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Maternal Identity in Previously Infertile and Never Infertile Women

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MATERNAL IDENTITY IN PREVIOUSLY INFERTILE AND NEVER INFERTILE WOMEN

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Abstract

In the United States approximately one in five couples are infertile. Infertility can be a major life crisis to the affected individuals. This study compared the difference in maternal identity in previously infertile women as compared to never infertile women during the postpartum period. The conceptual framework used in this study was symbolic interactionist theory. Maternal identity was measured by Myself as Mother (Walker, 1977) scale in both groups of women. Demographic information was collected on each participant in the study. Previously infertile women's maternal identity scores were significantly lower than those scores of fertile women ($t=-8.63$ $df=51$ $p=.00$). This is a particularly important area of research for nursing because the nurse depends on knowledge of this type as the basis for assessment and planning interventions.

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CHAPTER 1

INTRODUCTION

Infertility (defined as the inability to achieve pregnancy after one year of regular sexual relations without contraception) can be a major life crisis to the affected couples(Menning, 1988). One in five couples, or an estimated 7 million people in the United States are infertile (Burns,1990).The web site maintained by the International Council on Infertility Information Dissemination (INCIID) has traffic exceeding 23,000 visits daily (Grant, 1998). These browsers obtain information on the latest methods to diagnose, treat and prevent infertility.

Some infertile couples will attempt to achieve pregnancy through assisted reproductive technologies (ART). The term ART describes the several procedures employed to bring about conception without sexual intercourse. These high-tech procedures usually involve drug induced superovulation, (Cooper & Glazer, 1994). Assisted reproductive technologies offers hope to 1.3 million patients who seek medical treatment for infertility. Despite technical advances, odds are still against would-be parents. For example, in the procedure of invitro fertilization, where fertilization takes place outside the body and the eggs are placed into the woman's uterus, successful pregnancy is achieved in only one in five procedures (Cooper & Glazer, 1994).

Couples who previously would have chosen adoption or to remain childless have many new choices and associated decisions. The industry of infertility may pressure couples, who would have previously accepted infertility, to pursue endless

treatments and procedures. It is difficult for the couple to know where to start and stop infertility interventions.

The field of reproductive medicine has been revolutionized by assisted reproductive technologies. Although the new technologies are remarkable, they involve medical risks, enormous physical and emotional energy, and for most couples a large financial investment. Insurance coverage of ART is mandated in only six states (Cooper & Glazer, 1994). Depending on the clinic, amount of medication used and geographical location, the average cost of an ART cycle in which egg retrieval is involved costs between $6,000 and $10,000 (Cooper & Glazer, 1994). In 1987, $70 million was spent on invitro fertilization (IVF) alone (Blank & Merrick, 1995).This more than doubled in 1993 when approximately $197 million was spent on IVF services (Collins, Bustillo, Visscher & Lawrence, 1995).

Duvall describes eight stages in the family life cycle. The first stage is the Emerging Family (Duvall, 1977). Developmental tasks in this stage prior to pregnancy include sexual adjustment, reshaping family and social relationships, and lastly accepting new roles as husband and wife. The acceptance of husband and wife roles include mutually satisfying economic arrangements. The financial strain of infertility can easily interfere with attaining this developmental task. The losses of self esteem, life control and sexual intimacy can potentially interfere with adjustment in this establishment phase.

With successful achievement of pregnancy the expectant phase of Duvall's Emerging Family begins. If developmental tasks in the preceding phase (emerging

family) are not mastered this can have a significant impact on the pregnancy and subsequent motherhood. Women achieving successful pregnancy after experiencing infertility often express how infertility affects their experience of motherhood. Infertility and the mother's reproductive history may affect the mother's parenting, making her more apprehensive and protective (Burns,1990). The success of achieving pregnancy and subsequent motherhood may not resolve the negative effects of infertility.

The negative effects of infertility on psychological well being have been studied. Many losses confront the infertile couple which have been classified as primary or secondary losses. Primary losses include the loss of the pregnancy-childbirth experience and genetic continuity. Interruption in the family's genealogy (continuation of one's bloodline) plus the failure to transmit family characteristics or genetics are both components of genetic continuity. (Cooper & Glazer, 1994).

Some couples will face an additional primary loss which is the loss of the parenting experience. The couples who choose adoption and are successful in the process will not usually experience this loss. However adoption can also be a difficult process. Some agencies have age restrictions, or preclude couples based on medical and/or psychiatric conditions. In addition, it can be an expensive process, often costing between twenty and thirty thousand dollars, if done through a private agency (Abbey, Andrews & Halman, 1994).

Secondary losses affect the way in which infertile people view themselves and the world around them. These secondary losses include loss of self esteem, sexual

intimacy and loss of control over one's life (Cooper & Glazer, 1994). All of these losses, primary and secondary, potentially interfere with the developmental tasks of the emerging family.

Individuals experiencing infertility undergo a process of taking on an identity of self as infertile (Dunnington & Glazer, 1991). Development of an infertile identity is a process which differs for each individual. In the same way, maternal identity also evolves over time. Maternal identity is defined as maternal cognition and affect with regard to the maternal-infant relational system (Walker & Montogomery, 1994). It cannot be assumed that with motherhood the infertile identity is automatically replaced by the maternal identity. It is possible that some behaviors of each identity can coexist simultaneously. Some behaviors and perceptions of the infertile identity may then affect the strength of the, maternal identity.

The purpose of this study is to examine maternal identity in previously infertile and never infertile women during the postpartum period. This study will question if maternal identity formation is consistent in both groups of women.

The relevance of this study to nursing is its examination of a human response to infertility. Specifically, do women find resolution of identity issues resulting from their experience of infertility or are these identity issues carried into their maternal role? Successful resolution of infertility is important to the client's psychological well being and marital relationship.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

The conceptual framework used in this study was symbolic interactionist theory. Symbolic interactionism theory, according to Blumer, contains four central ideas (as cited in Charon, 1989). The first idea is that the theory focuses on interaction between individuals instead of focusing on the individual and his/her specific personality characteristics.

The second major idea is that the human being is understood as acting in the present. The individual's past is important only as it influences the present. For example, a woman's history of infertility is important but only as it influences her present interaction with her family and other individuals.

Third, interaction is more than what is happening between people, but also what is happening within the individual. Individuals act according to the way they define the situation. Each person has expectations of themselves and others which continually reshape both the form and the content of the interaction. For example, each woman has an expectation of the behavior of an infertile person and this expectation influences her behavior. She may expect a childless woman to be more responsible for aging parents than family members with children. The woman's expectations of herself as infertile may be very different from her husband's. For example, he may expect her to be more "career-focused", as a result of her infertility, instead of a caregiver for older parents.

Finally, symbolic interactionism describes the individual as active in his or

her environment. The active nature of the individual is due to the ability to make conscious choices (Charon, 1989). A couple has choices to pursue infertility treatments, remain childless, or seek adoption as an alternative.(These choices are limited by socioeconomic variables such as income and education.) These conscious choices make the individual active in the environment.

In the symbolic interactionist theory the self is constructed of diverse identities. The definition of each identity is defined by social status's and roles. Social status is seen as embedded in a social network of interrelated positions. Each position has associated social norms or expectations. In our society, a woman who is a mother is expected to behave nurturantly toward her infant. Thus social status simply represents the complete cluster of expectations of this position (Klein & White, 1994). Certainly the individual is socialized into the social role but the individual also has a great influence on creating the role and downplaying social structural constraints (Blumer, 1969).

Symbolic interactionist theory was refined by Stryker (1968). He described a hierarchy of identity salience. The concept of identity salience may be defined as the probability, for a given person that a given identity may be invoked in a given situation. The invocation of an identity depends upon differing social contexts. Within each social context it is possible to have an overlap of identities. For example a new mother will assume a maternal identity while continuing to view self with an infertile identity. This could negatively affect the strength of the maternal identity and maternal role performance (Dunnington, & Glazer, 1991).

Review of literature.

Infertile identity

Research on infertility has been predominantly medically orientated. When psychosocial research has been analyzed it focused on females almost to the exclusion of males. Olshansky (1987) explored the meaning of infertility in both males and females.This study found that individuals experiencing infertility undergo a process of taking on an identity of self as infertile. For individuals distressed by their infertility this is the main or central identity. This strong identity can be contrasted with individuals who feel infertility is relatively unimportant, their infertile identity is peripheral and not central. Paradoxically, those individuals who have a peripheral infertile identity, they must make this identity central in order to rid themselves of the infertile identity (Olshansky, 1987).

Over the next 10 years, Olshansky conducted a series of six grounded theory studies that focused on how individuals acquire an identity of themselves as infertile (Dr. Ellen Olshansky, personal communication, July 31, 1998). These studies included 100 individual and/or joint interviews. Her studies supported the impact that high-technology infertility treatments have on influencing the centrality of infertile self identity (Olshansky, 1996). Her studies also supported the expansion of "self" as infertile to a "couple" identity as infertile. The limitation of the preceding qualitative studies is the concept of self as infertile has been investigated by only one researcher.

Maternal identity

Attainment of maternal identity is described in Rubin's (1967) study. Two university affiliated hospital's were chosen for the setting. Two groups of subjects were interviewed both prenatally and during the neonatal period. The first group was first time mothers and the second group women were already mothers. Both groups consisted of diverse ages, ethnicity and socioeconomic status's. The same interviewers were used for both groups and observations were recorded shortly after to avoid any distortion in recall.

The research supported distinct phases in the attainment of the maternal role. Minicry and role-play were found to be early tentative forms of taking-on the role. Fantasy and a circular process of introjection-projection-rejection were found to be later and more discriminating process of taking-in of the role. Grief work was the letting-go of former roles incompatible with a new role. Maternal identity was the completion of these stages (Rubin, 1967).

Limitations of this research are not controlling for a history of infertility or a history of child-abuse in the mother which both could potentially alter the process of maternal role attainment (Dunnington & Glazer,1991). In addition Rubin (1967) noted that mothers from a high socioeconmic class can be followed longer than mothers from a lower socioeconomic class, which could impact the results.

Mercer (1981) described a theoretical framework, based on role theory for studying factors that impact the maternal role. Mercer outlines four stages of role attainment : anticipatory, formal, informal and personal. The end point

of the process of role attainment is achievement of maternal identity.

These stages are typically completed within 3 months to 1 year. This theory delineates many factors which have an impact on the maternal role: age, culture, socioeconomic class, infant illness and temperament, maternal illness, early mother and infant separation, social stress and support system. The importance of obtaining the end point of maternal identity is its contribution to young children's adjustment and early childhood behaviors.

Consistent with Mercer's work, Walker (1989) found global perceived stress was significantly related to maternal identity. (Global perceived stress is defined as the degree to which situations in one's life are appraised as stressful.)This was measured by the Perceived Stress Scale (PSS) which is a 14-item, 5 point scale. A random sample of 330 mothers was recruited (over a 10-month period) from birth announcements published in a southwestern newspaper. Each mother received a questionnaire that included questions about her prenatal history and demographics. Also included in the packet was the PPS scale and Myself as Mother(an instrument to measure maternal identity).Global perceived stress was inversely related to maternal identity. Increased global perceived stress resulted in lower maternal identity scores (Walker,1989).

There are limitations in the Walker study. First the 52% response rate may have resulted in a biased sample not representative of the general population of mothers of infants. Second, work status was only analyzed for mothers working full time or not working outside the home. Mothers working part-time were not included

in the study. Third, history of infertility and its relationship to global perceived stress was not studied.

The significance of maternal identity is the impact that it may have on children. Mercer's research (1981) has supported the importance of maternal identity to young children's early adjustment. In contrast to Mercer's research, Walker and Montgomery (1994) supported that maternal identity was not related to children's behavior. The Walker and Montgomery study examined competence and behavioral problems in school-aged children (8-10 years). Little support was found for the long term predictive power of maternal role indicators measured during the postpartum period on children's subsequent socioemotional development. (Maternal role indicators included mothers' cognitions about their infants and themselves as well as attitudinal and behavioral manifestations of these constructs.) In this study only 60% of the original sample participated in the follow-up. There may be a bias in the findings because of this attrition. Another limitation is that predictors and outcomes were gathered through maternal report measures.

A follow-up study by Preski and Walker (1997) also found that strength of maternal identity would not predict behavior problems in children. Their study used a systematic sampling (every third name) of 400 mother's drawn from a large pool of published birth announcements in a midwestern newspaper. Two cohorts of mothers were simultaneously surveyed by mail at three time periods; a) when their infants were 6 to 12 months of age, b) again when they were 12 to 18 months, and c) then at 30 to 36 months. Instruments to measure maternal identity, maternal lifestyle, child behavior

problems and social desirability were mailed to each mother. The variables of maternal age, education, family income, were statistically controlled. The hypothesis that maternal identity would be significantly related to child behavior problems was not supported.

Limitations of this study were that maternal identity was measured only during the child's first year and behavior problems were reported when the child was 2 to 3 years of age. Both maternal identity and behavior problems may have significantly changed with time and the addition of other siblings in the family. The variables of family size and social support were not controlled and could influence study findings.

Infertility and Parenthood

The experience of infertility can have long reaching effects even after parenthood is achieved (Burns 1990)). A small sample of 20 subjects with a history of infertility was compared to a control group (N=10 of fertile subjects) on their self-perceptions of parenting. Parents with previous infertility problems were more likely to rate their parenting as one of two extremes overprotective/child-centered and/or abusive/neglectful. In addition, there was recall of infertility experience as a negative life event, increased marital conflict, and increased incidence of psychosocial problems.

There were some serious limitations in the preceding study. There were no controls for parents' own history of child abuse and/or neglect. There may have been a disproportionate number of parents with this history in the infertile group which could have biased the findings. In addition to a small sample size, information regarding parenting was based on self perceptions using instruments described by the author

(Parental Opinion Form and Child Abuse Potential Questionnaire) as ineffective and rudimentary. No information was given on validity and reliability these instruments.

A theory of the transition to parenthood of infertile couples was described by Sandelowski (1995). In this theory the author described a process called "comeback work" Couples struggle to repair the disruptions to their identities, goals, and work views engendered by their encounter with infertility. The author wrote that repair to the couples' identities are not necessarily completed by entering parenthood.

Like Burns diminished marital well-being after parenthood in previously infertile couples was a finding in a study by Abbey, Andrews & Halman (1994). Their longitudinal study with both wives and husbands from 174 infertile couples and a comparison group of 75presumed fertile couples found a positive effect of parenthood in infertile couples. The couples who were presumed fertile had no gynecological/infertility problems, or children, but a desire to have children in a few years . At the two year follow-up interview 42% of the fertile couples were parents and 36% of the presumed-infertile couples were parents. The women who became parents experienced greater global well being, and had more positive attitudes about children. The infertile men who became parents also reported more positive attitudes about children but no statistically significant differences was found in global well being.

Limitations of this study are the incomplete description of the study variables and details on how they were measured. It is unclear specifically what global well

being is and how the study can be replicated. In addition the assumption of presumed fertility in the control group may have been incorrect.

Infertility and maternal identity

The differences in maternal identity in previously infertile women and never infertile women was studied by Dunnington and Glazer (1991). In this small pilot study,(N=11) there was a significant difference of maternal identity scores from time 1 (36 - 40 weeks gestation) as compared to time 2 (4-6 weeks postpartum). The previously infertile women had a significant drop in maternal identity scores from time 1 to time 2 as compared to never infertile women (Mann Whitney $U=8.76$, $p<.01$). There was no significant difference in maternal identity scores between the groups prenatally.

This descriptive pilot study needs to be replicated with a larger sample. Uncontrolled confounding variables which could influence the results are social support, education of mother and child care experience.

Summary

Some reported studies, support the negative effect infertility has on marital well-being and that it is viewed as a negative life event by most individuals.(Abbey, et al.1994; Burns, 1990). There is much inconsistency in the findings about the relationship between infertility and parenting. This is a particularly important area of research for nursing because the nurse depends on knowledge of this type as a basis for assessment and planning the interventions.

There are few studies that address the relationship of infertility to maternal

identity. The pilot study (Dunnington & Glazer, 1991) will be replicated. One might expect delayed maternal identity formation in previously infertile women. The stress secondary to the infertility process may diminish the strength of the maternal identity. In addition, the infertile identity may still be the central identity as suggested by Olshansky (1987) as this is necessary to successfully work through the infertility process.

Hypothesis

H(o) Previously infertile women's postpartum maternal identity scores will be equal to those scores of fertile women.

H(a) Previously infertile women's postpartum maternal identity scores will be significantly lower than those scores of fertile women.

Definition of Terms

This study utilized an adapted version of the symbolic interactionist theory. In this theory, an individual comes to see self in interaction with others. Maternal identity is the meaning a woman attaches to motherhood based on her interaction with the infant and others. Maternal identity will be measured by a semantic differential scale Myself as Mother (Walker,1977). Infertility is defined as the inability to achieve pregnancy after one year of regular sexual relations without contraception (Menning, 1988).

Chapter 3

METHODS

Research Design

This study used an ex post facto design. The literal translation of the Latin term expost facto is " from after the fact " (Polit & Hungler, 1995). This expression is meant to indicate that the research in question (strength of maternal identity) is conducted after the variation in the independent variable (infertility) has occurred in the natural course of events.

A nonexperimental design is most appropriate in this research because infertility is not subject to experimental manipulation. The effect of infertility on the strength of maternal identity cannot be studied experimentally.

This research is also descriptive in that differences between the previously infertile group was compared to the never infertile group of women. Specifically, strength of maternal identity was compared between the two groups. Descriptive research has as its main objective the accurate portrayal of the characteristics of individuals, situations, or groups (Polit, & Hungler, 1995).

Limitations of this design are the lack of control over the independent variable and thus its weak ability to reveal causal relationships. Other factors rather than infertility may influence the strength of maternal identity. Age of the mother, level of education and amount of social support all influence the strength of maternal identity. In addition not identifying which partner was infertile could impact the strength of maternal identity

Subjects and Study Site

Criteria for inclusion in the study were: if the women were married, older than 18 years of age, primigravid, and medically low risk, excluding factors associated with infertility. Subjects needed to deliver healthy full-term infants without congenital anomalies. Subjects failing to meet the postpartum criteria were dropped from the study, and those data were not used in the analysis.

Using power analysis, a sample size of 35 women in each group, is an optimal sample size. The bound on error was within 1 point on the Myself as Mother scale. The standard deviation was 3. [n=(1.96/1)2 X (3.0)2]. The sample was a convenience sample. Data collection from December 1, 1998 to February 10, 1999 yielded a sample size of 38 for the never infertile group and 15 women in the previously infertile group. Barriers to obtaining the optimal size of previously infertile women will be discussed in Chapter 5.

Subjects were postpartum patients at a small community hospital in the Midwest. Human subjects approval was obtained from Grand Valley State University. In addition approval was obtained by the hospital's institutional review committee to conduct the study.

Instrument

Myself as Mother (SD-Self) measures the evaluative dimension of the concept, myself as mother using the semantic differential technique. The SD-Self (Appendix A) consists of 11 bipolar adjective pairs embedded within a 22-item, 7-point semantic differential scale. Initially the evaluative dimension was identified by factor analysis of

responses from 104 mothers attending a military well-baby clinic (Walker, 1977). Adjective pairs comprising SD-Self include: fast-slow, graceful-ackward, weak-strong, kind-cruel, good-bad, successful-unsuccessful, calm-excitable, willing-unwilling, dangerous-safe, complete-uncomplete, and mature-immature. Three items are reversed for scoring to decrease response set. High scores indicate positive maternal self-evaluations.

The Walker questionnaire psychometrics revealed reliability estimates using coefficient alpha are available for 4 samples tested at both 1-3 weeks and 4-6 weeks postpartum. Coefficient alpha values where from .72 to.87. These estimates are based on medically low-risk predominantly white and middle-class mothers (Walker, 1977). The coefficient alpha or Cronbach's alpha for this population was .90. SD-Self has high internal consistency in this research population. Cronbach alphas > .70, is sufficient for group comparisons (Polit & Hungler, 1995).

For construct validity, Walker (1977) reported that both of the two initial evaluative factors correlated with the Seashore Self Confidence Scale at one month post-delivery in a sample of 30 mothers. For the combined 11-item scale, theoretically expected relationships between attitudes toward one's baby and self as mother have been reported in a sample of 122 new mothers (Walker, Crain, & Thompson, 1986). Permission to use Myself As Mother was obtained from Lorraine Walker (Appendix B).

In addition to the SD-self each participant received a demographics questionnaire. The questions included information on exclusion factors for the sample.

Procedures

An application was submitted to the hospital's institutional review committee. The application protocols and consent were presented by the investigator to the committee at a review meeting on October 30, 1998. Permission was obtained to conduct the study at the hospital. Approval from Grand Valley State University's Human Research Review Committee was obtained on November 27, 1998.

All postpartum patients, identified by the inclusion criteria, were given a consent form (Appendix C) by this researcher. This was within 24-48 hours of delivery. It was explained that participation in the study is voluntary. Refusal to participate would not affect their medical/nursing treatment. Then it was explained that the purpose of the research is to better understand parenting. If the participant consented to involvement in the study then a demographics questionnaire was completed (Appendix D). The participant was then given the SD-Self questionnaire (Appendix A) and instructed to complete at 4-6 weeks postpartum. (Included with the SD-Self was a postage paid pre-addressed envelope to return the questionnaire to the author of this study.) Reminder postcards were sent to each participant at 5 weeks if the SD-Self questionnaire was not received by the researcher.

Chapter 4

Results and Data Analysis

The purpose of this study was to examine maternal identity in previously infertile and never infertile women during the postpartum period. The null hypothesis tested was: Previously infertile woman's postpartum maternal identity scores are equal to those scores of fertile women.

The statistical software, Statistical Package for Social Sciences (SPSS) was utilized in data analysis. The level of significance was set at $p<.05$ for all statistical procedures.

All postpartum patients, identified by the inclusion criteria were given a consent form by the researcher. A total of 66 participants agreed to participate in the study. They all completed demographic questionnaires and were given the Myself as Mother (SD-Self) questionnaire with a preaddressed self-stamped envelope. Reminder postcards were sent to all participants at 5 weeks postpartum.

In this study, 13 of the participants or 20% did not return their SD-Self questionnaire. The nonresponders differed from those who responded in their age, history of infertility and intentions about returning to work. The ages of the nonresponders ranged from 18 to 21 years of age, (M=19.39, SD=1.26).All nonresponders were younger, had no history of infertility and the majority planned to return to work (84.6%).

Characteristics of the Subjects

Fifty-three subjects returned their SD-Self questionnaire and were included in the study. The ages of the subjects ranged from 19 to 34 years of age, (M=24.74, SD=3.92). Educated, middle class Caucasian women predominated in this study. The subjects' years of education ranged from 11 to 20, (M=15.26, SD=2.51). Only 15.1% of the subjects had an annual income below $29,999 (Table 1). Caucasian women represented 60.4% of the population and Hispanic women 22.6%. African Americans represented 1.9% of the population and 15.1% were Asian/Pacific Islanders.

Table 1
Frequency and Percent of Levels of Family Income

Income	Frequency	Percent
10-19.999	2	3.8
20-29,999	6	11.3
30-39.999	13	24.5
40-49,999	6	11.3
50-59,999	15	28.3
>60K	11	20.8

Of these responders, 15 women or 28.% had a previous history of infertility as contrasted with 38 women or 72% who did not have a history of infertility. The two groups (fertile versus previously infertile) differed in their demographic characteristics. Women with a history of infertility were on average older, more educated, and reported higher income levels. The ages of the previously infertile group ranged from 27 to 34 years of age (M=29.67, SD=2.09). In contrast women without a history of infertility were 19 to 27 years of age (M=22.2, SD=2.50). There was a significant

difference in mean age between the groups, (t=9.43 df=51 p=.00). Years of education for the previously infertile were 16 to 19 years (M=17.20, SD=.78). Reported years of education for never infertile women were 11 to 20 years (M=14.50, SD=2.54). Again this was a statistically significant difference in mean years of education,(t=5.89 df=49 p=.00).

Lastly all women who were previously infertile reported incomes above $50,000 annually. Never infertile women reported incomes from 10,000 to above 60,000 annually (Table 2). The chi-square statistic supported that previously infertile women had proportionally larger incomes that never infertile, (X 11.52 df=1 p=.00).

Table 2
Family Incomes of Never Infertile Women and Previously Infertile

Income	Frequency	Percent	
		Never Infertile	Previously Infertile
10-19,999	2	5.3	0
20-29,999	6	15.8	0
30-39,999	13	34.2	0
40-49,999	6	15.8	0
50-59,999	9	23.7	40.0
>60,000	2	5.3	60.0

Of the previously infertile group 80% planned to return to work as contrasted with only 50% of never infertile women. This difference in work status was not statistically significant as calculated by chi square.

A t-test was computed to examine the difference in mean maternal identity scores between the never infertile and previously infertile women. The difference

between the two groups was statistically significant (Table 3). The mean maternal identity score was lower for women with a previous history of infertility. Therefore the null hypothesis that previously infertile women's postpartum maternal identity scores will be equal to those scores of fertile women was rejected. The alternative hypothesis was accepted previously infertile women's maternal identity scores were significantly lower than those scores of fertile women.

Table 3
T -Test for Previously Infertile and Never Infertile Women on the SD-Self.

	Mean	SD	t value	2 Tail Sig
Previously Infertile (N=15)	43.73	8.99	-8.63	.00
Never Infertile (N=38)	66.11	8.31		

In further examination of the items on the SD-Self, the Mann-Whitney U test was calculated to measure the difference between the groups on each question. All adjective pairs were statistically different between the 2 groups (Table 4).

Table 4
Results of Mann Whitney U for SD-Self adjective pair items.

Adjective Pair	Mean NonFertile (N=15)	Mean Fertile (N=38)	Mann-Whitney U	2 Tailed Sig
fast to slow	8.00	34.50	-5.76	.00
graceful to ackward	17.67	30.68	-2.92	.00
weak to strong	19.73	29.87	-2.21	.03
kind to cruel	12.27	32.82	-4.53	.00
good to bad	16.67	31.08	-3.24	.00
successful to unsuccessful	12.07	32.89	-4.57	.00
unwilling to willing	13.90	32.17	-4.07	.00
dangerous to safe	16.73	31.05	-3.18	.00
complete to incomplete	14.93	31.76	-3.74	.00
mature to immature	17.70	30.67	-2.92	.00
calm to excitable	11.63	33.07	-4.68	.00

The relationship between maternal identity scores and age was analyzed using the Pearson's r coefficient. There was a statistically significant relationship between maternal identity and age ($r = -.53$, $p = .00$). This inverse relationship can be explained by the group of previously infertile women. The t-test has demonstrated that they are on average older and they also had lower maternal identity scores.

Education and maternal identity scores were also inversely related. There was a weak relationship ($r = -.30$, $p = .03$). Again this can be explained by the sample of previously infertile women. On average this group of women were more educated and also scored lower on Myself as Mother. The relationship between week of delivery and maternal identity score was not statistically nonsignificant.

Chapter 5

Discussions/Implications/Conclusions

This study explored the effect of infertility on the perception of maternal identity during the postpartum period. The study did support a difference in maternal identity scores when comparing women with a history of infertility to women without a history of infertility. Strength of maternal identity, as measured by the scale Myself as Mother(Walker, 1977) was lower in previously infertile women as compared to never infertile women. This is consistent with Dunnington & Glazer's (1991) study. In their small pilot study, there was a significant difference in maternal identity scores at 4-6 weeks postpartum. Previously infertile women, on average, had lower maternal identity scores as compared with never infertile women.

The findings of this study are consistent with research on symbolic interactionist theory. Each individual has multiple identities. These identities are defined by social status and roles. Social status is embedded in a social network of interrelated positions. People respond based on their expectation of a given identity and also as the result of interacting with others. Behaviors of a mother versus an infertile woman may be very different based on an individual's expectation of herself and interactions with others. The infertile woman may not relinquish her infertile identity after becoming a mother. Potentially this could diminish the strength of her maternal identity.

Olshansky (1987) stated in recovering from infertility the infertile identity must become the central identity. For women to work through the infertility process their

infertile identity must be the primary identity. It is possible that women during the postpartum period, after years of infertility, may still have a central infertile identity. This is supported by the fact all women in the infertile group recognized themselves immediately as having a history of infertility. In other words, every one who met the medical definition of infertility recognized themselves as being infertile.

The target sample size of 35 women with a history of infertility was not obtained.This can be explained by the fact only one in five couples in a given population will have a history of infertility (Burns, 1990). In addition women with infertility may have an obstetrician/gynecologist from a larger metropolitan area. These women may then deliver at a larger metropolitan hospital.

The infertile group of women versus the never infertile group of women differed significantly in their age, education and reported income. These differences may in themselves effect strength of maternal identity. Older women may have more entrenched identities as compared to younger women. In addition the higher reported incomes and years of education may indicate these women have careers. Their career self-identity may also diminish the strength of maternal identity.(Sandelowski, 1995). Of the previously infertile group 80% planned to return to work as contrasted with only 50% of never infertile women. Although this difference was not statistically significant.

All test item question scores between the two groups of women were statistically different. Previously infertile women, on average scored lower on each adjective pair. The significance of each adjective pair as it relates to maternal identity is

questionable. Construct validity of the tool was correlated with the Seashore Self Confidence Scale (Walker, 1977). Certainly self-confidence and maternal identity are not synonymous. In addition this tool may not be valid in women with a history of infertility. Research has supported that pregnant women with a history of infertility are slow to prepare their home for a newborn (Sandelowski, 1995). This seems to be a protective mechanism due to the repeated disappointments of infertility. A women with a history of infertility may then perceive herself as slow (question 1-Myself as Mother) but this doesn't mean she perceives herself as less of a mother.

In the same way mothers with a history of infertility describe themselves as thrilled and excited by their pregnancy and infant. They may then perceive themselves as excitable (question 11-Myself as Mother). This excitement should not lower their self-perception as mother.

Limitations

The major threat to internal validity is the questionnaire, Myself as Mother. Construct validity of the tool was correlated with the Seashore Confidence Scale (Walker, 1977). Maternal identity and maternal self confidence are not identical attributes. The research tool, Myself as Mother, has not had construct validity established using an infertile group of women. Attributes of these women, who are on average older and more educated, may affect their perceptions of themselves.

Confounding variables were controlled by selection criteria. Five potential

confounding variables still may have influenced the findings: social support, child care experience, postpartum depression, years of infertility, and assistive reproductive technology used during infertility treatment and gender of partner with infertility. All preceding factors can influence the strength of maternal identity.

The major threat to external validity in this study is primarily due to sampling. This community hospital, services a predominantly middle class, Caucasian group of women. Therefore, the results of this study can not be generalized to the general population. In addition, it was a convenience sample and the small sample size of the previously infertile group (N=15) limits generalization of the results.

Application to Practice.

Nursing provides anticipatory guidance and education to families, especially during the antepartum and postpartum period. Part of the initial prenatal assessment should include questions about previous infertility treatment. Both health care providers and the expecting couple should be cognizant that a successful pregnancy does not guarantee the resolution of feelings associated with infertility. In addition couples who have received infertility treatment may have negative feelings about the health care system (Olshansky, 1990). The nurse should establish open communication with the couple. Questions should be asked about their concerns, fears and anxieties. This open communication can validate their specific concerns and help to diminish negative feelings about the health care system. Appropriate referrals can be made to counseling, or support groups.

The mechanism of denial can be somewhat therapeutic for women who have

experienced infertility . This same mechanism can interfere with successful attainment of the maternal identity (Dunnington & Glazer, 1991). On prenatal visits, nurses should assess for the patient's preparation of motherhood. Specifically, is information sought on parenting and infant care. Does the mother discuss her preparation of the home environment and is infant equipment obtained? Discussions should include integration of career and mothering goals to help decrease identity confusion after the birth of the infant. Guidance and counseling can be provided to women as they prepare for motherhood. Referrals should be made when appropriate. Some women may benefit from a postpartum home follow- up visit.

Recommendations for Future Research.

Studies with a larger, more ethnically diverse sample and a longitudinal design are needed to examine the experience of pregnancy and mothering after infertility. Longitudinal studies may need to be completed at 9 months to 1 year after delivery. Maternal identity formation is not always completed until this time (Sandelowski, 1995). The confounding variables of social support, child care experience, postpartum depression, infertility treatment and length of treatment should be controlled. In addition, future research should identify the partner with infertility. Further research should test validity of tools measuring maternal identity in previously infertile mothers.

Previous studies (Mercer, 1981; Walker & Montgomery, 1994) provide conflicting information on the impact maternal identity has on children's behavior.

Longitudinal studies examining the impact maternal identity has on children's behavior should be completed. In this study the variables of maternal age, education, family size and social support should be controlled for.

Appendix A
Word Meanings

The purpose of this study is to measure the meanings of certain ideas. We are interested in what these ideas mean to you. There are no right or wrong answers. each page that follows has a different idea printed at the top followed by pairs of contrasting words below it. Each pair of contrasting words is separated by seven spaces.

We call these spaces scales. See the example below for the idea "democracy."

Democracy

open _____ _____ _____ _____ _____ _____ _____closed

You are requested to respond to what the idea means to you on each of the scales below it. For example, taking the idea, "Democracy," if to you its meaning is very closely related to "open", you would mark it this way:

Democracy

open __x__ _____ _____ _____ _____ _____ _____closed

If its meaning is closely related to "closed" to you, then you would mark it this way:

open _____ _____ _____ _____ _____ __x__ _____closed

If its meaning is slightly related to "closed" to you, then you would mark it this way:

open _____ _____ _____ _____ __x__ _____ _____closed

If its meaning is at a midpoint between "open" and closed" to you, then you would mark it this way:

open _____ _____ _____ __x__ _____ _____ _____closed

Please work at a fairly high speed through the form. Do not worry or puzzle over any item. It is your first impression that we want. Do every page and please place a mark on each scale of paired words.

PLEASE DO NOT PUT YOUR NAME ANYWHERE ON THIS FORM.

Myself As A Mother

Fast	____	____	____	____	____	____	____	Slow
Pessimistic	____	____	____	____	____	____	____	Optimistic
Graceful	____	____	____	____	____	____	____	Ackward
Weak	____	____	____	____	____	____	____	Strong
Kind	____	____	____	____	____	____	____	Cruel
Hopeless	____	____	____	____	____	____	____	Hopeful
Good	____	____	____	____	____	____	____	Bad
Hard	____	____	____	____	____	____	____	Soft
Successful	____	____	____	____	____	____	____	Unsuccessful
Unwilling	____	____	____	____	____	____	____	Willing
Tough	____	____	____	____	____	____	____	Fragile
Vigorous	____	____	____	____	____	____	____	Feeble
Dangerous	____	____	____	____	____	____	____	Safe
Complete	____	____	____	____	____	____	____	Incomplete
Far	____	____	____	____	____	____	____	Near
Rugged	____	____	____	____	____	____	____	Delicate
Severe	____	____	____	____	____	____	____	Lenient
Mature	____	____	____	____	____	____	____	Immature
Active	____	____	____	____	____	____	____	Passive
Calm	____	____	____	____	____	____	____	Excitable
Cold	____	____	____	____	____	____	____	Hot
Moving	____	____	____	____	____	____	____	Still

Please detach and keep for your reference if needed. If you have any questions or concerns about this research please feel free to contact the people outlined below:

1. Research author, Christal Saffee at 399-4801.
2. Holland Hospital's Review Committee Representative at (616) 394--3207.
3. Grand Valley State University's Human Subjects Committee Chairperson, Paul Huizenga at (616) 895-2472.

Appendix C

Consent Form

My name is Christal Saffee. I am a registered nurse who is taking graduate courses at Grand Valley State University. As part of my coursework, I am conducting this research. I am also a mother and believe research on motherhood is very important.

Some women have an easier time getting pregnant than others. This study will look at how mothers view themself and if this view of themself influences motherhood.

This is a study to better understand motherhood. This is not a test of how much you know There are no right or wrong answers. This study is important . It will help nurses in planning programs to better prepare women for motherhood.

Also understood is that:

1). Participation in this study will involve answering a 15 minute questionnaire.

2). No physical or emotional risk will be involved.

3). The information I provide will be kept strictly confidential.

You acknowledge that:

You have been given an opportunity to ask questions regarding this research study, and that these questions have been answered to your satisfaction.

In giving consent, you understand that participation in this study is voluntary and that you may withdraw at any time.

My telephone number is 399-4801, you may contact me at any time if you have questions. In addition, the hospital review committee representative can be reached at (616) 394-3207 and Grand Valley State University's Human Subjects Committee Chairperson, Paul Huizenga, phone number is 895-2472.

You acknowledge that you have read and understand the above information and agree to participate in this study.

_____ _____

(Participant's Signature) Date

_____ _____

(Witness's Signature) Date

If possible, include a mailing address and phone number. In 1 month if you have not returned the questionnaire I will send out a reminder note. Thanks!

_____

_____

Appendix D

PLEASE DO NOT PUT YOUR NAME ON THIS PAPER.

If you have any questions or concerns about this research, please call Christal Saffee at 399-4801. If I am not there, please leave a message and I will be happy to return your call.

Your age _____

Marital Status
1.____Single
2.____Married
3.____Divorced
4.____Widowed
5.____Separated

How many years of school have you completed?_____

What is your race?1. _____African American2._____Asian/Pacific Islander
3._____Caucasion
4._____Hispanic
5._____Other

What was the range of your family's gross annual income last year?
1._____under $10,000
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 to 59,999
7._____over $60,000

Any difficulties achieving pregnancy: 1.____Yes
(History of infertility?) 2.____No

Did it take longer than 1 year of regular sexual relations without contraception to achieve pregnancy? 1.____Yes 2.____No
If Yes, please explain:_____

Any previous pregnancies? 1.____Yes
2.____No

At what week with this pregnancy did you deliver?_____

Type of delivery? 1._____Vaginal delivery
2._____C-section

Does your infant have any health or medical problems?1.____Yes
2.____No

Did you deliver? 1.____Single birth
2.____Multiple birth

Do you plan to work outside the home after birth of your baby? 1._____Yes
2._____No

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