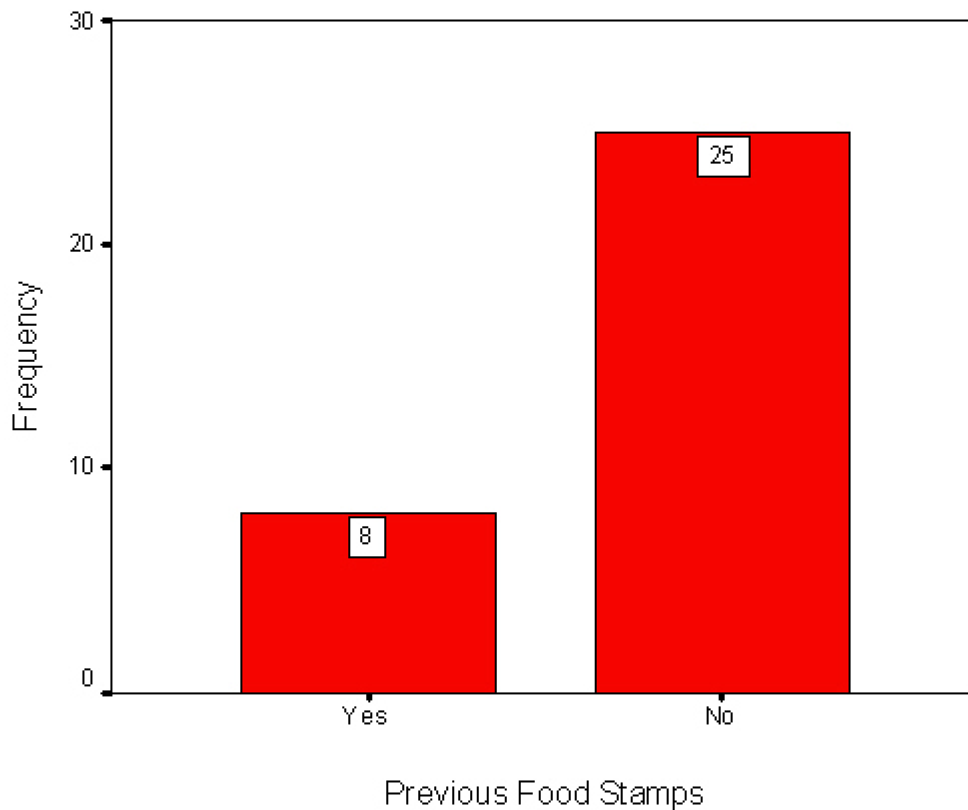

Figure 6. Previously Received Food Stamps

Previous Medicaid

Twenty-three (69.7%) of participants had previously received Medicaid while 10 (30.3%) had not previously received Medicaid. Figure 7 presents the results graphically.

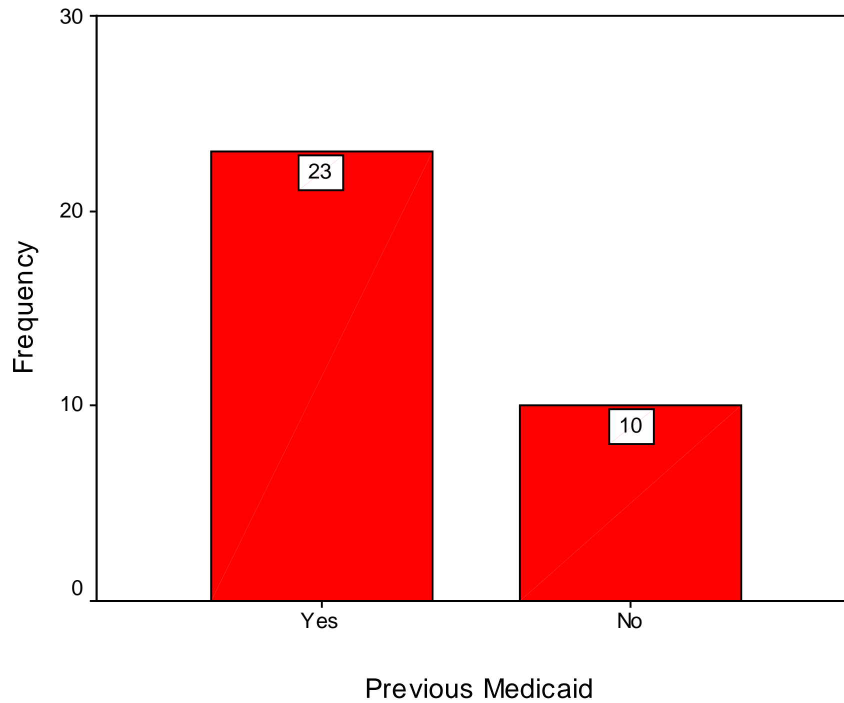

Figure 7. Number of Participants Who Previously Received Medicaid.

Previous Counseling

One (3.0%) participant had previously received counseling while 32 (97.0%) had not previously received counseling Figure 8 presents the results graphically.

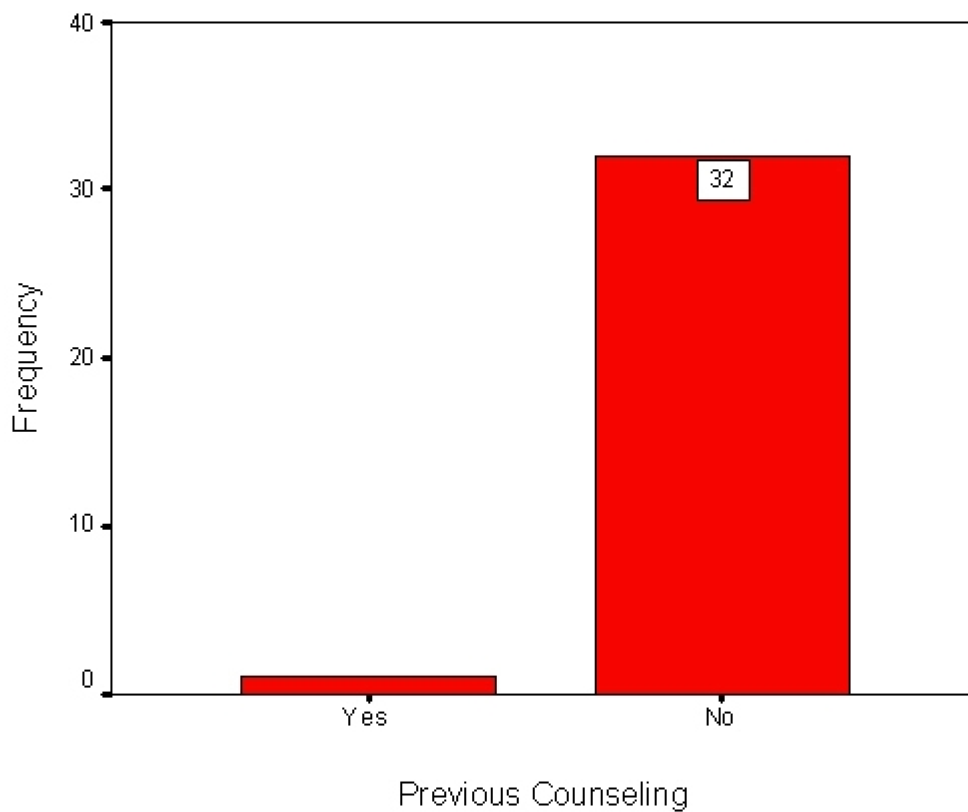

Figure 8. Number of Participants Who Previously Received Counseling

Number of Children

The number of children was broken down into categories of 1, 2, or 3 children. Thirty (90.9%) reported having only one child. Two participants (6.1%) reported having 2 children, and one (3.0%) participant reported having three children. See illustration below. Figure 9 presents the results graphically.

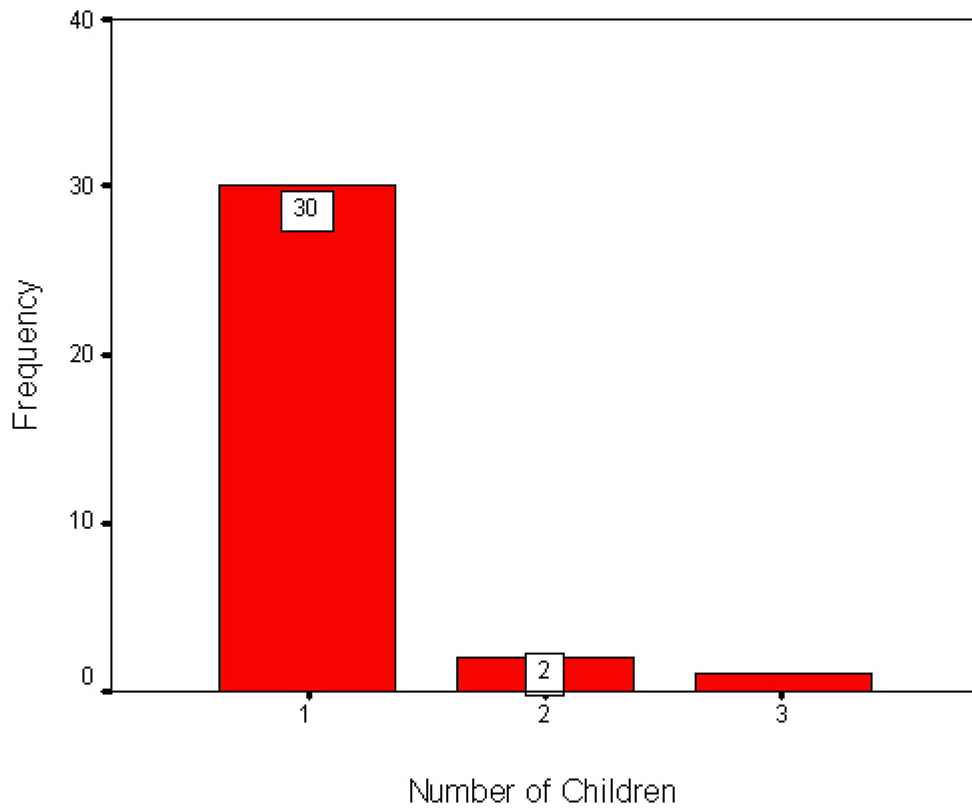

Figure 9. Number of Children of Participants

Educational Level

The educational level was broken down into three categories: In High School, High School Diploma, and Some College. Of the participants, thirty (90.9%) reported being in High School, one (3.0%) reported having a High School Diploma, and two (6.1%) reported having Some College. Figure 10 presents the results graphically.

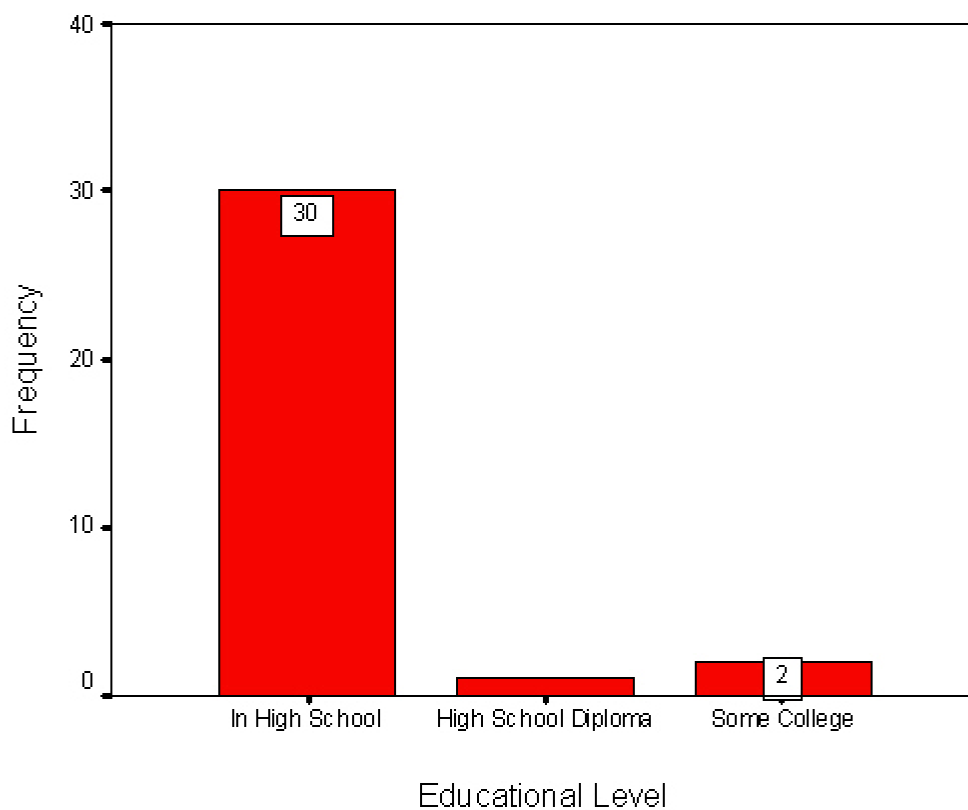

Figure 10. Education Level of Participants

Grade Level

Current grade level was broken down into five categories: grades 9-12 (high school) and grade 13 (some college). Of the thirty-three participants, one (3.0%) reported being in 9th grade. Four (12.1%) reported being in 10th grade, eleven (33.3%) reported being in 11th grade, and fifteen (45.5%) reported being seniors in high school. Two (6.1%) participants reported having some college experience as represented in the graph below by "grade 13". See Figure 11 below.

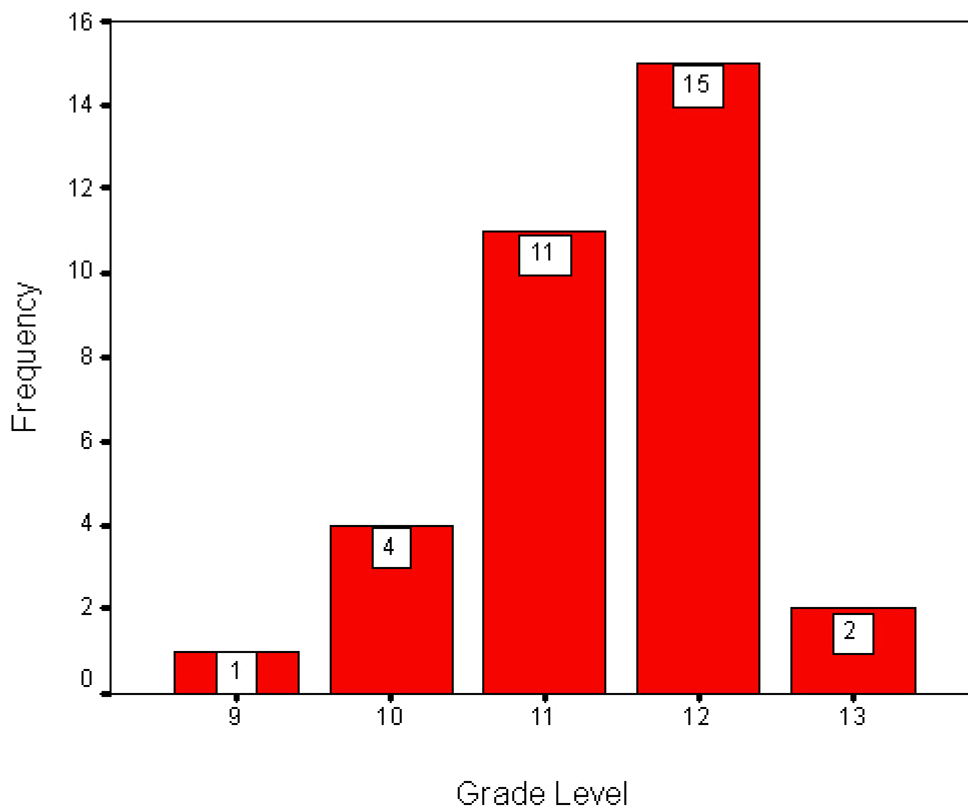

Figure 11. Grade Level of Participants

Work Status

The work status was broken down into five categories: student, employed full time, employed part time, unemployed, and never employed. Of the 33 participants, ten (30.3%) reported being students only. Three (9.1%) participants reported being employed full time, three (9.1%) stated they were employed part time, eight (24.2%) participants stated they were unemployed, and nine (27.3%) of the participants reported they had never been employed. Figure 12 presents the results graphically.

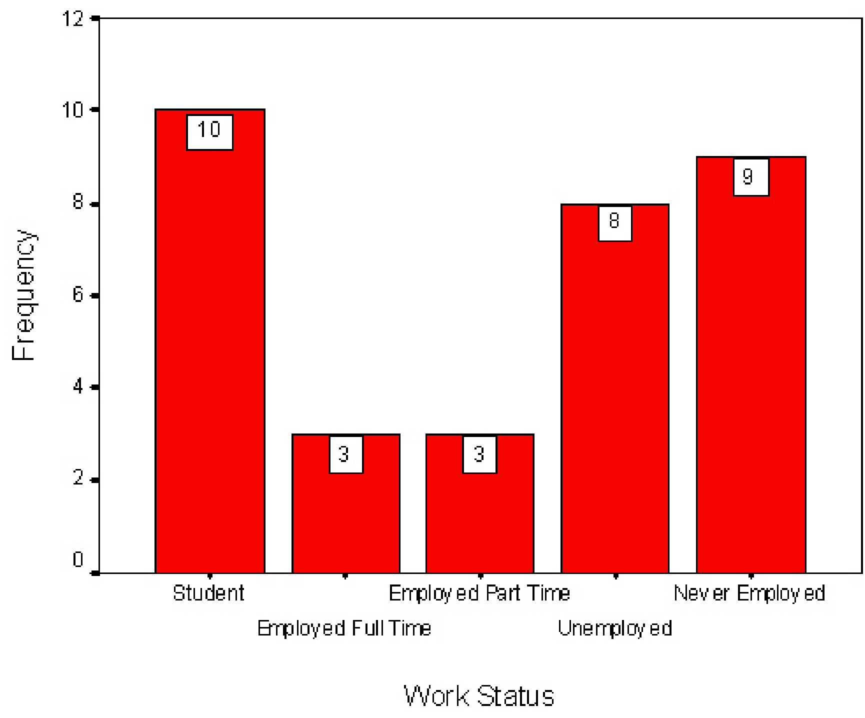

Figure 12. Work Status of Participants

Income Level

Annual Income levels of the participants were broken into five categories: Less than $10,000, $10,000-$19,999, $20,000-$29,999, $30,000-$39,999, and Prefer Not to Answer. Fifteen (45.5%) of the participants made Less than $10,000, four (12.1%) reported making $10,000-$19,999, one (3.0%) participant reported making $20,000-$29,999, one (3.0%) reported making $30,000-$39,999, and twelve (36.4%) chose Prefer Not To Answer. Figure 13 presents the results graphically.

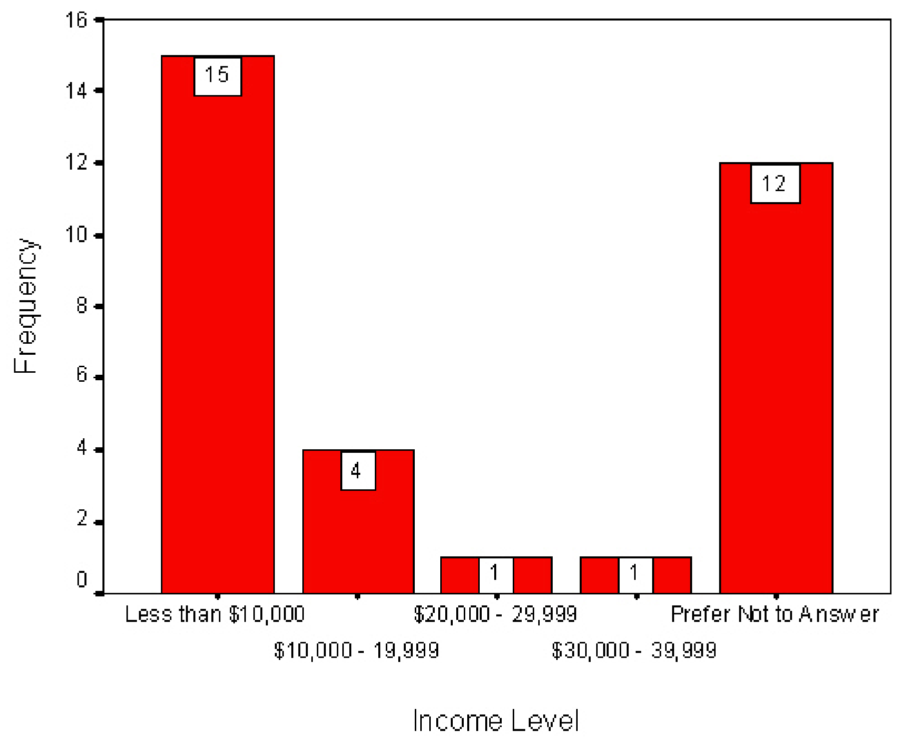

Figure 13. Income Level of Participants

Was Class Helpful

Four questions were asked by the researcher in the fifteen minute exit interview. The participants answered the questions on paper and then the class discussed the questions. The first two questions were quantitative and the last two questions were qualitative. The questions were: 1) Do you feel the prenatal parenting class was helpful to you? If so, in what way? 2) Would you recommend this class to any of your friends or acquaintances? 3) What did you like most about participating in the research study? And 4) What did you like least about participating in the research study? For question #1- there were two categories: Yes and No. Thirty (90.9%) of the participants answered Yes and three (9.1%) answered No. The participants who answered yes stated they benefited by learning about attachment and what it means to their unborn or recently born babies. They also learned how to improve their attachment to their children. The men who participated requested additional education on attachment and requested that the class be presented again. The explanations given from the three participants who answered no stated the focus was on "prenatal" parenting and they had already delivered their babies. On the PAI, they were required to think back before the birth of their children and this was difficult. In response to question #2, all participants stated they would recommend the class to anyone they knew who was pregnant or thinking about getting pregnant. In response to question #3, most responded that they liked the interaction, communication, and freedom to share information with fellow classmates; stories about their pregnancies, birthing experiences, and the impact that being pregnant had on their lives. In question

#4, several participants responded that what they liked least about participating in the research study was that there was too much paper work required.

Figure 14 presents the quantitative results graphically.

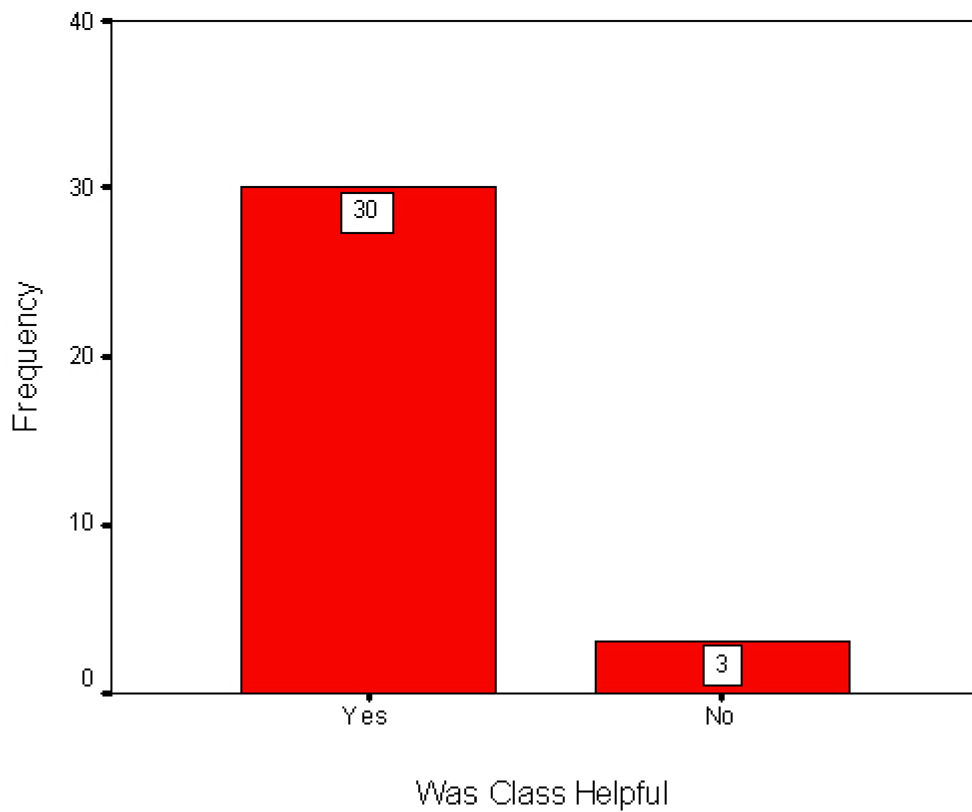

Figure 14. Was Class Helpful

Would Recommend Class

This question was the second quantitative question asked by the researcher in the fifteen minute exit interview. There were two categories: Yes and No. Of the 33 participants, 33 (100%) answered Yes. None of the participants answered No. See chart below. Figure 15 presents the results graphically.

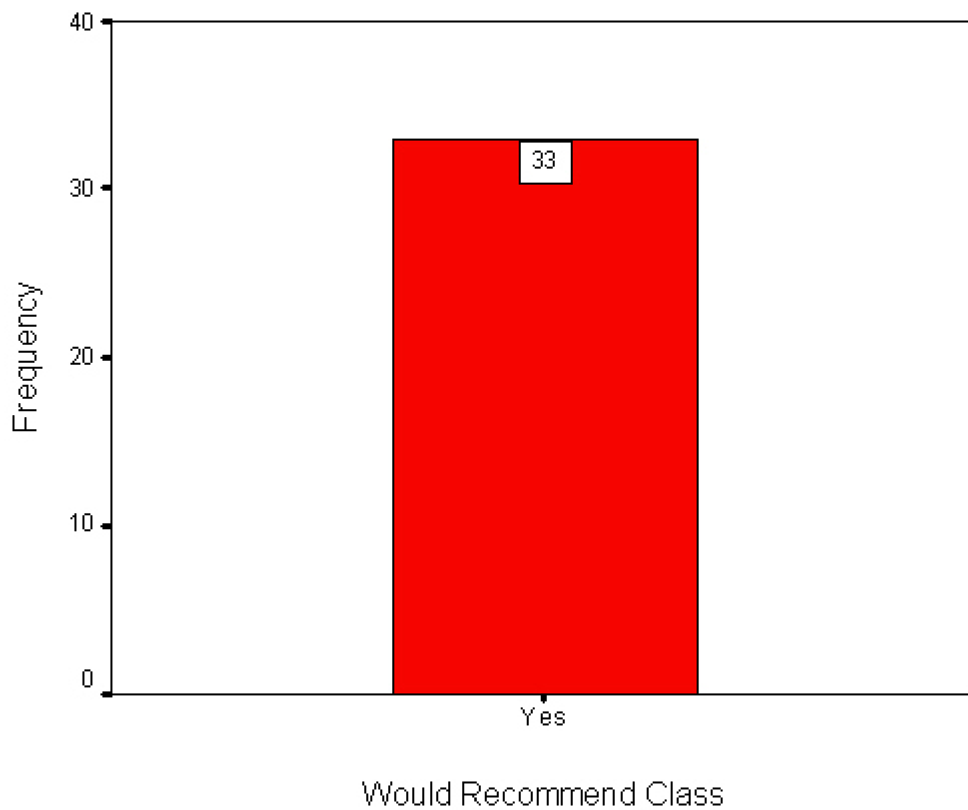

Figure 15. Number of Participants Who Would Recommend Class

Inferential Statistics

Research Question 1: Does the prenatal parenting class, Promoting Maternal Mental Health During Pregnancy, positively impact an individual's attachment style as measured by the ECR-R?

Hypothesis 1: There will be a statistically significant change in the insecure attachment styles of the participants who received the parenting class.

A one-tailed, z approximation test based on the binomial distribution was conducted to assess whether there was a significant change in the insecure attachment styles of the participants after they completed the parenting class. On the ECR-R pretest, 16 participants were in the secure category and 13 were in the non secure category. At the time of the pretest, there was no significant difference in the proportion of secure participants as compared to non secure from the hypothesized value of .50 ($p < .71$). On the ECR-R posttest, 21 of the participants were classified as secure, and 8 were classified as non secure. These proportions were significantly different ($p < .03$), and support the hypothesis that there was a change in attachment styles after the participants received the parenting class. Figures 16 and 17 present bar graphs of the results.

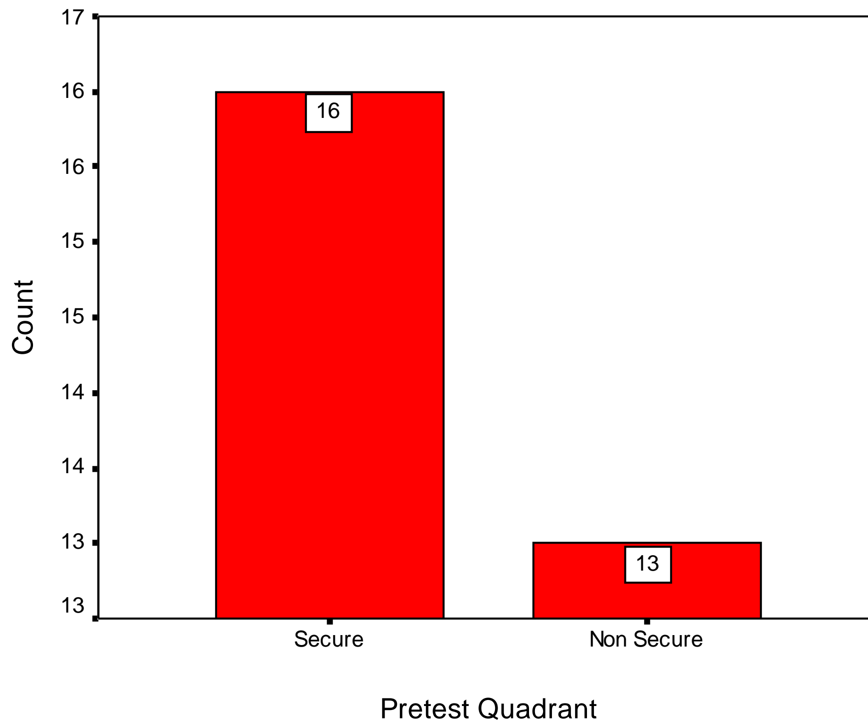

Figure 16. Pretest ECR-R scores.

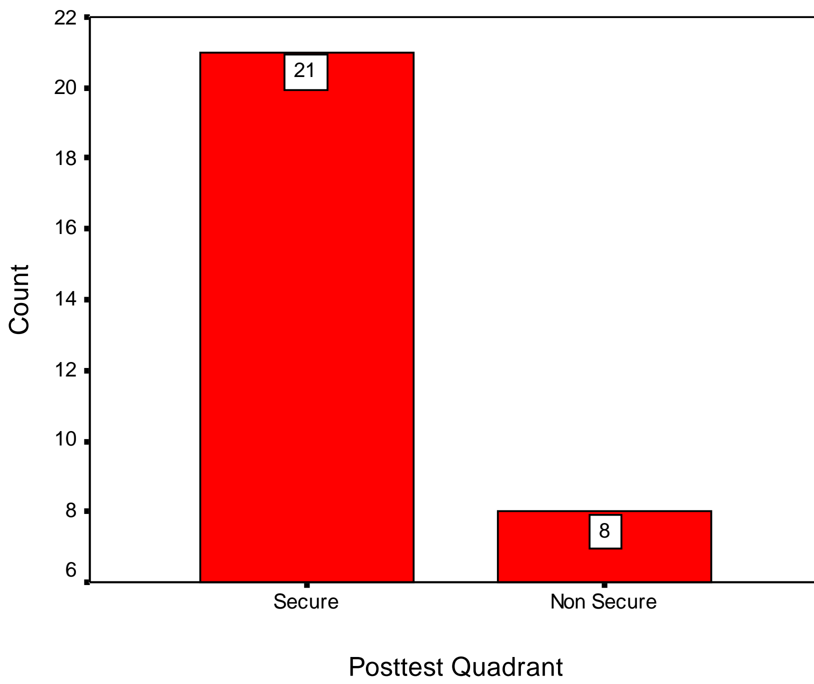

Figure 17. Posttest ECR-R scores.

The ECR-R also provided pretest and posttest avoidance scores and anxiety scores that were analyzed using paired samples t-tests. There was no significant difference in the avoidance scores (t (28) = 1.333, p = .193), but there was a significant decrease in the anxiety scores (t (28) = 2.590, p = .015; Mean Difference = .46).

Research Question 2: Does the prenatal parenting class positively impact an individual's degree of prenatal attachment, as measured by the PAI?

Hypothesis 2: There will be a statistically significant change in the level of prenatal attachment of the participants as measured by PAI.

A paired samples t-test was conducted to assess the second hypothesis. The results showed that the mean pretest score of 70.10 was significantly different from the mean posttest score of 72.52 (t (28) = 2.728, p = .011). This supports the hypothesis that there was a significant change in the level of prenatal attachment of the participants as measured by the Prenatal Attachment Inventory.

A secondary analysis was conducted to compare the male participants with the female participants. There was no significant difference between the genders on the ECR-R posttest secure versus non secure classification (χ^2 (1, N = 33) = 1.457, p < .227). An independent samples t-test analysis found a significant difference between the genders on the Prenatal Attachment Inventory scores, with the males showing a mean gain score of 8.50 points and the females showing a gain score of 2.90 (t (13) = 2.459, p = .02).

Summary

The results of the study found support for both hypotheses. The participants became more secure in their attachment style and had higher levels of prenatal attachment after completing the prenatal parenting class. The men participants showed a greater increase in prenatal attachment when compared with the women.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

For decades researchers have struggled to identify causes and treatments for the staggering number of children who end up in the foster care system each year. Almost one million children were victims of child abuse or neglect in 2001 (Administration for Children and Families, 2002) and this costs the United States over $258 million per day (Fromm, 2001). Badeau and Gesiriech (2003) stated that over 60% of these children have been abused or neglected while 17% enter foster care due to absence of parents as a result of illnesses, death, disability, incarceration, or other problems. Studies indicate the 33% of those leaving foster care and returning to parents re-enter the foster care system within three years due to continued maltreatment (Perex, O'Neil, & Gesiriech, 2003). The literature suggests that attachment issues may be related to the problem behaviors children in foster care exhibit: the damaged attachment style leaves a child unable to accept love from a caregiver because of abuse and neglect so the child sabotages the relationship with the defiant behaviors, which often results in another placement and hence, the cycle continues (Cline, 1992).

Bowlby's Attachment Theory (Sable, 1997) states that attachment theory is a way of conceptualizing the tendency of the individual to build strong emotional bonds to specific others, and of understanding the varied forms of affective disturbance to which the disruptions of affectional bonds (through separation of loss of attachment figures) give rise. He defined attachment as an affectional tie with "some other differentiated and preferred individual who is usually conceived as stronger and/or wiser" (1977a, p. 203).

Other research, (Zeanah & Zeanah, 2000) states that nurturing, sensitive adult-child interactions are crucial for the development of trust, empathy, compassion, generosity, and conscience. These relationships support the development of curiosity, self-direction, persistence, cooperation, caring and conflict resolution skills (Greenough, et. al., 2001). Graham, White, Clarke, and Adams (2001) stated that the "core principle of infant mental health is the creation of a healthy emotional attachment between the child and the primary caregiver, which is derived predominantly from attachment theory" (p. 14).

This research study focused on attachment styles of adults and on prenatal attachment levels of mothers and fathers of unborn children. This research applies Bowlby's attachment theory to prenatal development in the hopes that it might offer insight into attachment issues.

Restatement of the Methodology

This research project measured the effects of a prenatal parenting class, Promoting Maternal Mental Health During Pregnancy, on adult attachment styles and on prenatal attachment levels of a group of volunteer pregnant women/men and women who had recently given birth. Participants were recruited from the Child Care Association of Brevard, and from the local high schools that offer the Teenage Parent Program (TAPP) through a flyer that was circulated.

A one-group pretest-posttest design (Isaac & Michael, 1995) was utilized. The researcher chose the one-group pretest-posttest design because the Teenage Parent Program (TAPP) and the participating agency would not allow the researcher to have a control group. The immediate need of the parenting class and the needs of the participants were such that a control group would not have been plausible or ethical.

Two instruments were used in this study as pretests and posttests. The Experiences in Close Relationships-Revised (ECR-R) Adult Attachment Questionnaire (Brennen, Clark, & Shaver, 1998) was used to identify the attachment styles of the participants and the Prenatal Attachment Inventory (PAI) (Muller, 1993) was used to assess the prenatal attachment levels of the participants. After completing the pretests the participants received 10 hours of instruction from the Promoting Maternal Mental Health During Pregnancy, http://www.ncast.org/p-pregnancy.asp, curriculum. Then the participants completed the posttests, a demographic survey, and a fifteen minute interview with the researcher.

A one-tailed, *z* approximation test based on the binomial distribution was conducted to assess whether the parenting class positively impacted an individual's attachment style as measured by the ECR-R. The ECR-R also provided pretest and posttest avoidance and anxiety scores which were analyzed using paired samples t-tests and a secondary analysis, an independent samples t-test, was conducted to compare the male participants with the female participants.

Conclusions

The research questions guiding this study were: (1) Does the prenatal parenting class, Promoting Maternal Health During Pregnancy, positively impact an individual's attachment style as measured by the ECR-R? and (2) Does the prenatal parenting class positively impact an individual's degree of prenatal attachment, as measured by the PAI?

The one-tailed *z* approximation test was used to facilitate comparison between scores of the ECR-R pre and post tests scores. At the time of the pretest, there was no significant difference in the proportion of secure participants as compared to non secure. On the

ECR-R posttest, the proportions were significantly different from the pretest and support the hypothesis that there was a change in attachment styles after participants received the parenting class.

A paired samples t-test was used to compare the pretest and posttest avoidance and anxiety scores of the ECR-R. There was no significant difference in the avoidance scores, but there was a significant decrease in anxiety scores. On the independent samples t-test there was a significant difference between the genders on the Prenatal Attachment Inventory scores, with the males scores showing a greater increase in prenatal attachment when compared with the women.

John Bowlby's Theory of Attachment (Sable, 1997) identified four attachment styles that people exhibit based on relationships that were established with caretakers at very young ages. One style falls into the secure category while the remaining three styles fall into the insecure category. People who fall into the insecure category experience relationship difficulties throughout most of their lives unless they receive psychological counseling, and even then, the therapist may not be aware of attachment issues, and consequently they will not be addressed.

Biringer (1994) stated that internal working models of attachment figures are dynamic, complex representations of early relationships, operating at different levels of the individual's memory system, including the semantic, episodic, and procedural levels. These models function to interpret and anticipate others' behaviors and to guide ones' own behaviors in relationship. Bowlby stated that internal working models of self and caregiver develop out of transactional patterns, such as communication and this naturally suggests that they should be complimentary. Therefore, if an individual should

experience a loving, caring, positive parent-child relationship, then the child would have an internal working model of self worth, love, and support. If not, then the internal working model would be based on negative experiences, and the internal working model would be one of self rejection, hate, and a sense of being unlovable. A main symptom of children seen in the foster care system is the absence of any positive parent-child interaction and relationship. Children who fall into the insecure category that Bowlby defined would explain this phenomenon.

Treatment for attachment issues has encompassed many theories and strategies to help improve relationship issues between children and parents, children and caregivers, and adults in romantic relationships. In the 1960's new programs were developed to identify children with failure to thrive, abuse, or neglect. Educational, prevention, as well as intervention programs that focused on early child development were initiated.

Sheperis, Renfro-Michel and Doggett (2003) were among the first to develop a protocol for the necessary stages of treatment for attachment issues. O'Connor and Zeanah (2003) developed holding therapies, and the foster care system emphasized parent training and family support for adoptive and foster parents. Residential treatment programs were developed based on social learning theory (Moore, Moretti, & Holland, 1998) which resulted in criticism (Cunningham & Page, 2001), due to the assumption that staff are interchangeable and secondary to the relationships with staff members.

While the treatment of attachment issues remains controversial, the importance of the relationship between mother and infant, as conceptualized by attachment theory (Bowlby, 1969) is well documented. For the past twenty years there has been increasing speculation and recognition that this relationship actually begins before birth, while the

mother is pregnant and child still a fetus. Maternal mental health and infant mental health are now in the forefront of research. Infant-centered psychotherapy (Guy, et. al, 1987) is a relatively recent intervention for mothers. Circle of Security (COS; Marvin, Cooper, Hoffman, & Powell, 2002) is a parent intervention program designed to alter the developmental pathway of at-risks parents and their young children, and NCAST-AVENUW, (http://www.ncast.org/p-pregnancy.asp) has developed several programs to help parents, children, and families in building caring and responsive relationships.

While there is relatively little research available on prenatal attachment, and even less on father-infant attachment, researchers are beginning to explore this new phenomenon. In a recent study, Gerner, (2006) measured the quality of the marital relationship, a father's attachment to a childhood caregiver, a father's self-esteem and the number of ultrasound visits that a father attended as a predictor of paternal prenatal attachment. The analysis identified the number of ultrasound visits the father attended during the mother's pregnancy was the strongest predictor of paternal fetal attachment.

Recommendations for Practice

The results of this initial study were quite encouraging. With so little research available on prenatal attachment between mothers and their unborn children and even less on fathers' attachment to their unborn child, this study offers great possibilities for future generations of children who might otherwise be left to the demise of internal working models. This study supports the idea that even if a parent has a negative internal working model of him/herself, the implications are that these can be changed through education of prenatal attachment, bonding exercises, and on altering one's own attachment style. In

the past, the possibility of altering attachment styles has been viewed with skepticism and the lack of "effective treatments for attachment issues" (O'Connor & Zeanah, 2003) has supported that point of view. The important implication from the current study is that attachment issues do not have to be transmitted from one generation to the next. Individuals are not necessarily bound by past experiences and are not doomed to repeat harmful patterns in relationships as previously thought.

Recommendations for practice include that the curriculum, Promoting Maternal Mental Health During Pregnancy, be offered by organizations involved with prenatal and perinatal care such as the Child Care Association, high schools offering the Teenage Parent Program, B.E.T.A. programs, Healthy Start programs, Moms of Multiples, and to any women/men who are identified as "at risk" parents by the Children's Home Society. Since the children of these parents are at risk for being placed in the foster care system, this may be an effective preventive measure.

Recommendations for Future Research

More research is needed to further support this study due to the small sample size. If organizations involved in prenatal care and postnatal care would offer the Promoting Maternal Mental Health During Pregnancy curriculum, then larger samples would be available for future studies.

A longitudinal study that tracked the children over time that increased prenatal attachment may decrease number of children going into the foster care system each year. Building the initial bond between the unborn child and the mother/father in the very beginning of life is what John Bowlby and Mary Ainsworth talked about years ago. This special bond would result in securely attached children, and even if the

child/children ever ended up in foster care, they would have the ability to adapt and accept other loving, supportive, relationships.

Research on fathers and their attachment to their children would be beneficial in understanding the importance of the bond between fathers and their unborn children (Gerner, 2006). Perhaps developing a program that promotes paternal mental health during pregnancy and offering it to fathers' groups or single fathers' groups and assessing the effect of this on paternal bonding would be worthwhile.

Another study might be to have follow up interventions with the parents as they are raising their child/children. Anyone who participates in the Promoting Maternal Mental Health During Pregnancy curriculum would be eligible for follow up interventions if needed. Recent research such as the Circle of Security (COS; Marvin, Cooper, Hoggman, & Powell, 2002) suggests that this protocol is successful in changing toddlers' and preschoolers' attachment classifications and in improving relationships between children and caregivers. Infant-led psychotherapy could be implemented even earlier in a parent-child relationship. Conducting outcome studies on the interventions would be beneficial in identifying which interventions are effective.

Summary

The results of the study supported both hypotheses that the prenatal parenting class, Promoting Maternal Mental Health During Pregnancy will positively impact an individual's attachment style and also positively impact an individual's degree of prenatal attachment to their unborn and/or recently born child. This is a simple, cost effective method to help adults with their own attachment issues as well as improve the attachment between parents and their unborn child or newborn child. Teaching Promoting Maternal

Mental Health During Pregnancy as a prevention for, and treatment of attachment issues may well be the needed intervention that many mental health professionals have sought for such a long time.

REFERENCES

Abarbanel, J. (1983). The revival of the sibling experience during the mother's second pregnancy. In A. Solnet (Ed.), *Psychoanalytic Study of the Child,* 38, 353-379. US: Yale University Press.

Administration for Children & Families (2002). Child maltreatment 2002: summary of key findings. Retrieved September 2003 from http://www.nccanch.acf.hhs.gov/pubs/factsheets/canstats.cfm

Administration for Children & Families (2003). Foster Care National Statistics. Retrieved 9/2003 from http://www.calib.com/nccanch/pubs/factsheets/foster.care.cfm.

Ainsworth, M. D. S. (1964). Patterns of attachment behavior shown by the infant in interaction with his mother. *Merrill-Palmer Q,* 10, 51-58.

Ainsworth, M.D.S. (1967). *Infancy in Uganda: Infant care and the growth of love.* Baltimore: John Hopkins University Press.

Ainsworth, M. D. (1979). Infant-mother attachment. *American Psychologist,* 34 (10), 932-937.

Ainsworth, M. D. S. (1982). Attachment: Retrospect and prospect. In C. M. Parkeson & J. Stevenson-Hinde (Eds.). *The place of attachment in human behavior* (pp. 3-30). New York: Basic Books.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment. A psychological study of the Strange Situations*. Hillsdale, NJ: Erlbaum.

American Academy of Child & Adolescent Psychiatry (2002).

American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders (4th ed., Revised), Washington, DC: Author

Anderson, C. S., & Sawin, D. B. (1983). Enhancing responsiveness in mother-infant interaction. *Infant Behavior and Development,* 6, 361-368.

Asch, S. S. (1966). Depression: Three clinical variations. In R. Eissler (Ed.), *Psychoanalytic Study of the Child*, 21*,* 150-171. Princeton, N.J.; Yale Univ. Press.

Badeau, S., & Gesiriech, S. (2003). A child's journey through the child welfare system. Washington, DC: Pew commission on children in Foster Care.

Bakermans-Kranenburg, M. J. Juffer, F., & van Ijzendoorn, M. H. (1998). Interventions with video feedback and attachment discussions: Does type of maternal insecurity make a difference. *Infant Mental Health Journal,* 19, 202-219.

Bakermans-Kranenburg, M. J., van Ijzendoom, M. H., & Juffer, F. (2003). Less is more: Meta-analyses of attachment interventions in early childhood. *Psychological Bulletin*, 129, 195-215.

Ballou, J. (1978). *The psychology of pregnancy: reconciliation and resolution.* Lexington, MA: Lexington Books.

Barrera, M. E., Rosenbaum, P. L., & Cunningham, C. E. (1986). Early home intervention with low-birth-weight infants and their parents. C*hild Development,* 57, 20-33.

Belsky, J., Rovine, M., & Taylor, D. G. (1984). The Pennsylvania Infant and Family Development Project, 3: The origins of individual differences in infant-mother attachment: Maternal and infant contributions. *Child Development*, 55, 718-728.

Belsky, J., (1985). Experimenting with the family in the newborn period. *Child Development*, 56, 407-414.

Benedek, T. (1959). Parenthood as a developmental phase. *Journal of the American Psychoanalytic Association,* 7, 389-417.

Berlin, I. N. (1997). Attachment theory: It's use in milieu therapy & in psychotherapy in children in residential treatment. *Residential Tx for Children & Youth,* 15(2), 29-37.

Berlin, L. J., Ziv. Y., Amaya-Jackson, L., & Greenberg, M. T. (Eds). (2005). *Enhancing early attachments: The intervention, and policy.* New York: Guilford Press.

Berryman, J. C. & Windridge, K. C. (1996). Pregnancy after 35 and attachment to the fetus. *Journal of Reproductive and Infant Psychology,* 14, 133-143.

Bess, Roseana, Geen, Rob, Scarcella, Cynthia Andrews, & Zieleweski, Erica Hecht (2006). *The Cost of Protecting Vulnerable children V: Understanding State Variation in Child Welfare Financing.* Washington, D.C.; Urban Institute.

Bibring, G., Dwyer, T., Huntington, D., & Valenstein, A. (1961). A study of the psychological processes in a pregnancy and of the earliest mother-child

relationship. In R. Eissler (Ed.), *Psychoanalytic Study of the Child,* 16, 9-72. US: Yale University Press.

Biringen, Zeynep (1994). Attachment theory & research appreciation to clinical practice. *American Journal of Orthopsychiatry,* 64(3), 404-420.

Blanck, G., & Blanck, R. (1974). *Ego psychology, theory and practice.* New York: Columbia University Press.

Bloom, K. C. (1995). The development of attachment behaviors in pregnant adolescents. *Nursing Research,* 44, 284-288.

Booth, C. L., Barnard, K. E., Mitchell, S. K., & Spieker, S. J. (1987). Successful intervention with multiproblem mothers: Effects on the mother-infant relationship. *Infant Mental Health Journal,* 8, 288-306.

Bowlby, J. (1969). Attachment and loss, Vol. 1: Attachment. New York: Basic Books.

Bowlby, J. (1973). Attachment & loss, Vol. 2: Separation. New York: Basic Books.

Bowlby, J. (1979). The making and breaking of affectional bonds: I. Aetiology & psychopathology in the light of attachment theory. *British Journal of Psychiatry*, 130, 201-210.

Bowlby, J. (1980). Attachment and Loss, Vol. 3: Loss, Sadness and Depression. New York: Basic Books.

Bowlby J. (1982). *Attachment and Loss: Vol. 1. Attachment (2nd ed.).* New York: Basic Books.

Bowlby, J. (1985). The role of childhood experience in cognitive disturbance. In M.J. Mahoney & A. Freeman (Eds.), *Cognition & Psychotherapy,* 181-200. New York: Plenum.

Bowlby, J. (1988). A secure base: Clinical applications of attachment theory. London: Routhledge.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships. (*pp. 46-76). New York: Guilford Press.

Bretherton, I. (1985). Attachment theory: Retrospect & prospect. Monographs of the Society for Research in Child Development, 50, 3-35. In I. Bretherton & E. Waters (Eds.), *growing points of attachment theory & research*, (1-2, serial no. 209).

Bretherton, I. (1990). Open communication and internal working models: their role in attachment relationships. In R. Thompson (Eds.), S*ocioemotional Development* (Nebraska symposium 1987, 57-113). Lincoln, NE: University of Nebraska Press.

Bretherton, Inge. (1992). The Origins of Attachment Theory: John Bowlby and Mary Ainsworth. *Developmental Psychology,* 28(5), 759-775.

Bretherton, I. & Munholland, K. A. (1999). Internal working models in attachment relationships. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications (*pp. 89-111).

New York: Guilford Press.

Bricker, D. & Veltman, M. (1990). Early intervention programs: Child-focused approaches. In S. J. Meisels and J. P. Shonkoff (Eds.), *Handbook of early childhood intervention.* New York: Cambridge University Press.

Britner, P. A., Marvin, R. S., & Pianta, R. C. (2005). Development and preliminary validation of the caregiving by association with child attachment classification in the preschool Strange Situation. *Attachment & Human Development,* 80-102.

Bromwich, R. M. (1976). Focus on maternal behavior in infant intervention. *American Journal of Orthopsychiatry,* 46, 439-446.

Bromwich, R. M. & Parmelee, A. M. (1979). An intervention program for pre-term infants. In T. M. Field, A. M. Sostek, S. Goldberg and H. H. Shuman (Eds.), *Infants born at risk: Behavior and development* (pp. 389-411). New York: Spectrum.

Caccia, N., Johnson, J. M. , Robinson, G. E. & Barna, T. (1991). Impact of prenatal testing on maternal-fetal bonding: chorionic villus sampling versus amniocentesis. *American Journal of Obstetrics & Gynecology,* 165, 1122-1125.

Cassidy, J., Berlin L. J. (1994). The insecure ambivalent pattern of attachment: theory and research. *Child Development,* 65*,* 971-991.

Cassidy, J., & Shaver, P. (Eds.) (1999). *Handbook of attachment: Theory, research, and clinical applications.* New York: Guilford Press.

Cassidy, J., & Mohr, J. (in press). Solvable & unsolvable fear: Attachment, trauma, and psychopathology in clinical psychology. *Science and Practice.*

Cicchetti, D., & Carlson, V. (1989). *Handbook of child maltreatment: clinical & theoretical perspectives* (pp. 432-463). NewYork: Cambridge University Press.

Cline, F.W. (1979, 1992). Hope for high risk and rage filled children and change. Evergreen, CO: EC Publications.

Colman, A., & Colman, L. (1971). *Pregnancy.* New York: Bantam Books.

Condon, J. T. (1993). The assessment of antenatal emotional attachment: developments of a questionnaire instrument. *British Journal of Medical Psychology, 66,* 167-183.

Cooper, Hoffman, Powell, Marvin (2002).

http://web.ebscohost.com.exproxy.barry.edu/ehos/delivery.

Cooper, G., Hoffman, K., Powell, B., & Marvin, R. (2005). The Circle of Security intervention: Differential treatment. In L. J. Berlin, Y. Ziv, L. M. Amaya-Jackson, & M. T. Greenberg (Eds.). *Enhancing each theory, research, intervention, and policy* (pp. 127-151). New York: Guilford Press.

Craik, K. (1943). *The nature of explanation*. Cambridge: Cambridge Union Press.

Cramer, B., Robert-Tissot, C., Stern, D. D., Serpa-Rusconi, S., De Muralt, G. B., Palacio-Espasa, F., Bachman, J., Knauer, D., Berney, C., & D'Arcis, U.

(1990). Outcome evaluation in brief mother-infant psychotherapy: A preliminary report. *Infant Mental Health Journal,* 11, 278-300.

Craley, M. S. (1981). Development of a tool for the measurement of maternal attachment during pregnancy. *Nursing Research*, 30(5), 281-284.

Cunningham, Paige & Page, Timothy F. (2001). A Case Study of a maltreated thirteen year old boy: Using attachment theory to inform treatment in a residential program. *Child & Adolescent Social Weekly Journal,* 18(5).

De Wolff, S., & van Ijzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development,* 68*,* 571-591.

Egeland, B., Weinfield, N. S., Bosquet, M., & Cheng, V. K. (2000). Remembering, repeating, and working through attachment-based interventions. In U. Osofsky & H. E. Fitzgerald (Eds.). WAIMH handbook of infant mental health. *Mental health in groups at high risk,* (pp. 35-89). New York: Wiley.

Emde, R. N. (1987). Infant mental health: Clinical dilemmas, the expansion of meaning, and opportunities. In J.D. Osofsky (Ed.), *Handbook of infant development*, (pp. 1297-1320). New York: Wiley.

Fairbairn, W. R. D. (1952). *An object relations theory of the personality*. New York: Basic Books.

Fenzl, R., Cohew, O., Sapiro, Y., Welzman, A. (2000). Attachment styles in maltreated children: A comparative study. *Child Psychiatry & Human*

Development, 31(2).

Field, T. M., Widmayer, S. M., Stringer, S. & Ignatoff, E. (1980). Teenage, lower-class, black mothers and their preterm infants: An intervention and developmental follow-up. *Child Development,* 51, 426-436.

Fraiberg, S. (1980). *Clinical studies in infant mental health: The first year of life.* New York: Basic Books.

Friaberg, S., Shapiro, V., & Cherniss, D. (1993). Treatment modalities. In J. D. Call, E. Galenson, & R. L. Tyson (Eds.), *Frontiers of infant psychiatry,* (pp. 56-73). New York: Basic Books.

Fraiberg, S., Adelson, E., & Shapiro, V. (1987). Ghosts in the nursery: A psychoanalytic approach to the problems of impaired infant-mother relationships. In S. Fraiberg (Ed.), Selected writings of Selma Fraiberg, (pp. 100-136). Columbus, OH: Ohio State University Press.

Fraley, R. C., & Waller, N. G., (1998). Adult attachment patterns: A test of the typological model. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships*, (pp. 77-114). New York: Guilford Press.

Fraley, R. C., Waller, N. G., & Brennan, K. G. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology,* 78, 350-365.

Fraley, R. C., & Spieker, S. J. (2003b). What are the differences between dimensional and categorical models of individual differences in attachment? Reply to Cassidy (2003), Cummings (2003), Sroufe (2003),

and Waters and Beauchaine (2003). *Developmental Psychology*, 39*,* 423-429.

Fraley, R. C., & Spieker, S. J. (2004). Are infant attachment patterns continuously or categorically distributed? A taxometric analysis of strange situation behavior. *Developmental Psychology,* 39*,* 387-404.

Fraley, Chris R. (2005) http://www.psych.uiuc.edu/refraley/measures/ecrr.htm.

Fromm, S. (2001). Total estimated cost of child abuse and neglect in the United States. Chicago; Prevent Child Abuse America.

Gau, Meei-Ling & Lee, Tzu-Ying (2003). Construct Validity of the Prenatal attachment inventory: a confirmatory factor analysis approach. *Journal of Nursing Research,* 11(3).

Gerner, Lindsey (2006). Exploring prenatal attachment: Factors that facilitate paternal attachment during pregnancy [Abstract]. Dissertation Abstract International: Section B. *The Sciences and Engineering,* 66*,* (7-B), 3934.

Graham, M., White, B., Clarke, C. & Adams, S. (2001). Infusing Infant Mental Health Practices into Front-line Caregiving. *Infant Young Children*, 14(1), (pp. 14-23). Aspen, CO: Aspen Publishers, Inc.

Greenacre, P. (1959). Certain technical problems in the transference relationship. *Journal of the American Psychoanalytic Association,* 7, 486.

Greenberg, M. T. (1999). Attachment & psychopathology in childhood. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment,* (pp. 469-496). New York: Guilford.

Greenough, William T. & Bruer, John T. (2001). The subtle science of how experience affects the brain. In *Critical thinking about critical periods.* Baily, Donald B. Jr., Bruer, John T., Symons, Frank J. & Lichtman, Jeff W. Baltimore, MD, US: Paul Brooks Publishing, pp. 209-232 [Chapter].

Greenspan, S. I. & Greenspan, N. T. (1989). *The practice of clinical assessment and intervention with emotional developmental challenges.* Madison, CT: International Universities Press.

Greenspan, S. I. (1992). *Infancy and early childhood: The practice of clinical assessment and intervention with emotional developmental challenges.* Madison, CT: International Universities Press.

Grossmann, K., Spangler, G., Suess, G., & Unzer, L. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in northern Germany. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research*. Monographs of the Society for Research in Child Development, 50, (1-2, Serial No. 209), 233-256.

Guy, D. A. (1987). The mother-infant relationship. Unpublished dissertation. The Royal Australian and New Zealand College of Psychiatry, Dunedin, New Zealand.

Heppner, P. P., Kivlighan, D., Jr., & Wampold, B. E. (1999). *Research design in counseling (2nd ed.),* Pacific Grove, CA: Brooks/Cole.

Hesse, E. & Main, M. (2000). Disorganized infant, child and adult attachment:

Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association,* 48, 1097-1127.

Hoffman, Kent T., Marvin, Robert S., Cooper, Glen, & Powell, Bert (2006). Changing toddlers' and preschoolers' attachment classifications: The Circle of Security Intervention. *Journal of Consulting & Clinical Psychology*, 0022006X, (December).

Isaac, S. & Michael, W. B., (1995). *Handbook in research and evaluation for education and the behavioral sciences*. San Diego: Educational and Industrial Testing Services.

Johnson, F. K., Dowling, J. & Wesner, D. (1980). Notes in infant psychotherapy. *Infant Mental Health Journal,* 1, 19-33.

Keys To CaregivinG (http://www.ncast.org/about.asp)

Landy, S., Schubert, J., Cleland, J. F. & Montgomery, J. S. (1984). The effect of research with teenage mothers on development of their infants. *Journal of Applied Social Psychology,* 14, 461-468.

Larson, C. P. (1980). Efficacy of prenatal and postpartum home visits on child health and development. *Pediatrics*, 66, 191-197.

Levy, T. M. & Orlans, M. (1998). *Attachment, trauma, and healing: Understanding and treating attachment disorder in children and families.* Washington, D.C.: Child Welfare League of America.

Leifer, M. (1977). Psychological changes accompanying pregnancy and motherhood. *Genet Psychology Monographs,* 95**,** 55-96.

Lieberman, A., & Blos, P. (1980). Make way for Abby. In S. Fraiberg (Ed.), *Clinical studies in infant mental health: The first year of life.* New York: Basic Books.

Lieberman, A. (1983). Infant-parent psychotherapy during pregnancy. In S. Provence (Ed.), *Infants and parents: Clinical case reports.* New York: International Universities Press.

Lieberman, A. F., Weston, D. R., & Pawl, J. H. (1991). Preventive intervention and outcome with anxiously attached dyads. *Child Development*, 62, 199-209.

Liptak, G. S., Keller, B. B., Fedlman, A. W. & Chamberlin, R. W. (1983). Enhancing infant development and parent-practitioner interaction with the Brazelton Neonatal Assessment Scale. *Pediatrics,* 72, 71-78.

Lochman, John E., Coie, John D., Underwood, Marion K., & Terry, Robert (1993). *Journal of Consulting and Clinical Psychology,* 61 (6), 1053-1058.

Lynam, D. R. (1996). Early identification of chronic offenders: Who is the fledging psychopath? *Psychological Bulletin,* 120, 209-234.

Lyons-Ruth, K. & Jacobritz, D. (1999). Attachment disorganization: Unresolved loss, relational violence and lapses in behavioral and attention strategies. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of Attachment: Theory, research & clinical applications* (pp. 520-554). New York: Guilford Press.

Mahrer, A. R., Levinson, J. R. & Fine S. (1976). Infant psychotherapy: Theory, research and practice. *Psychotherapy: Theory, Research, and Practice,* 13, 131-140.

Main, M., & Solomon, J. (1986). Discovery of a new, insecure, disorganized/disoriented attachment pattern. In T. B. Brazelton & M. Yogman (Eds.), *Affective development in infancy,* (pp. 95-124). Norwood, NJ: Ablex.

Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism: In M.T. Greenberg, D. Cicchetti, & E.M. Cummings (Eds.), *Attachment in the preschool years,* (pp. 161-182). Chicago: University of Chicago Press.

Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth strange situation. In M. Greenberg, D. Cicchetti, & E.M. Cummings (Eds.). *Attachment in the preschool years: Theory, research and intervention*, (pp. 121-160). Chicago: University of Chicago Press.

Main, M. & Solomon, J. (1996). Attachment and other affectional bonds across the life cycle. In: Parkes CM, Stevenson-Hinde J, Marris P, editors. *Attachment across the life cycle*. London: Routledge.

Marvin, R. S., Cooper, G., Hoffman, K., & Powell, B. (2002). The Circle of Security project: Attachment-based caregiver-preschool child dyads.

Attachment & Human Development, 4, 107-124.

McCarty, W. A. (2006b). Clinical story of a 6-year old boy's eating phobia: An integrated approach utilizing prenatal and perinatal psychology with energy psychology's emotional freedom technique (EFT) in a surrogate non-local application. *Journal of Prenatal & Perinatal Psychology & Health* 21(2), 117-139.

McCarty, W. A. & Glen, M. (2008). *Investing in human potential from the beginning of life: Keystone to maximizing human capital.* Position Paper. Available from www.wmccarty@sbgi.edu.

McDonough, S. (1992). *Interactional Guidance Treatment Manual*. Unpublished manuscript. East Providence, RI: Brown University.

McWey, Lenore M. (2004). Predictors of attachment styles of children in foster care: an attachment theory model for working with families. *Journal of Marital and Family Therapy*. 30(4), 439-453.

Mercer, R. T. (1995). *Becoming a mother.* New York: Springer Publishers

Metzl, M. M. (1980). Teaching parents a strategy for enhancing infant development. *Child Development,* 61, 583-586.

Minde, K., Shosenberg, N., Thompson, J., & Marton, P. (1983). Self-help groups in a premature nursery - Follow-up at one year. In J.D. Call, E. Galenson and R. L. Tyson (Eds.), *Frontiers of infant psychiatry,* (pp. 264-272). New York: Basic.

Minde, Klaus. (2003). Attachment problems as a spectrum disorder: Implications

for diagnosis and treatment. *Attachment & Human Development.* 5(3), 289-296.

Moore, K., Moretti, M. M. & Holland, R. (1998). A new perspective on youth care programs: Using attachment theory to guide intervention for troubled youths. *Residential Treatment for Children & Youth,* 15(3), 1-24.

Muir, E., Stupples, A. & Guy, A. D. (1990). Mother-toddler psychotherapy and change in patterns of attachment: Some pilot observations. Unpublished manuscript.

Muir, E., Lojkasek, M. & Cohen, N. (1991). *Watch, wait, and wonder: Therapy manual.* Unpublished manuscript. Toronto: C. M. Hincks Institute.

Muir, E. (1992), Watching, waiting, and wondering: Applying psychoanalytic principals to mother-infant intervention. *Infant Mental Health Journal,* 13, 319-328.

Muir, E., & Thorlaksdottir, E. (1994). Psychotherapeutic intervention with mothers and children in daycare. *American Journal of Orthopsychiatry,* 64, 60-67.

Muller, M. E. (1989). The development and testing of the Muller Prenatal Attachment Inventory. Unpublished doctoral dissertation. University of California, San Francisco.

Muller, M. E. (1993). Development of the Prenatal Attachment Inventory. *Western Journal of Nursing Research,* 15, 199-215.

Muller, M. E. (1996). Prenatal and postnatal attachment: A modest correlation.

Journal of Obstetric, Gynecologic, and Neonatal Nursing, 25(2), 161-166.

Murray, L. (1992). The impact of postnatal depression on infant development. *Journal of Child Psychology and Psychiatry,* 33, 543-561.

Myers, B. J. (1982). Early intervention using Brazelton training with middle-class mothers and fathers of newborns. *Child Development*, 53, 462-471.

National Committee to Prevent Child Abuse (http://www.ncast.org/about.asp)

NCAST-AVENUW (2006). http://www.ncast.org/p-pregnancy.asp.

Nurcombe, B., Rauh, V., Howell, D. C., Teti, D. M., Ruoff, P., Murphy, B. & Brennan, J. (1984b). An intervention program for mothers of low-birthweight babies: Outcome at six and twelve months. In J. D. Call, E. Galenson and R. L. Tyson (Eds.), *Frontiers of infant psychiatry,* (pp. 201-210). New York: Basic.

O'Connor, Thomas G., & Zeanah, Charles H. (2003). Attachment disorders: Assessment strategies and treatment approaches. *Attachment and Human Development,* 5(3), 223-244.

Osofsky, J. D. (August 1982). *The concept of attachment & psychoanalysis.* Paper presented at the meeting of the American Psychological Association, Washington, D.C.

Ostrov, K., Dowling, J., Wesner, D. O. & Johnson, F. K. (1982). Maternal styles in infant psychotherapy: Treatment and research implications. *Infant Mental Health Journal,* 3, 162-173.

Parent Child Interaction. http://www.ncast.org/about.asp.

Parlakian, R. & Siebel, N. (2002). *Building strong foundations: Practical guidance for promoting the socio-emotional development of infants and toddlers.* Washington, DC: ZERO TO THREE.

Perex, A., O'Neil, K., and Gesiriech, S. (2003). *Demographics of children in foster care.* Washington, DC: Pew Commission on Children in Foster Care.

Promoting Maternal Mental Health During Pregnancy. http://www.ncast.org/p-prenancy.asp

Robert-Tissot, C., Cramer, B., Stern, D. N., Serpa-Rusconi, S., Bachmann, J. P., Palacio-Espasa, F., Knauer, D., De Muralt, M., Berney, C., & Mendiguren, G. (1996). Outcome evaluation in brief mother-infant psychotherapies: Report on 75 cases. *Infant Mental Health Journal,* 17, 97-114.

Rosenstein, D. S., & Horowitz, H. A., (1996). Adolescent attachment & psychopathology. *Journal of Consulting & Clinical Psychology,* 64, 244-253.

Rubin, R. (1975). Maternal tasks in pregnancy. *Maternal Child Nursing, 4,* 143-153.

Rubin, R. (1984). *Maternal identity and the maternal experience,* Springer, New York.

Sable, Pat. (1997). Disorders of Adult Attachment. *Psychotherapy*, 34 (3), 286-296.

Sameroff, A. & Chandler, M. (1975). Reproductive risk and the continuum of caretaking casualty. In F.D. Horwitz, M. Hetherington, S. Scarr-Salapatek and G. Seigel (Eds.), *Review of child development research,* 4, (pp. 187-244). Chicago: University of Chicago Press.

Sanoff, A. (2002). *Relationship disturbances in early childhood.* New York: Basic.

Searight, et al, (1989). Preventive groups psychotherapy for at-risk infants and their mothers. *Journal of Contemporary Psychotherapy,* 19, 109-116.

Seifer, R., Clark, G. N. & Sameroff, A. J. (1991). Positive effects of interaction coaching on infants with developmental disabilities and their mothers. *American Journal on Mental Health Retardation,* 96, 1-11.

Shaver, Phillip R., Fraley, Chris R., & Crowell (1999); (10/09/2006) http://wwwpsyche.uiuc.edu/-refraley/measures/measures.html.

Sheperis, Carl J., Renfro - Michel, Edina L., & Doggett, Anthony, R. (2003). In-Home Treatment of Reactive Attachment Disorder in a Therapeutic Foster Care System: A Case Example. *Journal of Mental Health Counseling,* 25 (1), 76-89.

Siegel, E., Bauman, K. E., Schaefer, E. S., Saunders, M. M. & Ingram, D. D. (1980). Hospital and home support during infancy: Impact on maternal attachment, child abuse and neglect and health care utilization. *Pediatrics,* 66, 183-190.

Simeonsson, R. J., Cooper, D. H. & Scheiner, A. P. (1982). A review and

analysis of the effectiveness of early intervention programs. *Pediatrics,* 69, 635-641.

Solchany, Joan, R.N., Ph.D. (2001). *Promoting Maternal Mental Health During* P*regnancy.* http://www.ncast.org/p-pregnancy.asp.

Solomon, J. & George, C. (1996). Defining the caregiving system: towards a theory of caregiving. *Infant Mental Health Journal,* 17, 183-197.

Solomon, J., & George, C. (1999a). *Attachment disorganization*. New York: Guilford Press.

Spitz, R. (1965). *The first year of life.* New York: International Universities Press.

Sroufe, L. A. (1988). The role of infant-caregiver attachments in development. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment,* (pp. 51-71). Hillsdale, NJ: Erlbaum.

Sroufe, L. A., Egeland, B., Carlson, E. A., & Collins, W.A. (2005). *The development of the person: The Minnesota and Adaptation from birth to adulthood*. New York: Guilford Press.

Stack, J. (1983). Disorders of attachment and disorders of early parenting. In J. Hess, M. Leipman, & T. Ruane (Eds.), *Family practice and preventive medicine: Health promotion in primary care.* New York: Human Sciences Press.

Stack, Jack M. (1987). Prenatal Psychotherapy & Maternal Transference to fetus. *Infant Mental Health Journal*, 8(2).

Stern, D. N. (1995). *The motherhood constellation: A unified view of parent-infant psychotherapy.* New York: Basic Books.

Sullivan, H.S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

Tackett-Kendall, K. (2002). Abuse & neglect of children with disabilities. *Rehabilitation Psychology News,* 29, 12-13.

Trad, P.V. (1992). Promoting adaptive development in caregiver-infant dyads. *Families in Society,* 73, 282-293.

Trout, M. (1982). The language of parent-infant interaction: A tool in the assessment of jeopardized attachment in infancy. In J. Stack (Ed.), *The special infant.* New York: Human Sciences Press.

U.S. Department of Health & Human Services (DHHS) Children's Bureau, *Child Maltreatment* (2004). Washington, D.C.; Government Printing Office.

U.S. DHHS (The number of children in foster care is the number in foster care on Sept. 30 of referenced year. Administration for Children and Families, *Adoption and Foster Care Analysis and Reporting System* (AFCARS), July 2006; U.S. DHHS, Administration on Children, Youth and Families, *Child Welfare Outcomes 2003*: *Annual Report.* Washington, D.C.; Government Printing Office, 2004. Charts 11-38 & 11-36; and abuse and neglect data (2003): U.S. Congress, House of Representatives, Committee on Ways and Means, 2004 Greenbook. Washington, D.C.; Government Printing Offices.

Vacca, J. J. (2001). Promoting Positive Infant-Caregiver Attachment: The role of the early interventionist and recommendations for parent training. *Infants and Young Children,* 13(4), 1-10.

Van Den Boom, D. C. (1989). Neonatal irritability and the development of attachment. In G. A. Kohnstamm, J. E. Bates and M. K. Rothbart (Eds.), *Temperament in childhood,* (pp. 299-318). New York: John Wiley.

Van Ijzendoorn, M., Schuengel, C., & Bakerman-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11, 225-250.

Wayland, J. & Tate, S. (1993). Maternal-fetal attachment and perceived relationships with important others in adolescents. *Birth,* 20*,* 198-203.

Weinfield, N. S., Sroufe, L. A., Egeland, B., & Carlson, E. A. (1999). The nature of individual differences in attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment, Theory, research, and clinical application (1988).* New York: Guildord Press.

Wesner, D., Dowling, J. & Johnson, F. (1982). What is maternal-infant intervention? The role of infant psychotherapy. *Psychiatry,* 45, 307-315.

Whitt, J. K. & Casey, P. H. (1982). The mother-infant relationship and infant development: The effect of pediatric intervention. *Child Development,* 53, 948-956.

Widmayer, S. M. & Field, T. M. (1981). Brazelton demonstrations for mothers on the

development of preterm infants. *Pediatrics,* 67, 711-714.

Winnicott, D.W. (1965). *The maturational processes and the facilitating environment.* New York: International Universities Press.

Winnicott, D. (1975). Primary maternal preoccupation. *Through pediatrics to psycho-analysis,* (pp. 300-305). New York: Basic Books.

http://www.yourpersonality.net/.(10/9/2006).

Zachariah, R. (1994). Maternal-fetal attachment: influence of mother-daughter and husband-wife relationships. *Research in Nursing and Health,* 17, 37-44.

Zeanah, C. H., Carr, S. & Wolk, S. (1990). Fetal movements and the imagined baby of pregnancy: are they related? *Journal of Reproductive and Infant Psychology,* 8, 23-26.

Zeanah, C. H. (Ed.). (2000). *Handbook of infant mental health* (2nd ed.). New York: Guilford Press.

APPENDIX A

Free Parenting Class on Attachment

Are you pregnant or have you recently given birth?
Are you interested in learning about prenatal attachment to your infant?

A doctoral research study is being conducted by Jodie Scott Rivera, LMHC, a doctoral candidate at Barry University in the Adrian Dominican School of Education, investigating the effects of parenting class on adult attachment and attachment to your child.

Study Requirements: Attend classes on Wednesdays, 5:00 -7:00 P.M. at the Monroe Center, 705 Blake Avenue, Bldg. C, Room 3, Cocoa, FL., 32922, phone 321-637-7787 OR at your child's school. During the first class, you will take 2 pretests: The Adult Attachment Inventory (Shaver & Fraley, 2006) online, which measures your adult attachment style, and the Prenatal Attachment Inventory (Muller, 1993), which measures your attachment to your child. New mothers will answer questions by reflecting back to before the birth of your child. Attend the prenatal class for a period of 5 weeks. During the last class you will complete a 5 minute demographic survey and be invited to participate in a 15 minute, voluntary interview with the researcher giving your opinion of the experience. You will also take the pretests after the completion of the class. There are no known risks in the study, however, should you become uncomfortable, you may be referred to a Mental Health professional.

All volunteers will be placed in 2 study groups. One group will attend class beginning January 2009, while the other group will begin class February 2009. Persons interested in the class can attend even if they do not want to participate in the study. Each participant must provide their own transportation. All information is confidential and will be stored in a locked cabinet in the researcher's office and destroyed after 5 years.

Eligibility requirements: You must be pregnant or have a baby. You must provide your own transportation. If you are under age 18, a parent must consent to your participation in the research study.

To participate in the study or for more information, please contact JODIE SCOTT RIVERA, LMHC, at 321-501-9781 and leave message or email jodiescottrivera@bellsouth.net. Please put on subject line, "Research Study."

APPENDIX B

Barry University
Informed Consent Form

Your participation in a research project is requested. The title of the study is THE EFFECTS of a MATERNAL PARENTING CLASS on MOTHERS' ATTACHMENT STYLES and on MOTHER-INFANT ATTACHMENT STYLES.

The research is being conducted by Jodie Scott Rivera, a student in the Adrian Dominican School of Education, Counseling department at Barry University, and is seeking information that will be useful in the field of adult attachment and parent attachment. The aim of the research is to see if participating in a prenatal education class affects your attachment style and your prenatal attachment to your unborn or newborn child.

You as the participant will have responded to a flyer that was circulated.

As an interested participant, you have met the following selection requirements: (1)You are pregnant or have recently given birth and are interested in your unborn or young child.

Confidentiality will be protected. A coding system will be implemented to protect your identity. A number will be assigned to your name and each will be kept in separate, locked file cabinets in the researcher's office. All confidential data, testing material and results will be stored in locked cabinets in the researcher's office and kept for a period of 5 years and then destroyed. All data will be collected and secured as soon a possible.

All volunteers will be placed in two study groups. One group will attend the class in January 2009, while the other group will attend in February, 2009. We anticipate the number of participants to be fifteen in each group for a total of thirty participants. The class will take place at the Monroe Center, 705 Blake Ave, Bldg. C, Room 3, Cocoa, Fl., 32922, phone 321-637-7787 OR at your child's school.You must provide your own transportation.

If you decide to participate in this research, you will be asked to do the following: 1. Sign all consent forms, (if your are under 18 years of age, your parent must also sign), and complete one pretest and one post-test at the first meeting. One test measures your adult attachment style and the other measures your attachment to your child. If you have not given birth yet, you will answer the questions as they are. If you have given birth, you will be asked to reflect back before you gave birth to your child. The first test is an online test which takes about 10 minutes and the other is a paper test which takes about 10 minutes to complete; 2.Attend a two hour parenting class one time per week for a period of 5 weeks for a total of 10 hours of parenting education; 3.On the last class meeting, complete a 4 minute demographic survey, a 15 minute interview with the researcher discussing your opinion about the study (this is optional), and complete the pretest again.

Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the study, there will be no adverse (negative) consequences as a result of that choice. You may also elect to

participate in the class without participating in the research study.

There are no known risks in this study but if you feel uncomfortable at any time, you may contact Phyllis Deloach who will make a referral for counseling.

The benefits to you for participating in this study may include, as a participant, you may develop a better sense of your attachment abilities and possibly develop a deeper attachment to your child(ren) and/or unborn child, thus improving your parent-child relationship.

As a research participant, information you provide will be held in confidence to the extent permitted by law. Any published results of the research will refer to group averages only and no names will be used in the study. Data will be kept in a locked file in the researcher's office. Your signed consent form will be kept separate from the data. All data will be destroyed after 5 years.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Jodie Scott Rivera, at (321) 501-9781, my supervisor, Dr. Eeltink at (321) 235-8401, or the Institutional Review Board point of contact, Mrs. Nildy Polanco, at (305) 899-3020. If you are satisfied with the information provided and are willing to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by Jodie Scott Rivera, and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent to participate in this experiment.

______________________ __________
Signature of Participant *Date*

______________________ __________ ________________________ __________
Researcher *Date* *Witness* *Date*

(Witness signature is required only if research involves pregnant women, children, other vulnerable populations, or if more than minimal risk is present.)

APPENDIX C

APPENDIX D

APPENDIX E

Demographic Survey

Please fill out this demographic survey so that we may obtain some general information about you. Your responses are confidential.

Please write in (where appropriate) or circle the number of your response.

1. Your age:_______

2. Marital status:
    1. Single
    2. Married
    3. Separated
    4. Divorced
    5. Widowed
    6. Cohabitating
    7. Domestic Partner

3. Are you receiving any of these services?
    1. Food Stamps
    2. Medicaid
    3. Counseling
    4. Child care assistance
4. Have you ever received any of these services?
    1. Food Stamps
    2. Medicaid
    3. Counseling
    4. Child care assistance

5. How many children do you have?

    1, 2, 3, 4, 5, or more?

6. Your education level:
    1. Still in high school, if so what grade?_____
    2. GED (General Education Diploma)

3. High School Diploma
4. Some College
5. Undergraduate College Degree
6. Graduate Degree (Master's Degree, Ph.D., J.D., M.D., etc)

7. Current work status:
   1. Full time/part time student
   2. Employed/ Self Employed Full Time
   3. Employed/Self Employed Part Time
   4. Unemployed
   5. Never employed

8. Income:
   1. Less than $10,000 per year
   2. $10,000 to $19,999
   3. $20,000 to $29,999
   4. $30,000 to $39,999
   5. $40,000 to $49,999
   6. $50,000 or more
   7. Prefer not to answer

Thank you for your time.

APPENDIX F

Fifteen Minute Interview

Please take a few minutes to give feedback to the researcher. Your participation is greatly appreciated.

1. Do you feel the prenatal parenting class was helpful to you? If so, in what way?
2. Would you recommend this class to any of your friends or acquaintances?
3. What did you like the most about participating in the research study?
4. What did you like the least about participating in the research study?

APPENDIX G

BARRY UNIVERSITY

ASSENT FORM

I would like to ask you to take part in a research project. The title of the study is

THE EFFECTS OF A MATERNAL PARENTING CLASS ON MOTHERS'

ATTACHMENT STYLES AND ON MOTHER-INFANT ATTACHMENT STYLES.

The research will be done by Jodie Scott Rivera. I am a student in the Counseling Ph.D. program at Barry University.

Purpose: The purpose of the research is to see if participating in a prenatal education class affects your attachment style and your attachment to your unborn or newborn child.

Your parent knows that you are being asked to be in a research study.

The number of people in the study will be 15-20.

What Will Be Done: If you decide to be a part of this study, you will be asked to do the following:

1. Sign all consent forms
2. If you are under 18 years of age, your parent must also sign.
3. Complete two pretests at the first meeting. One measures your adult attachment style (takes about 10 minutes to complete) and the second one measures your attachment to your child (takes about 5 minutes to complete).
4. Attend the parenting class one time per week (about 2 hours) for 5 weeks.
5. On the last class, complete a 4 minute demographic survey, a 15 minute interview with the researcher (this is optional), and complete the two pretests again.

Costs to You: You will not have to pay anything to be in this study.

Payment To You: You will receive no money for being in this study.

This is strictly voluntary and if you decide not to do it or should you want to drop out at any time during the study, there will be no bad effects on you.

<u>Your Rights:</u>

--Your name will not be included in any reports or speeches about this study.

-- You don't have to be in this study if you do not want to be.

--You can change your mind at any time and leave the study without any problem.

--You can choose not to answer any questions if you prefer.

<u>Risks/Discomforts:</u> There are no known risks in this study. If you should feel uncomfortable at any time, you can talk to Mrs. Deloach and she may refer you to a mental health professional.

<u>Benefits:</u> The benefit to you as a participant in this study is that you may develop a better sense of your attachment abilities and possibly develop a deeper attachment to your child(ren) and/or unborn child, thus improving your parent-child relationship.

Any information you provide will be held in confidence to the extent permitted by law. If results of the research are printed, it will refer to group averages only and no names will be used. Data will be kept in a locked file in the researcher's office. Your signed assent will be kept separate from the data. All data will be destroyed after 5 years.

<u>Questions:</u> If you have any questions about this study, you can ask your parents, or call me, Jodie Rivera at 321-501-9781.

If you sign below, it means that you have read the information on this sheet, asked any questions you want, and that you would like to be in this study.

By signing below, you acknowledge receipt of this assent form.

Voluntary Consent
I have been informed what this experiment is about by Jodie Rivera. I have read and understand the information presented above, and I have received a copy of this form.

______I am willing to be a part of the research study.

______I am not willing to be a part of the research study.

____

Signature of Researcher *Date*

____

Signature of Child *Date*

APPENDIX H

Barry University

Parent Consent Form

Your child's participation in a research project is requested. The title of the study is THE EFFECTS OF A MATERNAL PARENTING CLASS ON MOTHERS' ATTACHMENT STYLES AND ON MOTHER-INFANT ATTACHMENT STYLES. The research is being conducted by Jodie Rivera, a Ph.D. student in the Counseling Department at the Adrian Dominican School of Education of Barry University, and is seeking information that will be useful in the field of counseling. The aim of the research is to see if participating in a prenatal education class affects your attachment style and your attachment to your unborn or newborn child.

In accordance with this aim, and if you allow your child, who is under 18 years of age, to participate in this research study, the following procedures will be used:

* Completion of an Assent from by your child (10 minutes) and completion of a Demographic information form by your child (4 minutes)
*Participation by your child in a parenting class on attachment for 1-2 hours per week for 5 weeks.
* The parenting class curriculum being used is the *Promoting Maternal Mental Health During Pregnancy* (Solchany, JoAnne, 2001) which was written for pregnant women to help improve the attachment between mother and child.
*The classes will be taught by the researcher, Jodie Rivera, LMHC.
* The Child Care Association of Brevard County, Inc. is sponsoring the parenting class, which will be held at the Monroe Center, 705 Blake Ave, Bldg. C, Room 3, Cocoa, FL., 32922, phone 321-737-7787 OR at your child's school.
*Complete 2 pretests at the first meeting. One measures your adult attachment style (takes about 10 minutes) and the second one measures your attachment to your child (takes about 5 minutes to complete).
4- Attend the parenting class 1 time per week (1-2 hours) for 5 weeks.
5- On the last class, complete a 4 minute demographic survey, a 15 minute interview with the researcher (this is optional), and complete the 2 pretests again.

The school principal has given permission for this study to be conducted.

All Volunteers will be placed in 2 study groups. One group will attend class beginning in January, while the other group will begin class in February 2009.

Costs to You: You will not have to pay anything for your child to be in this study.
Payment to You: You will receive no money for allowing your child to be in this study.
This is strictly voluntary and if you decide not to do it or should your child want to drop out at any time during the study, there will be no bad effects on your child.

Your Rights:

- Your child's name will not be included in any reports or speeches about this study.
- Your child does not have to be in this study if she does not want to
- Your child can change her mind at any time and leave the study without any problem
- Your child can choose not to answer any questions in the questionnaires

The risks of involvement in this study are minimal, but if your child experiences any distress, she will be able to talk to Mrs. Phyllis Deloach, who may contact you and refer your child for counseling if needed. The benefits your child may receive include that your child may develop a better sense of her attachment abilities and possibly develop a deeper attachment to her child or unborn child, thus improving her parent-child relationship.

As a research participant, information you and your child provide will be held in confidence to the extent permitted by Florida law. Any published results of the research will refer to participant averages only and no names or other identifying information will be used in the study. The Demographic Data Sheets, the questionnaires, and the key codes will be kept in locked file cabinets in the researcher's office. The signed Informed Consent Form and Assent Form will be kept separate from the Demographic Data Sheet and Interview Forms. All raw date, including Demographic Data Sheets will be destroyed after five (5) years in accordance with Florida laws and university policies and procedures.

If you have any questions or concerns regarding the study or your child's participation in the study, you may contact me, Jodie Rivera, at (321) 501-9781, The Barry University Chair person, Dr. Eeltink, at (407) 235-8401, or the Institutional Review Board point of contact, Mrs. Barbara Cook, at (305) 899-3020. If you are satisfied with the information provided and are willing to allow you child to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by Jodie Rivera and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent for my child to participate in this study.

____

Signature of Parent *Date*

____

Researcher *Date*

APPENDIX I

Dear Parent,

I am a Ph.D. student at Barry University. As part of my doctoral dissertation, I am conducting research on mothers' attachment styles and on mother-infant attachment styles. This research project is supported by the Child Care Association of Brevard County.

The aim of the research is to see if participating in a prenatal education class affects your child's attachment style and your child's attachment to her unborn or newborn child. The benefits your child may receive include that your child may develop a better sense of her attachment abilities and possibly develop a deeper attachment to her unborn child or newborn child, thus improving her parent-child relationship.

Participants will be asked to do the following:
1-Parents will be asked to sign parent consent form
2-Participants (pregnant teens) will sign an Assent form (5 minutes to complete)
3-Participants will complete a demographic information form (4 minutes)
4-Participants will attend the parenting class one time per week (1-1 1/2 hour class) for 5 weeks at the Monroe Center located at 705 Blake Ave, Bldg C, Room 3, Cocoa, FL., Wednesday evenings 5-7PM OR at your child's school.
5-The first meeting, complete 2 pretests. One measures adult attachment style (takes about 10 minutes) and the second one measures attachment to the child (takes about 5 minutes to complete).
6-On the last class, complete the demographic info sheet, a 15 minute interview with the researcher (this is optional), and complete the 2 pretests again.
7-The classes will be taught by Jodie Scott Rivera, LMHC

All volunteers will be placed in 2 study groups. One group will attend class beginning in January, while the second group will begin class in February, 2009.

Your child's consent to be a research participant is strictly voluntary and should she decline to participate or should she choose to drop out at any time during the study, there will be no adverse effects whatsoever.

Enclosed you will find the parent consent form that describes what your child's participation will involve, discusses confidentiality, and volunteerism. If you choose to let your child participate in this study, please sign the consent form and send it back to school with your child tomorrow. Without this consent and the assent form, the child cannot participate.

All permission slips will be kept in a locked cabinet.

Thank you for your time and if you have any questions, please call me at 321-501-9781 or email jodiescottrivera@bellsouth.net.

Respectfully yours,
Jodie Scott Rivera, LMHC