Maternal Role Attainment at Eight Months following Birth

Lee, Hae Kyung*

INTRODUCTION

Although the birth of a child is most often a joyful event, the family as a whole and each of its members individually can also be confronted with a series of complex adjustment problems of responsibility, of sharing, and of re−working patterns of relationships. Several of our classical theorists (Erikson, 1963 ; Clark, 1966) have argued that parenthood is necessary for complete maturation and healthful adjustment of the individual. Fortunately, many families were assisted in adapting to their problems by family, friends in the traditional, extended family structure. However, today's young family often finds less support from family and friends than in the traditional, extended family. In addition, few social service agencies provide this kind of support.

It is fairly easy to point out that the transition to parenthood might be viewed as a crisis. Many of the accompanying life crises are greater than financial expense, less time to self, altered sleeping patterns, additional household and caretaking responsibilities, and possible job and income loss than before having a child or children (Crnic, Greenberg, Robinson, and Ragozin, 1984 ; Umberson and Gove, 1989). As women typically assume the primary responsibility for child care and housework, the overload of demands associated with child care is substantially greater for women than for men (Umberson, 1989). For resolution of this crisis, the mother will need to establish satisfactory roles for mothering−a task that has skills in caring for infant in a way that will meet the needs of the infant. The mother will need to accept and adjust to the strain of motherhood, balancing the relentless demands of the infant. The family budget, space within the home, and family routines will undergo readjustment so as to include the new member of the family.

Recent attention which has focused on maternal role attainment and strain associated with the transition to motherhood has also led to the consideration of factors that might serve to reduce such strain, and thus make maternal role attainment easier.

This study will make a hypothetical model based on the factors that reduce strain and promote maternal role attainment, and then test the validity of the model. The results of this study will be used to

---

* Department of Nursing, College of Medicine, Chungnam National University

provide the information needed to precipitate maternal role attainment, and reduce role strain. It is hoped that health professionals can use these results when they decide strategies to help a mother with a baby lessen role strain and promote maternal role attainment.

Literature Review

1. The Maternal Role Attainment

1) Definition of Maternal Role

Steele and Pollack (cited in Bobak, Jensen & Zalar, 1989) described maternal role as one process with two components. The first, being practical or mechanical in nature, involves cognitive and motor skills. This component includes childcare activities such as "feeding, holding, clothing, and cleaning the infant, protecting it from harm, and providing mobility for it." The second, being emotional in nature, involves cognitive and affective skills. The cognitive—affective component of the maternal role includes motherliness such as "attitude of tenderness, awareness, and concern for the child's needs and desires."

2) Definition of Maternal Role Attainment

Maternal role attainment was described initially by Rubin (1967a, 1967b) as beginning prenatally and culminating with the formation of a maternal identity during the infant's first year. More recently, Mercer(1981) defined it as "a process in which the mother achieves competence in the role and integrates the mothering behaviors into her established role set, so that she is comfortable with her identity as a mother."

Rubin(1967a, 1967b) and Mercer(1981) theorized the formation of the maternal identity that takes place concomitantly with role internalization, and used maternal role attainment and a maternal identity almost synonymously. The movement to the personal state, in which the mother experiences a sense of harmony, confidence, and competence in how she

performs the role, is the endpoint of maternal role attainment —maternal identity— as described by Rubin(1967a, 1967b) and is congruent with the endpoint described by Thornton and Nardi(1975).

Walker, Crain, and Thompson(1986a, 1986b) saw the maternal identity as a distinct component of maternal role attainment —one which focuses on the cognitive and affective attributes of the mother—infant relationship. So they defined the two components of maternal role attainment as maternal identity and role performance.

Maternal Role Performance

Sarbin and Allen(cited in Burr et al., 1979) commented that role enactment deals with "the appropriateness, propriety, and convincingness of the enactment" and these include Biddle and Thomas' (1966) quality of role performance. Each of these variables deals with how well a person performs a role relative to the expectations for the role. Biddle and Thomas(1966) said that the concepts of "performance" and "role performance" are the most common terms used for action of behavior, but "role enactment," "role behavior," and "behavior pattern" are also employed in this sense. Most of these terms pertain to overt action. The "adequacy" of role performance is almost invariably determined by its approximation to qualitative or quantitative standards of excellence. What the particular criterion of excellence is, of course, depends upon the content of performance for the given position (Thomas, 1968). Thus, the specifying empirical indicant of maternal role performance is the dependent nature of baby care ; this dependency necessarily directs a large part of the maternal role to "those caretaking activities related to the baby's physical health and comfort, which he cannot supply for himself(Adams, 1963)."

Maternal Identity

According to Rubin(1984), the core of maternal identity resides in the concepts "I"(mother) and "You"(infant), as these influence each other. Dur-

ing pregnancy, a maternal identity is constructed by way of an "idealized image of self as mother of this child". During the postpartum period maternal identity entails "a shift in focus from third—person models of a child or of an expert mothering person to this child and to self in relation to this child." As mothers come to know their infants and to know what to expect of them after birth, maternal identity is enhanced and consolidated. There is also a movement from oneness with the infant after birth to the differentiation of the maternal self from that of the infant. Maternal identity is ultimately a personal and specific relationship between mother and child. Because identity is specific, it must be achieved individually with each child a woman bears. At the end of the postpartum period, there is "an operational location of you, the 'I' in relation to 'you,' and the 'you' in relation to 'me'." Thus, formation of maternal identity and binding—in (attachment to the infant) are "independent coordinates of the same process." Despite its heavily cognitive nature, maternal identity has an affective component expressed in empathy with the child and commitment. Although the cognitive component is expressed in definiteness about how, when, what, and why the mother carries out her care of this child, the affective is expressed in positive regard for the infant and for herself as mother of this infant. So maternal identity is defined and operationalized in terms of the expression in positive regard for herself as mother of this infant (Walker et al., 1986a).

2. Role Strain and Maternal Role Attainment

Goode (cited in Burr et al., 1979) defined the role strain as the "felt difficulty in fulfilling role obligations." It is the stress generated within a person when he or she cannot comply with a role or set of roles. Sarbin and Allen (cited in Burr et al., 1979) defined role strain as internal stress experienced when a person perceives that he or she is unable to fulfill multiple role commitments. Sarbin and Allen's

cognitive strain is virtually identical with Goode's concept of role strain (Burr et al., 1979).

Burr et al. (1979) said that the role strain effects the role enactment in a theory of role enactment, and Pearlin (1983) said that the self becomes particularly vulnerable to injury by the persistence and intractability of role strain. Majewski (1985) found that mothers who experienced more role conflict had more difficulty in the transition to the maternal role (r=.42, p<.001). Cutrona & Troutman(1986) also found that postpartum depression was related to parenting self—efficacy (path co(N=55)= −.274, p<.01). When Lee (1992) investigated 224 primiparous mothers at the postpartum period regarding maternal role attainment, role strain significantly effected maternal role attainment ($\beta_{21}=$ −3.05, T=−3.127). However, when the study was done at 4 months after birth with 133 primiparous and 80 multiparous mothers, role strain did not contribute to a prediction of maternal role attainment ($\beta_{21}=$−.002, T=−.300)(1995). Studies of role strain and maternal role attainment suggested that maternal role strain as a mediated variable effects maternal role attainment (Conger, MaCarty, Yang, Lahey & Kropp, 1984 ; Curry, 1983 ; Gennaro, 1985 ; Leifer, 1977 ; Lovell & Fiorino, 1979 ; Roberts, 1983).

3. Exogenous Variables Influence on Role Strain and Maternal Role Attainment

Amount of Enough Time in Daily life : Burr et al. (1979) introduced the idea that variation in the amount of concomitant normative change influences the ease of role transitions. This variable refers to the number and social significance of the norms that are changing in a person's total role set at any particular time. Humenick and Bugen (1987) compared how much time parents expected to spend with their babies and the amount of time they actually spent with them after the birth. Mothers' overall scores on the actual spending time with the infant for expectations of time spent with the infant rose from 47.3 prenatally to 50.0 postpartum (t=2.6, p=.02).

Grubb (1980) interviewed multiparous women about their perceptions of time during the first postpartal month. Ninety percent of all their statements about time reflected their perception that they lacked sufficient time to meet all their responsibilities. As a result, they frequently did not have enough time left over to adequately meet their own needs like physical rest, sleep, relaxation, personal hygiene, their careers, and body maintenance and appearance. Throughout the first postpartal month, the new mothers did not have enough time. Lee(1981) investigated 78 couples with first born babies and found that the wives experienced more change in life-style than the husbands (t=4.55, p<.001). Roberts(1983) studied 64 mothers at 4 weeks postdelivery and found the normative change was negatively related to the ease of transition to parenthood (r=−.49, p<.001). Lee(1992, 1995) studied maternal role attainment with affecting variables. Lee found that the amount of enough time in daily life effected role strain at the postpartum period ($\gamma_{12}=-.349$, T=−3.819) and 4 months after birth ($\gamma_{22}=-1.222$, T=−3.547). But the amount of enough time in daily life did not effect maternal role attainment at the postpartum period($\gamma_{11}=-.069$, T=−.735) and 4 months after birth ($\gamma_{21}=.137$, T=.744).

Baby's Temperament : Wohn (1990) reported that infant temperament and maternal role strain showed a significant relationship (r=−.13, p<.05). The results of Wohn's (1990) study were consistent with the findings of Russel (1974). Roberts (1983) investigated the 64 primiparous at 4 weeks after birth and found that infant temperament and maternal role strain showed a significant correlation (r=−.32, p<.004). Lee (1992, 1995) reported that the baby's temperament significantly predicted role strain at the postpatrum period ($\gamma_{14}=.360$, T=3.719) and 4 months after birth ($\gamma_{12}=-.519$, T=−4.509).

Kronstadt, Oberklaid, Ferb, and Swartz (1979) compared the mothers who reported difficult infants and the mothers who had average infants at 5 weeks. Mothers were asked to select the response that best described their infant's behavior (7 items) and their satisfaction (7 items) in relation to the infant's behavior. Only 31% of mothers, who reported difficult infants, were satisfied with the infant's behavior, while 92% of mothers, who had average infants, were satisfied with the infant's behavior.

Campbell (1979) observed the mother-infant pairs (N=38) when infants were 3 months old. Mothers who rated their infants as more irregular in biological functioning, spent less time engaged in play (r=.29, p<.05) and were less responsive to their infants cries (r=−.36, p<.01). There was a tendency for these mothers to spend less time overall interacting with their infants (r=.21, p=.11), to have more negative moods(r=.41, p<.01), and to ignore the crying of their infants (Bell & Ainsworth, 1972). Roberts (1983) investigated the relationship between the amount of obligation infant behavior and parental perception of role competence. The findings indicated that the amount of obligatory infant behavior has an effect on parental perceptions of role competence (r=−.27, p<.014). Roosa et al. (1982) investigated 62 mothers who had 3 month old babies, and found a significant relationship between infant temperament and maternal behavior (Lisrel estimate=8.001). However, Lee (1992, 1995) found that the baby's temperament did not predict maternal role attainment at the postpatum period ($\gamma_{24}=-.021$, T=.194) and 4 months after birth ($\gamma_{22}=.067$, T=1.042). Wilkie and Ames (1986) interviewed 30 mothers with firstborn 6-week-old infants and found that the amount of infant crying was not related to the amount of infant care, that mothers' judgements of feeling negatively about their baby's crying positively correlated with the amount that their baby cried (r=.44, p<.05), and that the depression scale scores of mothers also correlated with the amount of infant crying (r=.40, p<.05). But with increased infant crying, mothers judged more of their identity in being a parent (r=.34, p<.05) and the impact of a crying baby on mothers was evidenced in their feelings about being a parent.

Social Support : Lee (1992, 1995) found that the more the mother perceived social support, the less maternal role strain at the postpartum period ($\gamma_{13} = -1.049$, T$= -2.45$) and 4 months after birth ($\gamma_{13} = -2.248$, T$= -3.699$). Cutrona and Troutman (1986) reported maternal depression did not have a significant correlation with social support, but the mothers who got a high degree of social support had low stress at 3 months after delivery. So, social support appeared to exert its protective function against depression.

Crnic, Greenberg, Robinson, and Ragozin (1984) investigated 105 mothers who had a 1 month old baby and found that the mother's perceived satisfaction with intimate support($r = .07$, $p < .01$) and community support($r = .03$, $p < .01$) had generally positive relationships to their reported satisfaction with parenting. Lee (1992, 1995) found that the more the mother perceived social support, the better the maternal role attainment at the postpartum period ($\gamma_{23} = .629$, T$= 2.68$) and 4 months after birth ($\gamma_{23} = 1.754$, T$= 3.495$). The amounts of support and the mother's concern about her baby were positively related (Adams, 1963 ; Fillmore & Taylor, 1976) and Storey (1984) reported that the social support and maternal role attainment didn't show a significant relationship, but mothers who got more social support from other people showed a more positive attitude about maternal role attainment. Durrett, Richards, Otaki, Pennebaker, and Nyquist (1986) examined 30 American and Japanese mothers who had a 3−4 months old baby and found that mothers who perceived more support from their husbands, positioned the child more ($r = .32$, $p < .003$), gave the child more kisses ($r = .21$, $p < .05$), and spent more time with the baby ($r = -.30$, $p < .007$). These findings supported the views expressed by Gibaud−Wallston (1977) and Ruff (1987), who found that ratings of the mother's perception of support from her husband are related to ratings of maternal behavior. The findings of these studies indicated that the more a mother perceived support from her husband, the more apt she was to become involved with the infant when they were together, and the less she felt that she needed to be in the presence of the infant at all times. From the empirical evidence to date, emotional support from a mate appeared the most important in the transition to the mothering role.

Hypothesized Model for Testing Hypotheses

To test the hypotheses, the above literature reviews were combined to form a hypothesized model〈fig. 1〉. This model hypothesizes that enough time in daily life (ET), baby's temperament (BT), social support (SS), each affect role strain (RS) and maternal role attainment (MA) and that role strain (RS) also influences maternal role attainment (MA).
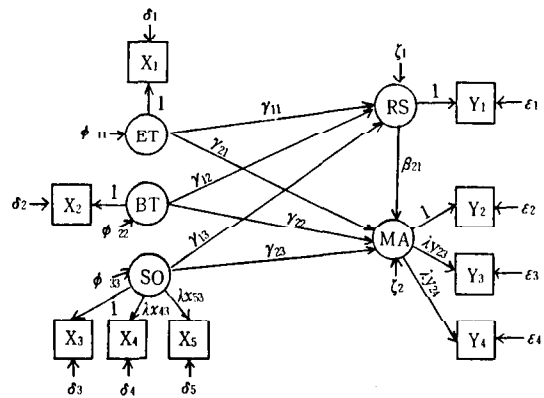
〈Figure 1〉 The Hypothesized Model of Maternal Role Attainment

Methods

Subjects

All subjects were mothers of healthy infants who were at 8 months postbirth and were enrolled primarily through 5 Community Health Centers in Taejon, Korea. Each mother was studied at 8 months following birth. This postnatal age was

selected because infant functioning is known to change dramatically (Sander, cited in Mercer, 1986) and it was expected that infants of different developmental status would place distinct demands upon mothers. Mercer (1986) reported that the more mobile, interactive infant required different mothering skills. Mothers who felt competent earlier felt incompetent at 8 months. Eight months following birth was identified as a time when parents experienced a general decrease in their sense of well—being (Miller and Sollie, 1980). Mothers also reported higher marital stress at 8 months.

Questionnaires were mailed to mothers who gave their consent by telephone. Of approximately 300 mothers studied, complete data were available on 221 cases.

Instruments

Maternal role attainment was defined as an interactional and developmental process occuring over a period of time during which the mother becomes attached to her infant, acquires competence in the caretaking tasks involved in the role, and expresses pleasure and gratification in the role. Maternal role attainment was operationalized by three measures : maternal role perfomance (Parenting Sense of Competence Scale)(Gibaud—Wallston, 1977), maternal identity(Semantic Differential Scale—Myself as Mother) (Osgood, cited in Walker et al., 1986a), and maternal interaction.

Perceived maternal role performance was assessed using a 12—item index, slightly modified from the Parenting Sense of Competence Scale(Gibaud—Wallstone, 1977). The items were scored from 1 to 4 with the highest number representing the greatest perception of maternal ability. The alpha reliability coefficient was .83.

Perceived maternal identity was assessed by a Semantic Differential Scale, Myself as Mother (SD—Self)(Osgood, cited in Walker et al., 1986a). The SD—Self consists of 12 bipolar adjective pairs embedded within a 24—item, 5—point semantic dif-

ferential scale. The Cronbach alpha reliability coefficient of the sample reported here was .89.

Perceived maternal interaction was developed specifically for use in this study. The scale consists of 13 items reflecting the degree of mother—infant interaction during care giving activity : how much the mother stimulates, verbalizes, and smiles when her baby is feeding, bathing, playing, and changing cloths. The items were scored from 1 to 4 with the highest number representing the greatest interaction with the baby. The alpha reliability coefficient was .87.

Maternal role strain was defined as the "felt difficulty in fulfilling role obligations." Maternal role strain was measured using a 20—item index slightly modified from Hobbs' Scale (cited in Chung, 1985). The items were scored from 1 to 4 with the highest number representing the greatest sense of comfort. The alpha reliability coefficient was .83.

The amount of enough time in daily life, or change in life—style was measured using an 11—item index, slightly modified from Lee's scale(1981). The items were scored from 1 to 3, the higher the score, the more enough time the mother has when compared before delivery. Typical items were "going to friends' home, talking with husband, and time for yourself." Alpha reliability was .58.

To assess mothers' perceptions of their **baby's temperamental difficulty,** a 12—item index was administered. This scale is modified from the Degree of Bother Inventory (Broussard and Hartner, cited in Mercer, 1985, 1986). Each item is rated by the mother on a 4 point scale ranging from "almost never" (1) to "almost always"(4), describing the frequency with which the behavior is exhibited by her child. The alpha reliability coefficient was .78.

Perception of support was operationalized by three measures : emotional support from her husband : physical support from her husband ; and support from others. The mother's perception of emotional support she received from her husband was measured using an 8—item index, slightly modified from the Taylor Inventory (cited in Durrett et al.,

1986). The scale consists of antipodal behaviors concerning the extent to which the mother feels her husband (1) praises her, (2) assists her, (3) takes pride in her, (4) cooperates with her, (5) enjoys her company, (6) respects her, (7) is sensitive to her accomplishments, and (8) accepts her. The items were scored from 1 to 4, with the highest number representing the greatest perception of help from the husband. The alpha reliability coeffecient was .82. The mother's perception of physical support received from her husband and mother's perception of social support received from others were developed for this study. These questionnaires were reviewed and analyzed by 2 professors of maternity nursing and 2 headnurses of maternity ward. The mother's perception of physical support was measured using a 13−item index reflecting the degree of help and satisfaction she received from her husband regarding care giving activities and house activities. The alpha reliability coefficient was .84. The mother's perception of support from other people was measured using 13−item index. This scale was composed of physical, emotional, and informational support from relatives and friends. Each set was scored from 1 to 4 with the highest scores indicating the highest support. The alpha reliability coefficient was .73.

Data Analysis

The analysis procedure was performed using the LISREL 5 (Jöreskog and Sörbom, 1988) program to examine the fit between the hypothesized model and the data. A LISREL program allows a researcher to examine several indicators of overall fit between a hypothesized model and the data. LISREL also provides indications of the direction and strength of the individual relationship specified within the structural equation model, as well as evaluates the quality of the measurements.

Based on these results, the hypothesized model was trimmed, and finally an adequated modified model among lots of modified models was found.

Results

1. Characteristics of Subjects

All mothers(N=221) were married. Their ages ranged from 20 to 40 years, with a mean age of 28.5. Primiparas numbered 128 (57.9%) and multiparas numbered 93 (42.1%). The male babies were 107 (48.4%) and female babies were 114 (51.6%). The level of education completed included 60 baccalaureate degrees, 5 graduate degrees, 140 high school, 15 middle school, and 1 elementary school.

2. Test of the Hypothesized Model

In analysis of covariance structures, there is no simple and easily interpretable criterion for assessing "success"(Lavee,1988). Generally speaking, two sets of criteria are being used : goodness of the model as a whole, and the statistical significance of specific parameters.

(1) Model / Data fit.

To evaluate the significance of the hypothetical model fits to the actual matrices that were empirically obtained from the data, the measures of overall fit are calculated .This test is performed by comparing the original variance−covariance matrix of the 9 observed variables with the estimated variance−covariance matrix, which is based upon the paths or specifications of the hypothesized model. The goodness−of−fit test determines how well the original matrix is approximated by the estimated matrix.

In this study, LISREL calculated the chi−square to be 60.17 with 23 degrees of freedom. The probability was .000. Lee(1990) has suggested that if the probability level of chi−square(p−value) is less than .05, the statistical conclusion given shows that the model does not fit the data. If this test were the only means of evaluating the model, the researcher would have to conclude that the model as specified in Figure 1 does not fit the data well. However,

the chi—square test is sensitive to sample size and must be interpreted cautiously (Jöreskog and Sörbom,1988). So, instead of using the chi—square value to accept or reject the model as a whole, the researcher used this value as one of the indicators that suggest it may be necessary to improve the fit between the hypothesized model and the data through an inspection of the fitted residuals, the standardized residuals, and the modification indices.

In assessing model fit, four additional measures are often used : the Goodness of Fit Index (GFI), the Root Mean Square Residual (RMSR), the Non—Normed Fit Index (NNFI), and the Normed Fit Index (NFI). Some researchers (Lavee, 1988) have suggested that a GFI and an AGFI range in value from 0 to 1, where values close to 1 are indicative of good fit. The RMSR is a measure of the mean discrepancy between the data and the implied variances and covariances. The lower the index, the better the fit of the model to the data. Two other indexes that compare the fit of a theoretical model with the fit of a null model are normed fit index (NFI) and non—normed fit index (NNFI). Lee (1990) has suggested that for both indexes, values above .90 are considered acceptable fits. The model presented in Figure 1 yielded overall fits of GFI= .944, AGFI=.891, RMSR=2.516, NNFI=.7932, and NFI=.8823 for the data. Values of AGFI, NNFI, NFI are lower than .90. These indicate that the hypothesized model does not fit sufficiently well and it is necessary to examine the fit more closely to determine possible sources of the lack of fit.

The more detailed assessments of fit can be obtained by an inspection of the standardized residuals, the Q—plot, and the modification index. The standardized residual was approximately a standard normal variable. If the standardized residual in cell (ij) is larger than 2.58 in magnitude, this is an indication that the model does not account for the cell (ij) sufficiently well. The largest standardized residual is 4.408 in this data. This is a problem that, in the future, may require theoretical attention and model revision.

An inspection of the Q—plot (not shown) and modification index suggested that the hypothesized model did not fit well to the original variance—covariance matrix. The resulting output file showed a slope smaller than one and the modification index for (4, 3) of THETA DELTA was 19.43. This modification index suggests directly that (4, 3) of THETA DELTA should be set free. Even though the slope of Q—plot was smaller than one, and the value of the modification index was high, it might be improved by the addition of theoretical variables and /or paths between variables.

(2) Parameter Estimates in the Measurement Model

To assess whether the measured variables in the measurement model were supported from data, four measures were used : LAMDA X, LAMDA Y, Squared Multiple Correlation(SMC), and the estimate of total coefficient of determination. If the factor loading in LAMDA X matrix and LAMDA Y matrix is near 0, the reseacher has to review the measured variable in the measurement model. But there were no estimates below .821 in ⟨Table 1⟩. This indicates that the measurement model is very good. The Squared Multiple Correlation(SMC) for X_i or Y_i is the relative amount of variance in X_i or Y_i which is accounted for by the—variables jointly.

⟨Table 1⟩ Parameter Estimates and SMC
in the Measurement Model

Parameters	Estimate	SMC
Amount of enough time		
in daily life(ET)	1.000	.897
Baby's temperament(BT)	1.000	.993
Social support(SS)		
λ_{33}	1.000	.570
λ_{43}	1.321	.347
λ_{53}	.994	.464
Role strain(RS)	1.000	.998
Maternal role attainment(MA)		
λ_{12}	1.000	.436
λ_{22}	.884	.610
λ_{32}	.821	.336

Note. Estimates are based on the analysis of the covariance matrices

The estimate of total coefficient of determination is a measure of how well the X variables or the Y-variables jointly serve as measurement instruments for the two-variables. The estimate of total coefficient of determination for X and for Y were remarkably high (1.000 and .999), indicating that the measurement model is very good.

(3) Parameter Estimates in the Structural Model

〈Table 2〉 shows the standardized coefficients and t-value for each pathway within the structural model and the explained variance for the measured indicators of the endogenous variables.

Any t-values larger than 2.0 are generally considered to be significantly different from zero and therefore significant (Jöreskog and Sörbom, 1988).

The amount of enough time in daily life (γ_{11}= -1.551, T=-5.535), baby's temperament (γ_{12}= -.395, T=-4.228), and social support(γ_{13}=-1.429, T=-6.547) significantly predicted role strain. Role strain was explained 40.0% by the amount of enough time in daily life, the baby's temperament, and the amount of social support. 57.9% of maternal role attainment was explained. But the amount of enough time in daily life, baby's temperament, and role strain did not predict maternal role attainment. Social support (γ_{23}=1.032, T=5.498) uniquely contributed to the prediction of maternal role attainment.

The estimate of the total coefficient of determination in the constructional model was .675 and therefore the constructional model explained 67.5% of the variance among endogenous variables's relationships.

In summary, the hypothesized model does not account completely for all variance that appears in the data set. It might be improved the power of explanation by adding the theoretical variables or causal linkages between variables. So, the researcher has to seek a modified model to strengthen power of explanation of the model by adding or excluding causal linkages between variables.

〈Table 2〉 Standardized Coefficients, T-value, and SMC in the Structural Model

Parameters	Direct coefficient	Indirect coefficient	Total(T-Value) coefficient	SMC
Role strain				.400
γ_{11}	-1.551	.000	-1.551(-5.535*)	
γ_{12}	-.395	.000	-.395(-4.228*)	
γ_{13}	-1.429	.000	-1.429(-6.547*)	
Maternal role attainment				.579
γ_{21}	.133	.074	.207(.774)	
γ_{22}	.031	.019	.049(.562)	
γ_{23}	.964	.068	1.032(5.498*)	
β_{21}	-.048	.000	-.048(-1.062)	

Note. Estimates are based on the analysis of the covariance matrices

3) Modification of the Hypothesized Model

To increase the power of explanation, make the model parsimoniously, and to improve its fit, 3 parameters whose t-values were lower than 2, were set free.

The amount of enough time in daily life to maternal role attainment, baby's temperament to maternal role attainment and role strain to maternal role attainment were excluded.

The final measures of overall fit indicated a good fit (chi-square(23, N=221)=32.30, GFI=.971, AGFI=.943, RMSR=1.373, NFI=.9367, NNFI=.8761). Also the parsimony of the model improved from PFI=.5636 to PFI=.5986. The power of explanation on role strain increased from 40.0% to 48.4% and maternal role attainment was explained to 71.5%. The estimate of the total coefficient of determination in the constructional model increased from .675 to .807. The Q-plot shows that the slope was almost one and modification index decreased from 19.43 for (4, 3) of THETA DELTA to 6.34 for (5,1) of LAMDA X, and the largest standard residual was 2.423.

These all indexes indicate that this modified model fits very well. 〈Table 3〉 and 〈Figure 2〉 summarize the findings of the modified model.

〈Table 3〉 Standardized Coefficients, T−value, and SMC in the Modified Model

Parameters	Direct coefficient	Indirect coefficient	Total(T-Value) coefficient	SMC
Role strain				.461
γ_{11}	−1.656	.000	−1.771(−5.671*)	
γ_{12}	− .390	.000	− .266(−3.367*)	
γ_{13}	−1.746	.000	−1.591(−6.625*)	
Maternal role attainment				.768
γ_{23}	1.278	.000	1.120(6.321*)	

Note. Estimates are based on the analysis of the covariance matrices
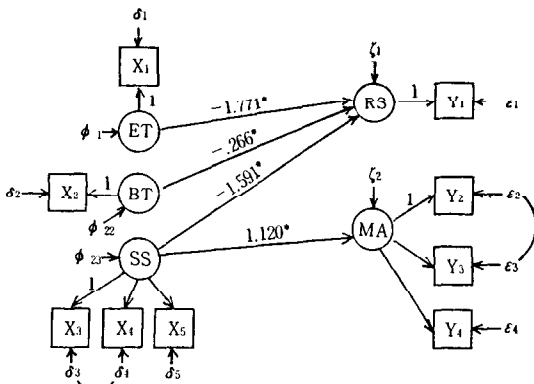
〈Figure 2〉 The Modified Model of Maternal Role Attainment

Discussion

This study examined maternal role attainment and role strain through the development of a hypothesized model. The results of the goodness−of−fit test and values of some parameters suggested to modify the hypothesized model to make fit well with the data. So, the researcher finally found the adequated modified model by adding or excluding causal linkages. The fit was further improved when 3 paths (amount of enough time in daily life to maternal role attainment, baby's temperament to maternal role attainment, and role strain to maternal role attainment) were excluded.

One of the more interesting aspects of the results presented above was the finding that social support is an unique variable that has an effect on role strain

and maternal role attainment simultanously.

Social support influenced role strain. These results supported the results of Lee (1992, 1995) that social support directly influenced role strain during the postpartum period and at 4 months after birth and the results of Stemp et al. (1986) that the cognitive experience of social support and the degree of psychological support from the husband made significant independent contributions to changes in psychological distress.

Social support exerted both indirect and direct effects on maternal role attainment. Social support explained 76.8% of maternal role attainment. This finding offered further support to the results of Bee et al. (1986), Crnic et al. (1984), Gibaud−Wallston (1977), and Lee(1992, 1995) that women, who reported high levels of social support, subsequently reported higher levels of self−confidence in the parenting role. This result reconfirmed the importance of social support. So, to reduce role strain and to promote maternal role attainment, health professionals have to inform these results to the family, especially the husband. If a mother could not receive sufficient support from her husband or family, nurses have to intervene in the family or seek sources so that the family and/or the husband can be involved and lend hand in caring for baby.

The effect of the amount of enough time in daily life on role strain supported the results of Lee (1992) and Roberts (1983) that the amount of normative change was related to the role strain. Bee et al. (1986) suggested that parental life changes have an impact on mother's behavior and Burr (1972) proposed that the greater the normative change, the less the ease in making the role transition. But the results of this study did not support the relationship between the amount of enough time in daily life and maternal role attainment. The weak, nonsignificant relationship between the amount of enough time in daily life and maternal role attainment construct may also be related to the operationalization of the amount of enough time in daily life. 'Amount of enough time in daily life' was measured by only one

indicator. Lavee(1988) said that generally the use of multiple indicators to measure a construct is preferred. Multiple indicators are more likely to be able to capture a complex theoretical construct than a single measure does.

The relationships between the baby's temperament and the role strain supported the results of Roberts (1983), Lee (1992, 1995), Russel (1974), and Wohn (1990) that the infant temperament was significant for the role strain. Research has shown that infant temperament influenced maternal role attainment (Cutrona and Troutman, 1986 ; Gibaud—Wallston, 1977 ; Roosa et al., 1982). But this study showed that the baby's temperament did not influence the maternal role attainment. It can be explained that even though a mother may feel that her baby's temperament is very difficult, and she may feel resentful and disappointed that her infant is unlike the child she had envisioned during pregnancy, this difficulty did not have a significant negative effect on maternal role attainment. Also, these results can be explained in the fact that most mothers accepted a temperamentally difficult infant as a matter of course, and they accepted an inevitable duty. Or, the operationalization of the baby's temperament was problematic. Only one measurement indicator measured the baby's temperament. Therefore, it cannot be accurately measured by only one baby's temperament scores.

With respect to role strain, social support was the most important ; the amount of enough time in daily life was the next most important ; and the baby's temperament was the least important in explanatory value. So, to reduce role strain, a mother must receive as much support as she needs and the environment can be afforded as much as a mother has her own time. But role strain did not influence maternal role attainment. Also, the expectation that the amount of enough time in daily life, baby's temperament, and social support would affect maternal role attainment indirectly through role strain was not supported by the data. The weak, nonsignificant relationship between the role strain and the maternal

role attainment may be related to the fact that almost all mothers could recognize their baby's demands and adequately responsed to the demands at 8 months after birth. So, almost all mothers felt comfortable with the maternal role at 8 months after birth, even though they had a lot of role strain. It may be that mothers did not feel as much strain as to influence maternal role attainment. Another explanation may be related to the number of variables that were included in this study. In this study, only 3 variables were used to explain role strain. Moreover, only 48.4% of role strain was explained by these 3 variables. These results suggests to including other influential variables in the future research.

CONCLUSION

A network of commonly—studied antecedent variables was theoretically linked to role strain and maternal role attainment. and each relationship was tested by the LISREL program. The proposed hypothesized model did reasonably well in explaining the variance of role strain and maternal role attainemnt by adding or excluding paths. Of the three antecedents of role strain which were examined, all three variables which were predicted, affected role strain directly. However, only social support among four antecedents of maternal role attainment affected maternal role attainment. Social support had the strongest direct effect on role strain and maternal role attainment. The amount of enough time in daily life and the baby's temperament were the significant variables explaining role strain. So, to reduce role strain and to promote maternal role attainment, first the environment around the mother should be improved. To change the environment, the family, including the husband, should know how much difficulty the mother feels to arrange housework and to take care of baby. And nurses might assist the mother and the family by arranging a time schedule and informating possible sources to get helps.

It is clear from this research that for purposes of

hypothesis development and testing, all possible
variables that affect role strain and maternal role at-
tainment should be included. To increase the power
of measuring about the amount of enough time in
daily life, baby's temperament, and role strain, the
researcher should use multidimensional tools. The
finding that social support is the most important
variable explaining role strain and maternal role at-
tainment suggests that nurses should inform a fam-
ily for the purposes of helping a mother. Finally, fu-
ture investigation of role strain and maternal role at-
tainment would profit from the use of a longitudinal
design. Causal inferences would be stronger with
such a design than with the cross—sectional design.
Moreover, a longitudinal design would help evaluate
the process of becoming a mother.

REFERENCES

Adams, M.(1963). Early concerns of primigravida
mothers regarding infant care activities. Nurs-
ing Research, 12(2), 72—77.

Bee, H. L., Hammond, M. A., Eyres, S. J., Barnard,
K. E., & Snyder, S. J.(1986). The impact of
parental life change on the early development of
children. Research in Nursing & Health, 9,
65—74.

Bee, S. M., & Ainsworth, S.(1972). Infant crying
and maternal responsiveness. Child Develop-
ment, 43, 1171—1190.

Biddle, B. J. & Thomas, E. J.(1966). Role
theory:Concepts and research, John Wiley &
Sons, New York.

Bobak, I. M., Jensen, M. D. & Zalar, M. K.(1989).
Maternity and gynecologic care. 4th ed. The C.
V. Mosby Co.

Burr, W. R.(1972). Role transitions : a reformu-
lation of theory. Journal of Marriage & Family,
34, (August), 407—416.

Burr, W. R., Holl. R., Nye, F. I., & Reiss, I. C.
(1979). Contemporary theories about the fami-
ily, Vols. 1 & 2. N. Y. Freepress.

Campbell, S. B.(1979). Mother—infant interaction

as a function of maternal ratings of tempera-
ment. Child Psychiatry and Human Develop-
ment, 10(2), 67—76.

Chung, M. J.(1985). Issues in the transition to
parenthood. The Yonsei Research Journal, 355
—370.

Clark, A. L.(1966). The adaptation problems and
patterns of an expandening family : The neo-
natal period. Nursing forum, V(1), 93—109.

Conger, R. D., McCarty, J. A., Yang, R. K., Lahey,
B. B., & Kropp, J. P.(1984). Perception of
child, child—rearing values, and emotional dis-
tress as mediating links between environmental
stressors and observed maternal behavior, Child
Development, 55, 2234—2247.

Crnic, K. A., Greenberg, M. T., Robinson, N. M., &
Ragozin, A. S.(1984). Maternal stress and
social support : Effects on the mother—infant
relationship from birth to eighteen mothers.
Amer. J. Orthopsychiatrics, 54(2), 224—235.

Curry, M. A.(1983). Variables related to Adaptation
to motherhood in "normal" primiparous women.
JOGN, March / April, 115.

Cutrona, C. E., & Troutman, B. R.(1986). Social
support, Infant temperament, and parenting
self—efficacy. A Mediational model of
postpartum depression. Child Development, 57,
1507—1518.

Durrett, M. E., Richards, P., & Otaki, M.(1986).
Mother's involvement with infant and her per-
ception of Spousal Support, Japan & America.
Journal of Marriage & Family, 48, 187—194.

Erikson, E. H.(1963). Chlidbirth and society.
NewYork : Norton.

Fillmore, C. J., & Taylor, K. W.(1976). Infant care
concerns of primigravida mothers and nursing
practice : Two models. Nursing Papers, 8(1), 15
—25.

Gennaro, S.(1985). Maternal anxiety, problem
—solving ability, and adaptation to the prema-
ture infant. Pediatric Nursing, 11, Sept—Oct,
343—348.

Gibaud—Wallston, J.(1977). Self—esteem and

situational : Factors related to sense of competence in new parents. University Microfilms International, Ann Arbor, Michigan, 48106.

Grubb, C.A. (1980). Monograph 10. Maternal-Child Nursing Journal, 9(4), 225-335.

Humenick, S. S., & Bugen, L. A. (1987). Parenting roles : Expectation versus reality. MCN, 12, January /February, 36-39.

Jöreskog, K. G. & Sörbom, D. (1988). Lisrel 7 : A guide to the program and applications. Chicago : SPSS Inc.

Kronstadt, D., Oberklaid, F., Ferb, T. E., & Swartz, J. P. (1979). Infant behavior and maternal adaptations in the first six months of life. American Orthopsychiatric Association, 49(3), 454-464.

Lavee, Y. (1988). Linear structural relationships (LISREL) in family research. Journal of Marriage and Family, 50, 937-948.

Lee, H. K. (1992). Construction of a maternal role attainment model in primiparas during the postpartum period. Doctoral dissertation. Seoul National University.

Lee, H. K. (1995). A structural model for maternal role attainment at four months following birth. In press.

Lee, J. S. (1981). A study on family life change perceived by husband and wife after first born. Master dissertation, Korea University.

Lee, S. M. (1990). Covariance structure analysis. Sungwon Press.

Leifer, M. (1977). Psychological changes accompanying pregnancy and motherhood. Genetic Psychology monographs, 95, 55-96.

Lovell, M. C., & Fiorino, D. L. (1979). Combating myth : Conceptual framework for analysing the stress of motherhood. Advance Nursing Science, 75-84.

Majewski, J. L. (1985). Conflict, satisfactions, and attitudes during transition to the maternal role. Nursing Research, 35(1), 10-14.

Mercer, R. T. (1981). A theoretical framework for studying the factors that impact on the ma-

ternal Role. Nursing Research, 30, 73-77.

Mercer, R. T. (1985). The process of maternal role attainment over the first year. Nursing Research, 34(4), 198 204.

Mercer, R. T. (1986). First-time motherhood : Experiencies from teens to forties. New York, Springer Publishing Co.

Miller, B. C. & Sollie, D. L. (1980). Normal stresses during the tansition to parenthood. Family Relations, 29, 459-465.

Pearlin, L. I. (1983). Role strains and personal stress, H. B. Kaplan(Ed.), Psychosocial stress trends in theory & research(pp. 3-32) Academic press.

Roberts, F. B. (1983). Infant behavior and the transition to patenthood. Nursing Research, 32(4), 213-217.

Roosa, M. W., Fitzerald, H. E., & Carlson, N. A. (1982). A comparison of teenage and older mothers : A systems analysis. Journal of marriage and the family, May, 367-377.

Rubin, R. (1967a). Attainment of the maternal role : 1, Processes. Nursing Research, 16, 237-245.

Rubin, R. (1967b). Attainment of the maternal role : 2, Models and referrants. Nursing Research, 16, 342-346.

Rubin, R. (1984). Maternal identity and maternal experience. New York, Springer Publishing Co.

Ruff, C. C. (1987). How well do adolescents mother? MCN, 12, July /Aug, 249-253.

Russel, C. S. (1974). Transition to parenthood : Problems and gratification. Journal of Marriage and the Family, 36, 294-302.

Stemp, P. S., Turner, R. J., & Noh, S. (1986). Psychological distress in the postpartum period : The significance of social support. Journal of Marriage & Family, 48(May), 271-277.

Storey, M. (1984). An analysis of factors influencing maternal role acquisition in mothers of handicapped children, focusing on a comparison with mothers of non-handicapped children. Doctoral dissertation, Yonsei University.

Thomas, E. J. (1968). Role theory personality and

the individual, E. G. Borgatta and W. W. Lambert, (ed.), Handbook of personality, theory and research, 691, Chicago, Rand McNally and Co.

Thornton, R. & Nardi, P. M.(1975). The dynamics of role acquisition. American Journal of Sociology, 80(4), 870－885.

Umberson, D.(1989). Relationships with children : Explaining parents' psychological well－being. Journal of Marriage & Family, 51(Nov.), 999－1012.

Umberson, D., & Gove, W. R.(1989). Parenthood and psychological well－being theory, measurement, and stage in the family life course. Journal of Family Issues, 10(4), 440－462.

Walker, L. O., Crain, H., & Thompson, E.(1986a). Maternal role attainment and identity in the postpartum period : Stability and change. Nursing Research, 35(2), 68－71.

Walker, L. O., Crain, H.,& Thompson, E.(1986b). Mothering behavior and maternal role attainment during the postpartum period. Nursing Research, 35(6), 352－355.

Wilkie, C. F., & Ames, E. W.(1986). The relationship of Infant crying to parental stress in the transition to parenthood. Journal of Marriage & Family, 48(August), 545－550

Wohn, J. S.(1990). An emperical study on transition to parenthood. Master dissertation, Ewha Womans University.

－국문초록－

8개월된 아기어머니의 모성역할 획득 모형

이 혜 경*

아기의 출생은 부모에게 환경적, 신체적, 정신적 부담을 준다. 이렇게 부모가 된 사람들은 부모역할 수행시 어려움을 겪고 있고, 그중에서도 어머니가 아버지보다 역할수행시 더 많은 어려움을 겪고 있다고 한다.

본 연구는 생후 8개월 된 아기어머니들을 대상으로 역할이론을 토대로 모성역할 획득에 영향을 주는 요인들로 가설적 모형을 구축하고, 이의 적합성을 검정하므로써 어머니들의 모성역할 획득을 촉진하기 위하여 필요한 간호 정보를 제공하려고 한다.

본 연구는 문헌고찰을 통하여 모성역할 신장과 모성역할 획득에 영향을 주는 요인으로 일상생활의 시간적 여유, 아기 기질, 사회적 지지가 포함되었고, 모성역할 긴장이 모성역할 획득에 영향을 주는 것으로 이론적 기틀을 구성하였다.

연구도구로는 모성역할 획득 중 모성 정체감을 측정하기 위해 Osgood(Walker et al., 1986a에서 인용)도구, 모성역할 수행을 측정하기 위해 수정보완 된 Gibaud－Wallston(1977)도구와 어머니가 지각한 모아상호작용정도 도구를 이용하였고, 모성역할 긴장측정에는 수정 보완된 Hobbs(정. 1985에서 인용)도구를 이용하였다. 아기 기질은 수정 보완한 The degree of bother inventory(Mercer, 1986 에서 인용), 남편의 정신적지지 속성은 Taylor(Durrett, 1986에서 인용)의 도구를 이용하였고, 일상생활의 시간적 여유, 남편의 신체적 지지 및 주위의 지지측정은 연구자가 개발한 도구를 사용하였다.

1993년 1월부터 1994년 1월까지 대전시 5개 보건소에 등록된 대상자들에게 우편으로 설문지를 보내어 221명이 회수되어 회수율이 약 72%였다. 일반적인 서술적 자료 분석은 SPSS PC+ 를 이용하였고, 가설적 모형은 PC－LISREL 7.13 (Jöreskkog & Sörbom,1988)프로그램을 이용하여 공변량구조분석을 하였다.

연구결과는 다음과 같다.

모성역할 획득에 모성역할 긴장, 일상생활의 시간적

* 충남대학교 의과대학 간호학과

여유, 아기 기질, 사회적 지지가 영향을 주며, 모성역할 긴장에는 일상생활의 시간적 여유, 아기 기질, 사회적 지지가 영향을 준다고 설정된 가설적 모형〈Figure 1〉의 분석결과 전반적 지수는 자유도 23에 카이자승치 60.17, GFI와 AGFI의 값은 .944, .891였고, NFI와 NNFI의 값은 .8823, .7932 이었다.

그러나 세부적 지수 중 모성역할 긴장에서 모성역할 획득으로의 경로, 일상생활의 시간적 여유에서 모성역할 획득으로의 경로, 아기 기질에서 모성역할 획득으로의 경로의 고정지수가 절대치 2에 미치지 못하여, 세 경로계수를 영(0)으로 고정시킬 필요가 있었다. 따라서 더 간명하며 부합도가 좋은 모형을 찾기 위하여 가설적 모형에서 고정지수가 낮은 경로 부터 고정시켜 나가 세 경로(모성역할 긴장에서 모성역할 획득, 일상생활의 시

간적 여유에서 모성역할 획득, 아기 기질에서 모성역할 획득)를 고정시킨 수정 모형의 PFI(간명도)가 .5986으로서 가설적모형의 PFI(간명도) .5636보다 커 부합도를 손상하지 않고 더 간명한 모형으로 나타났다. 수정모형의 고정지수를 살펴본 결과 절대치 2에 미치지 못하는 경로는 나타나지 않았다.

공변량구조분석 결과 나타난 변인간의 관계를 보면 가) 모성역할 긴장은 사회적 지지가 많을수록(Lisrel Estimates=−1.591), 아기 기질이 순하다고 생각할수록(Lisrel Estimates=−.266), 일상생활의 시간적 여유가 많을수록(Lisrel Estimstes=−1.771) 낮았고, 나) 모성역할 획득은 사회적 지지가 많을수록(Lisrel Estimates=1.120) 잘 되었다.