THE RELATIONSHIP OF MATERNAL SOCIAL SUPPORT TO THE CHILD'S HOME ENVIRONMENT AT FOUR TO SIX MONTHS OF AGE

by

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CHAPTER I

INTRODUCTION

Many factors may influence the ability of the mother to provide an optimum environment for her child. One factor that may influence the child's environment is maternal social support. The relationship between maternal social support and the child's environment is the focus of this research.

Social support has been defined as "information leading an individual to believe that he is cared for, loved, esteemed, and a member of a network of mutual obligations" (Cobb, 1976). Recent studies have suggested that the amount and kind of social support a mother perceives may influence her ability to nurture and provide an environment of optimum growth for her child; such a positive relationship of social support to the child's environment has been suggested by several studies (Pascoe, Loda, Jeffries,& Earp, 1981; Giovannoni & Billingsley, 1970).

The child's home environment has been defined as the milieu of animate and inanimate stimuli available to the child (Yarrow, 1968). The influence of home environment on

child development has been demonstrated in studies that correlated various aspects of the home environment to a child's later language development and performance on intelligence tests (Elardo, Bradley & Caldwell, 1975). Among those variables which have been correlated with developmental outcomes are the emotional and verbal responsiveness of the mother, avoidance of restrictions and punishments, organization of the environment, provision of appropriate play materials, maternal involvement with the child and opportunities for daily stimulation (Elardo, et al. 1975).

It is anticipated that mothers with a high degree of social support may better be able to fulfill the role of providing an environment stimulating to the development of her child. Two theories explain the positive relationship of social support to the provision of a stimulating environment. One theory is that social support is a mediator of life stress and may buffer the stresses of early parenting (Cobb, 1976). Another theory is that roles are socially defined and are optimally fulfilled with high social support (Caplan, 1974).

Previous research in the area of social support has been and is currently based on a variety of conceptual definitions of social support and has used multiple measurement tools, many of which have been scored with subjective ratings by interviewers. Research that shows

associations between specific variables and positive outcomes is needed to provide directions for intervention. Pascoe et al. (1981) found a positive correlation between high social support and stimulating home environment for the child, but did not describe clearly what specific social supports were associated with the improved home environment.

Nurses are in a position to assess clients' social support. Nurses can make social support assessments as part of providing maternity and pediatric care in the home, hospital, clinic, or office. For example, in an initial interview the nurse could inquire as to who the available support people are and the extent of their involvement. Nursing interventions could include providing individual support, mobilizing self-help groups, or educating clients and their significant others in ways to enhance support, if such support were shown to correlate with a stimulating home environment for the child. However, research on the relationship between social support and optimal role functioning is needed to provide nurses and other professionals with directions for assessments and interventions.

This study was part of an ongoing longitudinal study, A Comparative Study of Normal and High-Risk Pregnancies (Tomlinson, 1981), which investigated the relationship between situational and psychological stress factors, the development of high risk pregnancy and delivery, and the

effect of risk status on maternal adjustment. The long range goal of this ongoing longitudinal study was to improve health care of pregnant women and their infants through earlier identification of those who may become high risk for medical or social problems.

This present study was a follow up of the Tomlinson sample at four to six months post partum. The purpose of the present study was to determine the magnitude of the relationship between maternal perceptions of social support and aspects of the home environment associated with optimal child development.

Review of Literature

The following review of literature is divided into three sections. The first section on social support demonstrates how various researchers have conceptualized social support. The following section then relates social support to maternal and child health. The third section describes the association of a stimulating environment with the child's development. Developmental milestones of four to six month old infants, the age of the infants in this study, are described to assist in evaluation in the appropriateness of the Home Observation of the Environment instrument, which is used in this study. The fourth section explores the relationship of maternal social support to the child's home environment, laying the foundation for this

correlational study.

Social Support Definitions

One of the challenges of studying social support arises from the many definitions and conceptualizations used by different investigators. Definitions of social support as conceptualized by Hyman and Woog, Cassel, Caplan and Cobb are summarized in the following paragraphs. These definitions lay the framework for measurement of social support in this study.

Hyman and Woog (1983) conceptualized individuals as having internal and external supports, which provide an environment within which to function. Internal supports were made up of biological factors such as genetics and nutrition, psychological factors such as self esteem and coping ability, and demographic factors such as age and education. External supports included family, ethnicity, income and job satisfaction. Inadequate internal and external supports were associated with the onset of physical and mental illness. Though these authors clearly defined internal and external supports, they avoided discussion of the interaction of the internal and external environments. For example, does income influence education? Does self-esteem influence job satisfaction? Does personality influence social support? These authors reviewed previous conceptual models in an attempt to "stimulate systematic

research into the link between stress and illness," and suggested methodological considerations in the measurement of life events.

A similar conception of social support as a factor in health was offered by Cassel (1973). He described protective biological and psychosocial factors that impact health. For instance, a biological factor that would influence health is the physiological (endocrine) response to stress. A psychological factor would be the strength of the available support groups.

Cobb's definition of social support was based on information leading an individual to believe he is cared for, loved, esteemed, and a member of a network of mutual obligations. He stressed giving information, rather than providing actual goods and services. His theory suggested that goods and services may promote dependency whereas information supports independent behavior. He stated that functions of a social support network are to give members personal history information, goods and services access information, and protective or safety information. Cobb contended that social support should be measured as information, not as mass or energy. However, one must assume that some kind of action takes place leading the individual to believe that information is relevant. Cobb also proposed the concept of social support as a mediator of life stress.

Supports can be provided by individuals in similar stressful situations. For example, Caplan (1974) observed that parents of premature babies sought out other parents of premature babies in a neonatal intensive care unit. He also found widows to be the most helpful to other widows in bereavement. Caplan (1974) proposed that social supports fulfill the need for love, affection, help with tasks, and help with controlling emotions. Social support buffers life stress by providing reality based feedback and sanctuary from stressful situations.

Kahn and Antonucci (1980) conceptualized social support as having both direct and indirect effect on feelings of well being. The direct effect was the feeling of being loved and cared for. Social support indirectly affected well being by moderating life stress. A person's social supports were those people upon whom he or she relies and those people who rely on him or her for support. These authors proposed that social support included at least one quality of aid, affect, or affirmation. Aid was defined as direct assistance such as money, information and time. Affect included expressions of liking, love, respect and admiration. Affirmation represented agreement, or acknowledgement of the rightness of an act or statement. An individual's socially supportive group constituted his/her network. Properties of the network included size, stability, homogeneity, symmetry, and connectedness. Dyadic

links of the individual to each support person included frequency of interactions, type, magnitude, initiative, range, duration and capacity. Social support may differ in network properties at different stages of life, perhaps influencing and aiding role transition, fulfillment, and satisfaction. Of particular importance to this study was the notion that increased life stress can be caused by role changes, such as occur during early parenting (Cobb, 1976; Kahn & Antonucci, 1980).

The above are several definitions of social support as a factor in health. The following literature narrows the time frame to pregnancy, birth and parenting.

Social Support and Maternal and Child Health

Social support may also be a factor in mediating physical stress in the time frame of birth and the transition to motherhood. Papers by Nuckolls (1972), Norbeck and Tilden (1983), Sosa et al. (1980), and Paykel, Emms, Fletcher and Rassaby (1980), are briefly reviewed.

A pioneering study of social support in pregnancy was done by Nuckolls, et al. (1972). These authors followed 170 women at a North Carolina army hospital, testing them for psycho-social assets, including social support, early in the pregnancy. This group of military enlisted wives was homogeneous in other aspects, although pre-existing medical risk factors were not controlled. At 32 weeks gestation,

the women completed a life change inventory to measure stress, recalling changes before and during the pregnancy. After delivery, the pregnancy was scored as normal or complicated based on pregnancy outcome. For 15 women experiencing high psychosocial assets and high life change, the complication rate was one third that of 11 women who also experienced high life changes but had low psychosocial assets. Psychosocial assets and life changes considered separately were unrelated to obstetrical complications. These results support the view that psychosocial support has a mediating effect on stress due to life changes during pregnancy. However, the assets measured included internal attitudes (such as self-esteem and trust), not purely external social support.

Nuckolls' study was replicated by Norbeck and Tilden (1983). Norbeck and Tilden, however, selected 117 medically normal women between the ages of 20 to 39 years, as compared to Nuckolls' group which did not discriminate for preexisting medical problems and included approximately 39% teenagers. Norbeck and Tilden administered tests for life experiences and social support, separating internal from external sources of support, and compared results by chart review for complications post partum. These authors found significant relationships among life stress during pregnancy, tangible social support, and complications of gestation, labor, and the infant. Stress buffering effects

were smaller than those found in the Nuckolls' study but this difference may be due to differences in the sample populations. For example, the enlisted military wives in Nuckolls' sample might have been subject to stresses not present in Norbeck's and Tilden's sample of clinic volunteers.

Sosa, Kennell, Klaus, et al. (1980), found that mothers who were "mothered" during their labor by a non-medical supportive companion, the Guatemalan doula, had significantly fewer birth complications (e.g. low Apgar scores, meconium staining) than those who labored alone. The study was designed to compare twenty women without a doula to twenty women with a doula. Women with complications such as prolonged labor, fetal distress, pitocin induction, forceps or caesarian birth were eliminated from the study. Ninety-five women were admitted to the control group and 32 to the experimental (doula) group in order to attain the desired 20 subjects in each group. The women in the two groups were not significantly different in marital status, maternal age, or baby's birth weights. These findings led to a larger prospective study of 244 primiparous women in Guatemala (Klaus, Kennell, & Sosa, 1981) in which the previous results were substantiated. Moreover, in long term follow up, more babies of mothers without a doula were hospitalized for pneumonia and diarrhea than those whose mothers were supported at birth. These findings suggest that social

support offered by the doula may have a buffering effect that extended beyond the birth process.

The absence of social support was one of several variables studied by Paykel, Emms, Fletcher, and Rassaby (1980) in 120 London women at eight weeks post partum clinic interviews. In this descriptive correlational study, the authors found a 20% incidence of mild clinical depression associated with stressful life events. Associated variables included absence of social support, poor marital relationship, early post partum blues, and maternal youth. These variables were measured by a background information interview with subjective scores given by a rater. Interestingly there was no relationship between clinical depression and obstetrical complications.

The Child's Environment

The child's environment can be conceptualized as divided into animate and inanimate aspects (Yarrow, 1962). The animate includes experiences provided by humans and classified by amount, variety and responsiveness. For example, one aspect of the animate environment is the mother's responsiveness to the infant's noises. The amount of vocalization of the baby is directly related to the mother's responsiveness to the infant's noises, encouraging early speech development. The inanimate or physical environment includes varieties of color, shapes, sizes, and

object responsiveness (noises, movement). An example of inanimate environment is a toy such as a mobile which may be colorful, have different shapes, and may move when the baby kicks the crib. The inanimate environment is related to gross and fine motor development of the baby.

According to Piaget's theory of cognitive development, concrete action characterizes the use of intellect in the child. Children learn best from concrete activities, by touch and manipulation (Wadsworth, 1979). Therefore, experience in sensory stimulation as provided by the animate and inanimate environment, provide the framework for mental development, adaptation, learning and problem solving. Although Piaget based his conclusions on his meticulous records of behavioral observations of rather small numbers of individual children, his theories have been supported by child development and educational research (Wadsworth, 1979).

Research validating the importance of the child's home environment can be divided into two categories, deprivation of stmuli associated with poor development and optimal stmuli associated with optimal development. Studies of infants in foundling homes where physical care was given but there was little opportunity for animate or inanimate stimuli are numerous (Provence, 1962; Spitz, 1965; Skeels, 1966, Caldwell, 1967) and uniform in their results. Children in these situations were less socially alert, less

outgoing, less curious, less responsive, less interested in objects, and less advanced in physical and mental development. There was a significantly greater occurrence of physical illness such as infection and failure to thrive. Because of research describing negative outcomes of infants raised in these circumstances, infants in this country are placed in foster care rather than in orphanages with only physical care.

In one study of orphanage care (Skeels, 1966), thirteen children under three years old were judged to be retarded and were removed from the orphanage. These children were placed in an institution for the retarded and cared for by retarded women residents. This group received much tender loving care from the retarded women. A control group of retarded children remained in the orphanage with custodial care. At the twenty year follow up, Skeels found the group cared for in a more loving individualized manner all self supporting, with a median education of 12th grade. The control group had a median education of third grade, 4 were institutionalized or unemployed, one died and the rest, except for one, were employed at menial jobs. Although this small study has been criticized for examiner bias, the importance of the animate (human) stimuli is implied.

The importance of inanimate stimulation has also been demonstrated according to Carew (in Honig, 1981). "Competent" children were associated with parental provision

of a properly stimulating environment. Some of the positive factors identified in this study included parents who were good arrangers of infant experiences, who provided appropriate play materials including messy items, who read aloud, who avoided restriction and punishment and who were willing to act as teachers and use role play.

Caldwell (1978) also described experiences associated with the optimal development of the child. Those experiences included a stable framework of large amounts of adult contact with a few adults, gratification of needs, a positive emotional climate, and few unnecessary restrictions of early attempts at exploration. The variety of experiences stimulating development include a responsive social environment, varied cultural experiences, moderated amounts of sensory stimulation, and access to certain kinds of play materials.

The environment of the child has been recognized as profoundly influential in shaping a child's potential. The environment may be more predictive of a child's cognitive development than medical predictors such as heredity or Apgar scores, or socio-economic predictors (Caldwell, 1964). An environment that is properly stimulating can be predictive of high cognitive and language development (Elardo, et al., 1962; Harris & Liebert, 1984).

This study focused on the homes of four to six month old infants . Four month old infants with adequate

environmental stimulation demonstrate characteristic behaviors. These babies may hold a rattle for a few minutes and show eagerness to touch objects within reach. The four month olds are not predominately tight fisted, may play with their fingers on their chest, and can roll over. They have the capability of vocalizing moods, such as smiling, cooing, and laughing out loud. They become accustomed to certain routines such as bath time or mealtime. They can show anticipation, especially at food preparation, and enjoy socializing. They may fuss for attention, especially in the late afternoon. They may wail when a toy is taken away or when they are taken out of the bathtub (Gesell, 1974). Infants without human or inanimate stimulation may have a flat affect, may not cry when toys are removed and may not show signs of anticipation.

Six month old infants can sit momentarily without support, can hold a block in each hand, pull up to a sitting position, and bang objects such as a spoon or rattle. They can babble and vocalize several well defined syllables. They can also begin to recognize strangers.

The Relationship of Maternal Social Support to The Child's Home Environment

Several studies have associated dimension of maternal social support with providing stimuli for the child's development. Giovannoni and Billingsley (1970), found

social support to be a significant variable in parental neglect among low income families. These authors surveyed 186 low income families in a west coast metropolitan area. The study group was divided into approximately one third white, one third black, and one third hispanic, with each group further divided into groups classified as neglectful, potentially neglectful, and adequate in mothering. Neglectful mothers were identified by protective services prior to the study, although criteria for these judgments were not stated. Adequate and potentially neglectful mothers were the control families and were selected from public health nurse caseloads. Public health nurses who knew the families rated the families in six areas of childrearing. Those families with no problems were in the adequate group and those families with problems in all areas were in the potentially neglectful group. Adequate mothering was associated with increased mutual aid such as babysitting and visiting and, in black mothers, with high church attendance. "Neglect" was related to high situational stress factors including many children, no husband, and extreme poverty. There was no increase in use or knowledge of formal support systems such as welfare, by the group of neglectful mothers who needed it, as compared to the adequate mothers. Neglectful mothers stated a preference for older, more independent children, and were characterized as spending less time singing, reading

stories, or playing music to their children. The authors found that parental neglect was related to low frequency of contacts with relatives. This study suggested that a lack of maternal social support was associated with a lack in providing a stimulating home environment to the children. Lack of material items was also related to child neglect. However, examples were the lack of a telephone or a car, both of which reduce access to social support and contributed to isolation in today's mobile society.

Social support may be associated with child rearing practices, which are a component of the child's environment. Norbeck and Sheiner (1982) found that low social support was related to poor single parent functioning as measured by rating the child's behavior as excessively aggressive, shy or disturbed. The child's behavior rating was done by the child's preschool teachers. Some mothers in this study who were undergoing counseling were characterized by the lack of a close personal friend and the lack of anyone to call on for practical help. The social network of mothers of children with behavior problems were characterized as lacking closeness to a family member. Although Norbeck hypothesized that low maternal social support was associated with ineffective parenting, it is possible that the lack of social support of the mother was related to poor maternal social skills.

Social support provided to the mother may enable her

to provide a more stimulating environment for her children. Furstenberg (1980) found that teen mothers with high family support were able to increase their education and economic status, features which may also be associated with a more stimulating environment. Similarly, the children of family-supported teens did better in cognitive performance on a preschool inventory, perhaps as a result of a more stimulating environment provided by their mothers and the supporting family members.

Pascoe, Loda, Jeffries, and Earp (1981) described a study of 69 families in which maternal social support was positively correlated with high scores on the Caldwell home observation measure of the environment. The children in this study had been discharged from a neonatal intensive care unit three years prior to this study. Maternal social support was measured by interviewer items based on modified unpublished data from the University of Michigan School of Social Work. High social support scores positively correlated with certain aspects of the child's environment such as organization of the physical and temporal environment, provision of appropriate play materials, and opportunity for variety in daily stimulation. Descriptions of the types or kinds of social support correlating with stimulating environments were unclear and not mentioned in the discussion of results.

In summary, the literature reviewed suggests that a

mother feeling highly cared for and supported may best be able to provide an environment of animate and inanimate stimulation favorable to the growth and development of her child.

Conceptual Framework

The theoretical construct linking maternal social support to the child's environment is provided by role theory. Role can be defined as the patterns of behavior characterizing a position in a community (Robischon and Scott, 1969). These patterns include wants, goals, beliefs, feelings, attitudes, values and actions. Role can be ascribed (sex), achieved (occupational status), adapted or assumed (victim/persecutor). Roles are learned from other members of the culture by imitation of role models, rehearsal of the role and communication with reference groups (Melels, 1975). Inherent in role theory is the interactional nature of other people in the network in defining the role. That interaction can be positive or negative. If positive it constitutes a component of social support. The concept of positive social support has been related to physical and mental wellness and to successful role fulfillment, theoretically and in research literature (Pilisuk, 1978; Lin, Ensel, Sineone, & Kuo, 1979).

In this study the focus is upon the mothering role. The mothering role is a highly complex role with many

expectations. One role expectation of the mother is that she provide an environment stimulating to the child's development. Social support may indirectly influence the mother's ability to provide a stimulating environment by giving the mother nurturance, enabling her to better nurture her child. Social support may directly influence the stimulating environment of the child by exposure to more support people. In this study the focus was on the relationship between maternal social support and the child's home environment.

Summary and Research Question

The Tomlinson study (1982) of which this investigation was a part, examined situational and psychological stress factors related to development of high-risk pregnancy and birth, and the effect of high risk on the maternal adjustment and the mother-child relationship. Since high social support may be a mediator of life stress, such as the stress of role change during early parenting, the aim of this study is to relate the social support of the mother to her ability to provide a stimulating environment for her child.

The purpose of this study was to determine if high social support for the mother is positively correlated with stimulating home environments for four to six months old infants. The research question then was:

"Will mothers perceiving a high degree of social support and feeling highly cared for, best fulfill their role as nurturer by providing a stimulating environment for their children?"

CHAPTER II

METHODS

The following chapter details the design, variables, sample, setting and procedure of this study.

Design

The design of this study was descriptive. In it the independent variable of maternal social support was correlated with the dependent variable of the four to six month old child's home environment. This study was a sub-study and follow up of women in the Tomlinson Study "A Comparative Study of Normal and High-Risk Pregnancies" (1981). As noted in Chapter I, the following research question was asked:

> "Will mothers perceiving a high degree of social support and feeling highly cared for best fulfill their role as nurturer by providing a stimulating environment to their children?"

Variables

Social Support

The independent variable in this study was social support. As noted in the review of literature, this concept has been defined in a variety of ways. For purposes of this study, Kahn and Antonucci's (1980) definition guided the measurement of social support. This definition was operationalized through the use of Norbeck's Social Support Questionnaire (Norbeck, et al., 1981), which measures the affect, affirmation, and aid components of social support conceptualized by Kahn and Antonucci. The NSSQ was also chosen because it is a repeat measure within the larger study and is useful for further research looking at change over time (Miller, 1984).

Home Environment

The dependent variable in this study was the home environment created by the mother for her infant. As noted earlier, the home environment as defined by Yarrow encompasses the animate and inanimate aspects of the mileiu that the child is exposed to. This concept has been operationalized in the Caldwell Home Observation of the Environment (Caldwell & Snyder, 1978). The Tomlinson and Alexander Protocol (4th revision, 1977) was the form of the instrument used.

Intervening Variables

The potentially intervening variables considered in this study were maternal age, education, income, and illness. Another intervening variable was infant illness. These variables have been shown to be intervening factors in parenting styles (Giovannoni & Billingsley, 1970). Particularly, high maternal education has been associated with high HOME scores (Barnard, 1979). Intervening data were collected on the Six Month Interview (see Appendix) which was composed of demographic questions used earlier in the Parent/Infant research project.

Instruments

Norbeck's Social Support Questionnaire

Norbeck's social support questionnaire (NSSQ) has nine questions and requires 20 to 40 minutes to complete. On the first eight questions, the subject is asked to list her support people and then rate each on a Likert scale of 1 to 5 in areas affect, affirmation and aid. Affect consists of two questions that measure how much love and respect the support persons provide. Affirmation consists of two questions on confidence and agreement provided by support persons. Aid consists of two questions that measure the subject's perception of the ability of support persons to provide physical assistance. These scores are added to give

a "total functional" score. Subscale scores for affect affirmation and aid are also computed. High scores indicate high social support and vice versa. Two more questions ask the subject how long she has known each support person and how frequently they have contact. This score is added to the number of support people listed to give a "total network" score. Length of acquaintance and high frequency of contact yield higher scores. The final questions concern the loss of support persons, how many have been lost, and amount of support provided. Items on the last question are added to give a total loss score. The total loss score was not used in this study.

Norbeck recommends the use of subscores for affect affirmation, and aid, as well as the total scores for functional, network and loss. She also suggests averaging each score by dividing it by the number of people listed. This prevents a subject who lists only a few support people, even though she/he gives them high ratings, from scoring lower than those who list many support people. For example, a subject with three support people who rates them all with 5's (the highest score) sets a total score of 15; the same as a subject listing 15 support people each with scores of one. However, if these scores were averaged, the first subject would have an average score of five, and the second subject would have an average score of one.

In this study, there is space for the subject to list

20 support people. Subjects have the option of completing additional NSSQ's if they wish to list more support people. The mean number of support people in Norbeck's (1980) student nurse testing sample group was 13, with a standard deviation of 5. Scores can range from 6 to 600 in total functional, and 3 to 220 for total network. Mean scores from the sample of 75 nursing students were 286.7 for total functional and 112 for total network.

Test-retest reliability has been estimated at .85 to .92 over one week (Norbeck, 1981). Items of network property (number in the network, duration, and frequency of contact) were highly related to affect and affirmation (.88 to .97), and moderately related to aid (.69 to .80), demonstrating a moderately high degree of internal consistency. Loss items showed no significant relationship to items of functional or network properties (.54 to .68).

Tests have also been done on concurrent validity, social desirability bias, and construct validity. When given concurrently with the Social Support Questionnaire by Cohen and Lazarus, the NSSQ had moderate to low correlations (.56 to .31) with the informational and emotional support scales. The NSSQ was administered with the Marlowe-Crowne Test of Social Desirability with no significant correlations, thus demonstrating freedom from social desirability bias. To test for construct validity (using the theory of social support as a mediator of stress) the

NSSQ was administered with Sarason's life events score (LES) and each score was correlated to a negative mood score (POMS). The expectation was that those subjects reporting high social support and high life stress would have a less negative mood than those subjects with low social support and high life stress. No significant relationships were found, one explanation being that the POMS was not a sensitive measure in a nonclinical population (Norbeck, 1981). More research may be needed to verify construct validity.

Caldwell's Home Observation Measure of the Environment

The Caldwell Home Observation of the Environment (HOME) has been used extensively in research and has been correlated with the Stanford-Binet intelligence tests at age three, and with the Bayley Developmental scale during infancy. In this study, the version modified by Tomlinson and Alexander (4th revision, 1977) has been used. This tool has been used in preliminary studies by the principal investigator in the homes of four month old infants, and by other investigators in the homes of six month old infants (Bradley & Caldwell, 1976). This protocol, based on the original HOME, has been approved for use by Caldwell and has been easy for researchers to learn and administer. Interrater reliability averaging .90 has been achieved and maintained without prolonged training (Tomlinson, personal

communication). This tool combines a natural progression of interview data with an observational check list.

One advantage of the Home Observation of the Environment (HOME) tool is its ability to predict cognitive achievement at later ages (Bradley, Caldwell, & Elardo, 1977). Other tools focusing on physiological measures of the infant, such as the Apgar scores have been less successful in predicting future development (Sameroff, 1975).

Caldwell's Home Observation Measurement of the Environment (HOME) is an observational and interview measure of six dimensions of the home environment. These dimensions are:

(1) Emotional and verbal responsivity of the mother.
(2) Avoidance of restriction and punishment.
(3) Organization of the physical and temporal environment.
(4) Provision of appropriate play materials.
(5) Maternal involvement with the child.
(6) Opportunities for variety in daily stimulation.

The emotional and verbal responsivity of the mother includes how often she talks to the baby, how she responds to the baby's noises, and her ability to communicate with the interviewer. Avoidance of restriction and punishment includes no observation of slapping, hostility, or reports of physical punishment. Organization of the physical and

temporal environment assesses outings for the child, babysitters, and the safety of the environment. Provision of appropriate play materials focuses upon different types of toys that use both large and small muscles, infant equipment, and music and books. Maternal involvement with the child includes the mother providing encouragement to advance new skills and structuring the play period. Lastly, opportunities for variety in daily stimulation include care given by the father, having meals with the parents, and social visiting. A yes answer or occurrence of a behavior on each of the 45 items gives the highest score of 45, the most stimulating home environment. Both the interview and observation take about 30 to 45 minutes to complete. Maternal provision of care is a traditional role that is changing as more women are working outside of the home, however, all mothers in this study were the primary care providers for their children. The HOME was designed to observe mothers and is standardized on mothers.

In order to develop the skills necessary to administer the HOME, the investigator completed several activities. The investigator studied the NCAST manual, viewed a training video tape by Dr. Caldwell, and viewed four video tapes of HOME interviews done by Dr. Tomlinson. The investigator scored the video tapes while watching them, then compared her scores with the actual original scores. Interrater reliability ranged from 73-98%. The lower

interrater reliability scores were associated with observation items not visible on the video tape such as item number 18 "ten books visible in the home." In addition, a pilot was done by having a pediatric nurse clinician with established reliability in the use of the HOME accompany this investigator on the first home visit. Interrater reliability on this visit was 82%. Although the total HOME score for this subject was similarly low between raters, specific items differed, thereby lowering the interrater's reliability. This interview was not included in the study data. The second home visit was made with a research assistant on the larger project who had received NCAST training. Interrater reliability on this visit was 93%, well within the level of accuracy established by Caldwell (1978).

Other Variables

Demographic variables were collected on the Six Month Interview (see Appendix C). The six month interview was composed of questions from earlier demographic questionnaires in the Tomlinson study. For purposes of this study only questions on age, income, education and work status were analyzed.

Sample and Setting

The subjects for this study were all recruited from

the research project, "A Comparative Study of Normal and High Risk Pregnancies" (Tomlinson 1982). The subjects were both high-risk and normal, who had four to six month old infants at the time of data collection and who agreed to a follow-up assessment.

These women were a convenience sample of volunteers recruited from the prenatal clinic of a large teaching hospital in the Northwest. The women's ages ranged from 17-35 years and all had at least the tenth grade reading skills necessary to fill out the questionnaires. Subjects included both primiparous and multiparous women, married and single. All subjects were initially identified as low risk when they entered the study, based on the antepartum risk profile used at this institution, which considered primarily physiological factors. The number of subjects in the larger study was 216, about half of whom were recruited at the time data collection began for this study.

In Tomlinson's study, the subjects were interviewed three times by research assistants. At the initial antepartum recruitment visit, subjects were given a background interview and completed several questionnaires. The next visit within 48 hours after the birth included a post partum interview, the Norbeck Social Support Questionnaire, and a feeding observation. At the one month post partum visit a feeding observation and an interview were done and the mothers were also given questionnaires.

Due to the lengthy questionnaire completion time of about one to one and a half hours, subjects were allowed to complete the surveys at home and return them by postage paid mailers.

The decision to interview subjects when their infants were four to six months old was based upon several factors. Normative data are available on the HOME instrument for infants in this age range, enabling comparison to be made with this population. Tomlinson has collected HOME data on women with four to six month infants in a different study, so further similar data might be of use in future analysis.

Potential sample biases included the selection of women willing to participate in a long term study with questionnaires, observations and interviews, and the selection of women seeking care at a university teaching hospital instead of in the private practice community. Since the sample excluded women who declined a follow-up study or who had moved away from the area since their recruitment, data may be biased in unknown ways.

Procedure

All subjects from the Tomlinson study whose infants were four to six months at the time of data collection were asked to participate. The subjects were mailed a cover letter asking them to participate in a home visit (see Appendix A), and an informed consent sheet (see Appendix B).

Approximately one week after the letters were mailed, a phone call was made to set up an appointment time for the home visit. The appointment was set for a time convenient to the mother when the baby would be awake. The appointment was reconfirmed by phone call the day before or the day of the scheduled visit. If the subject had forgotten the appointment, it was rescheduled during the reminder phone call. Approximately five women rescheduled their visits, some many times.

At the home visit, the following order was observed: introductions, the HOME interview, then the mother filled out the questionnaires. First she filled out the six month interview, then the NSSQ. Five other questionnaires were also given to the women for data collection of the principal investigator. Total time for data collection in the home ranged from forty-five minutes to two hours. Most visits lasted about one hour. If inconvenient to fill out at the time, the NSSQ was left with the mother to fill out and return by postage prepaid mailer within a few days. Data collection occurred during March and April 1983.

Analysis

A correlational analysis was performed to relate the subscales on the NSSQ and the total HOME score at four to six months post partum. The characteristics of the sample were described with measures of central tendency. The

subscores of affect, affirmation and aid, along with total functional and total network were correlated to the total HOME score using Pearson's r. Pearson's r measures the positive or negative linear relationship between two continuous variables. The subscores on the NSSQ were compared to the subscores of the HOME to determine if specific areas of strength were associated with each other. Analyses were conducted using the SPSS program.

CHAPTER III

RESULTS

The results are presented in three sections. The first section describes characteristics of the sample, the second describes responses on the NSSQ and the HOME, and the third presents correlations of the NSSQ and the HOME.

Description of the Sample

The final sample consisted of 20 women between the ages of 17 and 34 years, with a mean age of 24.3 years. Eleven of the women were primiparas and nine were multiparas. Table 1 presents a summary of sample characteristics. Babies ranged in age from four to seven months. Three babies who were six months at the onset of the data collection turned seven months old over the time period of rescheduling appointments, and were included in the study.

Of the sample, 16 (80%) were living with the same partner they had when they entered the study, and 4 (20%) were not living with a male partner. Three women (15%) were living alone with their infants. One subject was living with a single woman friend and that friend's two year old child. One subject was living with relatives and her

TABLE 1

CHARACTERISTICS OF SAMPLE MOTHERS

		PRESENT STUDY (n-20)	TOMLINSON STUDY (n-216)
AGE	15-20 YEARS	20%	36%
	21-25 YEARS	45%	39%
	26-30 YEARS	20%	17%
	31+ YEARS	15%	8%
INCOME	1- 6,000	45%	48%
	$ 6,001-10,000	15%	21%
	$10,001-15,000	15%	13%
	$15,001-20,000	25%	8%
	$20,001+	0	7%
PARITY			
	PRIMIPARA	55%	53%
	MULTIPARA	45%	47%

partner.

Years of education ranged from nine to nineteen years, with a mean of 12.8 years. Seven (35%) had some years of college, compared to women having babies in the State of Oregon in 1982, of whom 41% had some years of college. Eight women (40%) in the study group had not completed high school, compared to the state statistics of 19% not completing high school.

Compared to state wide data, women in this study were somewhat younger (only 35% over 25 years) and more likely to be primiparous. According to state wide data 60% of the women giving birth in Oregon in 1982 were over 25 years and only 32% of births were to primiparas (Oregon State Health Division, 1983).

Income levels ranged from under $6,000 per year to $20,000 per year. A yearly income of under $6,000 per year was reported by 45% of the group. The top income range for the sample was $15,000 to $20,000, and 25% of the sample fell into this category.

Although some did babysitting, 55% of the women considered themselves not employed. Five women (25%) were working part-time. One woman was working full-time as a babysitter, and took her baby with her to work. Two women were not working but desired employment. One woman was a full-time student.

Although 30 women were originally recruited, 10 were not included in the final sample for a variety of reasons. One woman had moved. Two women had lost their babies, one to the custody of her husband, the other one to Sudden Infant Death Syndrome. Four women without phones were unable to be contacted directly to set up an appointment for a home visit. A postcard was sent to these four women

asking for a response to the Parent/Infant Research Project office at the institution (see Appendix F for an example of the postcard). One woman responded to the postcard. One woman was unable to find time for a home visit due to full-time work and family conflicts. One subject stated she preferred to return the questionnaires by mail, but did not do this. The first subject visited did not complete the questionnaires completely enough to use the information for statistical analysis. Subsequently, questionnaires were checked before the investigator left the home on following visits. The ten women who did not participate in the study were slightly lower in age (average 21.2 years), income level (60% had yearly incomes of $6,000 or less), and education (average 11.6 years of education) than those participating in the study.

In summary, this was a group of low to middle class women, with a mean age of 24.3 years, and a mean of 12.8 years of education. These women were the main caregivers for their infants. Most lived with a partner or friend although some cared for their infants alone.

Social Support Scores

The number of support people listed in the support network ranged from three to nineteen people. One woman listed her baby as a support person. All subjects listed relatives as support people, 75% also listed friends, and

only 20% listed work associates or professionals as support people. On the average, most support people were known longer than five years. The mean number of support people was nine. Norbeck's (1981) mean was thirteen. One quarter of the subjects listed five support people and one quarter listed eight support people.

Table 2 portrays a comparison of network composition with Norbeck's normative data. When Norbeck collected normative data on nursing students (1981), family and relatives were listed as the source of greatest support by 97.1% of the subjects.

The total functional score is comprised of all the answers to questions one through six; questions on love, respect, confidence, agreement, borrowing money, and provision of physical aid. Both the total functional score and the average total functional scores were examined to compensate for the extreme high scores of women listing many support people. Table 3 portrays a comparison of study data with Norbeck's normative data. Norbeck's sample (1983) reported significantly higher scores than subjects in the present study for both the total functional score and the total network score.

Home Observation Measure Of Environment (HOME) Scores

HOME scores ranged from 29 to 43 out of a possible range of 0 to 45. (See Table 4 for comparison of the Home

TABLE 2

COMPOSITION OF NETWORK MEMBERS
LISTED BY PERCENT OF SAMPLE

	CURRENT STUDY (n=20)	NORBECK'S (1981) NORMATIVE DATA ON MEN AND WOMEN EMPLOYEES (n=136)
RELATIVES	100%	97%
WORK	20%	50%
FRIENDS	75%	94%
PROFESSIONALS	20%	10%

TABLE 3

COMPARISON OF PRESENT STUDY

AND NORBECK (1983) SCORES

	PRESENT STUDY (n=20)	NORBECK (1983) (n=89)	t TEST
TOTAL FUNCTIONAL SCORE			
RANGE	75-393	43-567	
MEAN	193.75	281.2	3.02*
STANDARD DEVIATION	94.0	121.5	
TOTAL NETWORK SCORE			
RANGE	31-165	20-199	
MEAN	82.7	111.9	2.90*
STANDARD DEVIATION	9.36	44.7	

*p=< .05

TABLE 4

COMPARISON OF HOME SCORES
REPORTED BY THE PRESENT SAMPLE AND BARNARD

	PRESENT STUDY (n = 20)			BARNARD (1979) (n = 193)		
	MEAN	STANDARD DEVIATION	RANGE	MEAN	STANDARD DEVIATION	t-TEST
Total HOME (possible range 0-45)	36.9	3.76	29-43	32.7	5.06	3.61*
I. Emotional and Verbal Responsibility of Mother (possible range 0-11)	9.0	1.32	7-11	9.2	1.86	.47
II. Avoidance of Punishment (possible range 0-8)	7.1	.89	5-8	6.7	1.14	1.52
III. Organization of Environment (possible range 0-6)	5.6	.60	4-6	4.8	1.10	3.36*
IV. Play Materials (possible range 0-9)	6.5	1.57	4-9	4.8	1.66	4.30*
V. Maternal Involvement (possible range 0-6)	5.8	.44	5-6	4.7	1.46	3.26*
VI. Variety in Daily Stimulation (possible range 0-45)	3.1	1.17	0-5	2.5	.92	2.79*

*p = < .05

scores reported in the present study and Barnard's 1979 study). Marked differences between the total mean and means on four subscales were found between Barnard (1979) and the present study. In addition to different total HOME scores for the present sample, the t test revealed significantly higher means in the present study on the subscales of organization of the environment, provision of appropriate play materials, maternal involvement, and variety in daily stimulation.

Pearson's correlation coefficients among the subscales and the total scores revealed several significant associations. (See Table 5). In the present study, the total score was significantly positively correlated to the subscales of emotional and verbal responsitivity of the mother, avoidance of restriction and punishment, provision of appropriate play materials, and variety in daily stimulation. The subscale of avoidance of restriction and punishment was also positively correlated with variety in daily stimulation. It is interesting to note that the correlation coefficients for this study differ markedly from those reported by Caldwell which are found in Table 6. Caldwell reported all mild to moderate positive correlations among the total scores and the subscales, although none were significant. In the present study four negative intercorrelations were noted. There was no similar pattern between the two studies in the direction or strength of the correlation coefficients.

TABLE 5

CORRELATION COEFFICIENTS AMONG SUBSCALES
OF THE HOME QUESTIONNAIRE:
PRESENT STUDY N = 20

	I	II	III	IV	V	VI
Total HOME Score	.71**	.62*	.29	.81**	.12	.67**
Subscore I Emotional and Verbal Responsibility of Mother		.36	-.23	.50	.23	.24
Subscore II Avoidance of Punishment			.24	.17	-.10	.50*
Subscore III Organization of Environment				.34	-.40	.21
Subscore IV Play Materials					.11	.34
Subscore V Maternal Involvement						-.15
Subscore VI Variety Daily Stimulation						

*p = < .05
**p = < .01

TABLE 6

CORRELATION COEFFICIENTS AMONG SUBSCALES

OF THE HOME QUESTIONNAIRE:

CALDWELL N-174*

	II	III	IV	V	VI
SUBSCORE I	.30	.23	.36	.29	.32
SUBSCORE II		.20	.28	.18	.10
SUBSCORE III			.40	.23	.16
SUBSCORE IV				.62	.21
SUBSCORE V					.30
SUBSCORE VI					

*no correlations of statistical significance

Correlation of the NSSQ and the HOME

This study sought to answer the question "Is high maternal social support positively related to a more stimulating home environment for the child?" Based on the results of this study, no relationship was found. The range of correlations was between -.03 and .37. The highest correlations found were .37 and .30 between variety in daily stimulation and the total functional and total network scores respectively. Neither these nor any other correlations between the NSSQ scores and HOME scores were statistically significant. (See Table 7).

Other Variables

Additional information was collected on maternal and infant health and on involvement in group activities. Some maternal illness, mostly colds and "flu", was reported by 55% of the mothers. Most babies (85%) had been seen by a doctor for illness other than regular check-ups, usually for ear infections, colds and rashes. None of the babies had been hospitalized. Although over half of the mothers were not active in any religious group, about 30% attended church activities and 55% of the women were involved in some sort of alternate group activity such as a special interest or exercise group.

In summary, this sample of young, lower socioeconomic

TABLE 7

CORRELATION OF SELECTED NSSQ SCORES WITH HOME SCORES

	TOTAL FUNCTIONAL	TOTAL NETWORK
TOTAL HOME	.25	.16
I Emotional and Verbal respons. of mother	.03	-.03
II. Avoidance of punishment	.23	.17
III. Organization of Environment	.19	.19
IV. Play Materials	.15	.08
V. Maternal Involvement	-.15	-.24
VI. Variety in Daily Stimulation	.37	.30

* $p =< .01$

status women reported significantly lower social support than Norbeck's (1983) sample of employees at a medical center. Conversely, this sample received somewhat higher scores on the HOME scale than Barnard's (1979) comparable sample. High social support was not found to be related to a more stimulating home environment.

CHAPTER IV

DISCUSSION

The results are discussed in the following sections: sample, social support, HOME, and the relationship between the HOME and the NSSQ.

Sample

The sample for this study was unique in that it was selected from a population that had already agreed to long term participation in research. Women in this study were mostly clinic patients at a University teaching hospital and had been willing to participate in multiple questionnaires and interviews throughout their pregnancies and up to seven months after the birth. Women willing to be so involved in such a research project may be more interested in their babies development and even in maintaining their social support systems.

Most women seemed to enjoy the home visit session. Several inquired if the previous researcher from the Parent/Infant Research Project would be visiting, and many referred to their previous investigator by first name. This indicates that there was a pleasant exchange and rapport

between investigator and subject, perhaps further influencing social desirability bias on answers. It was unknown what information regarding infant development might have been shared at previous visits of investigators. Subjects were aware that the investigators were nurses interested in maternal and infant health, also introducing the element of social desirability bias.

In comparing the sample to the larger research project, the present sample was similar in age and parity and income level. Comparing the present sample to the state data, the present sample was younger and had a somewhat lower educational level than average new mothers in Oregon. It is not surprising that a younger sample is less educated given the relationship of greater age to higher education. It is also expected that this particular sample might be younger and less educated than the norm given in that it was drawn from a lower socioeconomic population. Data gathered on 675 teenage mothers over a 2 year period (Polit & Kahn, 1986) support the association of lower socioeconomic populations with a higher incidence of younger mothers with lower education. Data on income levels of women giving birth were not available at the state level.

Seven of the women (35%) had some years of college. Compared to the income levels of the sample of all under $20,000 per year and 45% under $6,000 per year, even lower levels of education might have been expected. However, some

women were wives of medical students or dental students. Their incomes at the time were low, but the values they embraced may have been more middle class.

Social Support

In general, NSSQ scores were lower for this sample as compared to Norbeck's data. These lower scores may reflect the isolation of young mothers or less support with a lower socioeconomic population. Conversely, the lower scores may simply indicate that new mothers may draw support mainly from a partner or a few female relatives. Also, Norbeck's data may have been inflated, having been derived from a sample with middle class values and with many opportunities for interaction and support from a variety of sources.

Inman (1983) administered the NSSQ to 25 low income Anglo mothers at the same university as the present study. The mean total network score in the Inman study,101.8, was significantly higher than in the present study, 82.7, ($t=2.04$; $p<.05$). It is interesting that these demographically similar groups differed significantly, however, the difference could be accounted for by the small sample sizes. In addition, Inman administered the NSSQ verbally in the hospital setting which could have created a difference in responses.

Home Environment

Caldwell's original data were drawn from 174 families

in Arkansas. Barnard's (1979) sample, however, is more similar to the present sample in that the 193 families were selected from the same geographic area. Comparison of Barnard's sample and the current sample revealed several significant differences in the total score and four subscales; organizations of the environment, provision of appropriate play materials, maternal involvements and variety in daily stimulation. On each of these subscores of the HOME, the current sample had significantly higher scores. It is not clear why this sample would score higher on the HOME than Barnard's sample drawn from a large health maintenance organization. Perhaps the educational level of the mothers in the present sample (35% had some college) had an impact in spite of their poor financial state. Several of these women were students or wives of graduate students and may reflect middle class values and interest in infant development. Perhaps the motivation and interest of the women participating in this study could have been another factor in contributing to the rather high HOME scores.

The above four subscales of the HOME have been identified by Elardo, Bradley and Caldwell (1975) as being strongly related to scores on the 36 month Stanford Binet. However, other factors have been shown to be associated with increased scores on the Stanford-Binet such as years of maternal education (McCall, et al., 1972). Factors that influence the HOME may also influence the Stanford-Binet.

For example, intelligence may also have a genetic component (McCall, et al., 1972). Therefore, a highly intelligent woman might be expected to have a higher education, provide a more stimulating environment and pass her genetic makeup to the child without any casual relationship between maternal education, home environment, and/or infant I.Q.

Relationship of Social Support and Home Environment

The lack of significance between the NSSQ scores and the HOME scores may be related to several factors. It is possible that perhaps there is no relationship between scores on these two instruments. The NSSQ was developed to describe emotional and tangible support networks. As a descriptive tool, it may not be valuable as a predictor of maternal functioning as operationalized by the HOME tool. It could be that a person only needs support from one or two key people for adequate functioning, yet the NSSQ measures broader dimensions of support. The total NSSQ scores have not been associated with inadequate functioning as a diagnostic tools, although the absence of a confidant (question number 3) was significantly associated to problems of single parents (Norbeck & Sheiner, 1982). In this study the absence of a confidant was not analyzed. An attempt was made to correlate high scores on questions 3 and 4 (how much can you confide in this person, and how much does this person agree with or support your actions or

thoughts?) with better HOME scores. However, no relationship was found.

It was postulated, based on role theory, that social support would promote more adequate role fulfillment in the mother by allowing her to provide a more stimulating environment for her child. Perhaps, however, the range of social support is not significant for role fulfillment unless it falls below a critical point not tapped in this study. Although the means were significantly lower than Norbeck's (1983) data, each mother reported at least 3 support people, most rated their support people at the 4 and 5 level, and 95% identified a close friend or confidant. Perhaps that is all it takes from the perspective of social support to facilitate provision of a stimulating home environment.

Perhaps the concept of optimal home environment is not being validly measured by the HOME. For example, one point is scored if the baby is at the table with you and your partner for one meal a day. Many families in this sample had their meals at a coffee table and watched television during their dinners. Perhaps this instrument requires consideration in light of changes in society over time. Points are scored for organization of the environment, such as a consistent place for the toys, and going out of the house at least four times a week. Organization of the environment items and avoidance of

restriction and punishment items may reflect higher scores with a four to six month old than with a one or two year old, who plays more actively and tests his limits more. Conversely, total scores are generally higher in homes of older children (Grandy, 1979). The effect of the infant variable on the HOME is not known. For example, a highly responsive charming baby may actually stimulate his/her caregivers to provide him/her with an environment of optimal development.

There may be an unknown factor that is not being measured in this study. Just as maternal education is positively associated with both the HOME and the Stanford-Binet, there may be an independent factor associated with high social support and/or the HOME. For instance, an intrapsychic or personality factor that promotes a supportive or non-supportive responses from the social network may also affect the woman's tendency to provide a stimulating environment for her child. Other unidentified psychological variables in the mother, the infant, or the support system may also influence results.

The lack of correlation between the NSSQ and the HOME was surprising in that the two tools do measure some overlapping areas. For example, the HOME asks if the baby sees relatives once a month or more. The NSSQ also asks how often you see support people. Since all subjects listed relatives as support people, it seems reasonable to assume

that if a subject answered "frequently" on one scale, that would be reflected in the other.

The overall narrow range of scores of this sample population reduces the possibility of significant findings. The small sample size makes it difficult to pick up significance. A power analysis indicates that a sample size of 56 would be necessary to demonstrate significance at the level of $p=<$ .05, assuming the sample fit with the population is .40 (Cohen, 1977).

In summary, it is not clear why NSSQ scores were generally low in this sample or why HOME scores were generally high. Perhaps the explanation lies in the lower socioeconomic status of the group, but other methodological considerations were considered. Likewise, it is not clear why no relationship between the NSSQ and the HOME was found. Again, methodological problems including restricted sample size and restricted range of scores were postulated.

CHAPTER V

This chapter contains a summary followed by limitations of the study, implications for nursing practice and finally recommendations for future research.

Summary

The purpose of this study was to determine if high social support would be related to a stimulating home environment for infants four to six months of age. The study was based on the conceptual framework of role theory. Roles are learned from other members of the culture. Positive social support provided by network members has been related to successful role fulfillment. Since one role of the mother is to provide an environment stimulating to her child's development, this study examined the association of high maternal social support to items in the child's environment associated with optimum development.

A convenience sample of 20 women with infants four to seven months old were intervied using Caldwell's Observation Measure of the Environment (Tomlinson and Alexander Protocol, 4th revision, 1977). The women also completed the

Norbeck Social Support Questionnaire and a demographic questionnaire. The NSSQ and the HOME were not significantly related.

Limitations

This study contained several limitations that may account for the fact that there were no significant associations between scores on the NSSQ and the HOME. Most critical was the small sample number of twenty women and infants.

The tools used may not be sensitive enough to sift out problem areas in this sample. Although the HOME has not set pathological limits, total scores below twenty are associated with poor infant development. The lowest score in this group was twenty-nine. Therefore deficiencies significant enough to effect infant development may not have been present. It also seems possible that a mother agreeing to be observed with her infant was on her best behavior, thereby including an element of social desirability bias on this observation scale. HOME scores have differed with the age of the child, usually increasing with age. This sample included babies four to seven months old, which may include infants of markedly different abilities. The HOME may be becoming outdated in some of the questions.

The NSSQ is a tool in which normative data for pregnant and post partum women are still being collected. Many women tended to leave parts blank and were reminded to

fill them in. Some women questioned the clarity of the questions. For example, some mentioned that their relatives would provide aid but could not because they lived too far away. In this small sample the scores varied widely according to the number of support people listed. The NSSQ is a self reporting questionnaire with the woman reporting her perception of social support. The actual validation of that support was beyond the scope of this study. The NSSQ has been reported to be free of social desirability bias in early testing, yet all women listing a partner gave him a maximum score. In fact, when a subject lists a support person that person is typically given a higher score, predisposing to higher total scores. In most studies of social support a support person is rarely given a low score.

This study could be improved by a larger sample and wider socioeconomic representation, including subjects receiving care from private caregivers. Future research also needs to consider the infant variable. Is a more charming, alert, sociable infant going to elicit more responses from his environment including caregivers? Further investigation including a measurement of stress would also help to validate past research and theories regarding social support as a mediator of life stress.

Implications for Nursing

Although no relationship was found with the social

support measurement and the HOME, social support is related to other factors such as role fulfillment and wellness (Lin, et al., 1979) and is therefore still important to nursing. Specifically, since roles prescribe behavior in standard situations such as parenting, nurses can enhance optimal parenting behavior by modeling and teaching. Research results on social support as a buffer of life stress support the nurse's mobilization of a client's network as a means to promote wellness.

Nurses should be familiar with aspects of the environment that promote optimum infant development, so they can share that knowledge with parents and caregivers when appropriate. The 45 items on the HOME tool reflect the different kinds of stimulation identified for optimal infant development. This includes specific behaviors of the mother such as responding to the baby's vocalizations, showing affection, and praising the baby, as well as provision of appropriate toys and books and exposure to environments outside of the home.

Suggestions for Further Research

Validity testing for the NSSQ instrument would be of value in further research. Tools to measure social support in other research projects such as Pascoe et al. (1981) and Norbeck and Tilden (1983) given concurrently with the NSSQ would help standardize the tool and the different studies.

Testing the instrument with a clinical population such as neglectful parents on entry into a rehabilitation program would help demonstrate if this tool had diagnostic value. Also, administering the NSSQ to a sample of "successful" parents of happy gifted children might help to identify if ideal scores exist. Positive elements of the NSSQ, i.e. rating of 5's on the affirmation questions, were analyzed in this study without significance. Perhaps the lack of certain elements should be examined more closely such as Norbeck and Sheiner (1982) did in their study of single parent functioning, where the lack of a confidant was significant.

Replication of the study with a larger sample size and different populations would add more clarity to the findings. This present sample was necessarily small and of a very select population. Ideally, subject recruitment should continue until 60 to 70 mothers are inducted to provide a sufficient number for statistical significance. Subjects should be accessed through several health care facilities such as private care providers, public clinics, and health maintenance organizations, in order to increase the range of demographic characteristics.

Updating the HOME tool to be more age specific is one area of further investigation. While it is generally recognized that the total HOME score increases with age, particular items could be deleted or tailored to the infant

six months old and under. Specifically, the following items seem preferential toward the older child; having three or more books of his own, having stories read to the baby 3 times a week or more, having a push or pull toy, having a special place to keep her toys, going to the grocery store once a week and being taken out of the house 4 times a week. It would be of interest to see if these items are truly significant at such a young age.

Updating the HOME tool to reflect today's changing society of increasing single parent households would also be of interest. For instance, the question that asks if baby sits at the table to eat one meal per day with the mother and father assumes a two parent family. This question receives an automatic "no" answer if the mother is a single parent and does not have a man consistently playing the fathering role. Similarly, another question asks if the father, or father figure, provides care every day. Analysis of these items for significance with the I.Q. scores, for example, would have rather specific implications for enhancing the mother's social support. Several families in this sample ate meals on the coffee table in front of the television set, having little conversation with each other, much less with the baby, further confounding the relevance of this item as living patterns change over time.

In summary, while the finding of this study are inconclusive regarding the relationship of social support to

home environment of the infant, the study does serve to point out several important areas for future investigation. Validity testing of the NSSQ, replication of the study with increased sample size and diversity of sample sources, and updating the HOME tool or tailoring it for very young subjects are three areas to be considered.

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APPENDIX A

COVER LETTER

THE OREGON HEALTH SCIENCES UNIVERSITY

School of Nursing
Office of Research Development
and Utilization

3181 S.W. Sam Jackson Park Road Portland, Oregon 97201 (503) 225-7796

Parent/Infant Project

Dear

Thank you for agreeing to participate in this follow-up study of you and your baby which we discussed with you during the last home visit when your baby was about one month old. Now that your baby is almost six months old, we would like to arrange another home visit and talk further about how things are going with you.

During this visit we will do a short interview with you regarding your activities with your child as well as an observation of your child. You will also be asked to fill out questionnaires as you have done before. The total time of the visit will be approximately one hour. We will contact you by phone in the next two weeks. If you are willing to have us visit we will set up an appointment at a time convenient for you when the baby will be awake. We will pick up the consent form at the time of the home visit. If you have any questions or if you have a new address or phone number, please call the Parent/Infant Project at 225-7877 (8:00 a.m. to 5:00 p.m.) or Ellen Mann 645-5793 (evenings).

Thank you for allowing us to continue to follow you and your child. We appreciate your sharing your experience with us.

Sincerely,

[redacted]

Patricia Tomlinson, R.N., M.N.
Principal Investigator

[redacted]

Ellen Mann, R.N., B.S.N.
Graduate Student

[redacted]

Susan Miller, R.N., B.S.N.
Research Assistant

[redacted]

Christine Nelson, R.N., B.S.N.
Research Assistant

APPENDIX B

CONSENT FORM

THE OREGON HEALTH SCIENCES UNIVERSITY

School of Nursing
Office of Research Development
and Utilization

3181 S.W. Sam Jackson Park Road Portland, Oregon 97201 (503) 225-7796

Parent Infant Research Project

I _____ agree to participate in follow-up studies of the investigation "A Comparative Study of Maternal Charactistics in Normal and High-Risk Pregnancies" under the supervision of P. Tomlinson, R.N., M.N., Associate Professor of Nursing. This study aims to explore women's social support experience and the infant's environment. The goal of the study is to assist in developing better health care for families.

The procedure in which I will be asked to participate will include one home visit lasting about one hour, which will include observations of parent child interactions, an interview, and questionnaires.

I understand the only risk to me may be the inconvenience caused by scheduling the procedure requested, and the personal nature of some of the questions that may cause some temporary discomfort. Since the major benefit of the study is to contribute knowledge which may benefit families in the future, I understand that it may be of little benefit to me.

I understand that all records will be confidential and stored during and after the study so that only the investigators on this project will have access to them and that anonymity will be protected.

Patricia Tomlinson and Ellen Mann have offered to answer questions I may have regarding my participation in this study. I understand I am free not to participate or to withdraw from participation in this study at any time and it will in no way affect my relationship with the Oregon Health Sciences University.

It is not the policy of the Department of Health and Human Services or any other agency funding the research project in which you are participating to compensate or provide medical treatment for human subjects in the event research results in physical injury. The Oregon Health Sciences University, as an agency

THE OREGON HEALTH SCIENCES UNIVERSITY

School of Nursing
Office of Research Development
and Utilization

3181 S.W. Sam Jackson Park Road Portland, Oregon 97201 (503) 225-7796

of the State, is covered by the State Liability Fund. If I suffer any injury from the research project, compensation would be available to me only if I establish that the injury occurred through the fault of the Center, its officers, or employees. If you have any further questions, please call Dr. Michael Baird, M.D. at (503) 225-8014.

I have read the above and agree to participate in the study.

Signature_____ Date_____

Witness_____ Date_____

APPENDIX C

SIX MONTH INTERVIEW

Code ___ ___ ___ ___ ___ ___ ___ ___
(1) (2) (3) (4) (5) (6) (7) (8)

Six Month Interview (SMI)

Please read each question and answer carefully, then circle the one answer that most applies to you. If none of the answers for a question apply to you, please write in a correct answer.

Thank you for your help with this research project.

1. Today's date _____ ___ ___
month day year

2. When was your baby born? _____ ___ ___
month day year

3. With whom are you now living?
   1. living with another partner
   2. living alone (no partner)
   3. living with relatives/friends with partner
   4. living with relatives/friends without partner
   5. still living with same partner

4. How many people are living in your household? _____
number

5. What is your work status now?
   1. not employed outside the home
   2. employed, part-time
   3. employed, full-time
   4. unemployed, but would like to work
   5. student
   6. on leave

6. If you are working, please describe the work you do: _____

_____

7. If working or planning to go to work soon, what would you say is your main reason?
   1. We need the money, but would stay home if we didn't.
   2. Afraid of interrupting my career, but would stay home if that wasn't a factor
   3. I see no reason to stay home with the baby and I like to work.
   4. I need the change from household and child care routine.
   5. other _____

8. If you are working full or part time, who provides the child care?
   1. my partner
   2. myself, the baby goes with me
   3. relative
   4. one babysitter
   5. more than one babysitter

9. What kind of help are you getting from your partner in child care tasks?
   1. equal responsibility for tasks
   2. I give most of the care with occasional help from partner.
   3. little or no help from partner

10. What do you think of the help you are getting from your partner?
   1. no problem since it's an acceptable arrangement
   2. occasional or moderate conflict
   3. creates a lot of conflict and marital problems

11. What other kind of help are you getting?
   1. occasional baby sitting
   2. regular (1-3 times per week) help
   3. daily help from relative or employee

12. If working or planning to go to work, what effect do you think your employment will have on your baby?
   1. It will have a good effect.
   2. It will have a bad effect.
   3. It will have no effect.
   4. I don't know. Please explain: _____
   5. Does not apply. I am not employed or planning to be.

13. If employed or planning to go to work, what effect do you think your employment will have on you?
   1. I will be a better mother.
   2. I will not be able to be as good a mother.
   3. It will not affect me as a mother.
   4. I don't know. Please explain: _____
   5. Does not apply. I am not employed or planning to be.

14. Approximately what is your current yearly family income?
   1. $1-6,000
   2. 6,001-10,000
   3. 10,001-15,000
   4. $15,001-20,000
   5. 20,000-30,000
   6. 30,001-40,000
   7. 40,001 or above

15. Have you experienced any illness since the birth of the baby?
   1. yes, describe: _____
   2. no

16. How many times have you moved since the baby was born? _____ number

17. How often do you participate in religious activities
   1. inactive
   2. one to two times a year
   3. once a month
   4. weekly or more

18. Please list any clubs or groups you have attended in the past year. (exercise, mothers groups, special interest, religious)

Name of group	Number of times attended since baby's birth	Number of years attended	How important is this group to you?

1. not at all
2. a little
3. moderately
4. quite a bit
5. a great deal

APPENDIX D

NORBECK SOCIAL SUPPORT QUESTIONNAIRE

SOCIAL SUPPORT QUESTIONNAIRE

Code ___ ___ ___ ___ - ___ ___ ___ Number_____

Date _____

Test No._____

PLEASE READ ALL DIRECTIONS ON THIS PAGE BEFORE STARTING.
Please list each significant person in your life on the right Consider all the persons who provide personal support for you or who are important to you now.

Use only first names or initials, and then indicate the relationship as in the following example:

Example:

	First Name or Initials	Relationship
1.	Mary T.	Friend
2.	Bob	Brother
3.	M.T.	Mother
4.	Sam	Friend
5.	Mrs. R.	Neighbor

etc.

Use the following list to help you think of the people important to you, and list as many people as apply in your case.

-- spouse or partner
-- family members or relatives
-- friends
-- work or school associates
-- neighbors
-- health care providers
-- counselor or therapist
-- minister/priest/rabbi
-- other

WHEN YOU HAVE FINISHED YOUR LIST, PLEASE TURN TO PAGE 2.

Personal Network

	First name or initials	Relationship
1.	_____	_____ [34]
2.	_____	_____ [35]
3.	_____	_____ [36]
4.	_____	_____ [37]
5.	_____	_____ [38]
6.	_____	_____ [39]
7.	_____	_____ [40]
8.	_____	_____ [41]
9.	_____	_____ [42]
10.	_____	_____ [43]
11.	_____	_____ [44]
12.	_____	_____ [45]
13.	_____	_____ [46]
14.	_____	_____ [47]
15.	_____	_____ [48]
16.	_____	_____ [49]
17.	_____	
18.	_____	
19.	_____	
20.	_____	

For each person you listed, please answer the following questions by writing in the number that applies.

1 = not at all
2 = a little
3 = moderately
4 = quite a bit
5 = a great deal

Question 1:

How much does this person make you feel liked or loved?

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____
12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____

Question 2:

How much does this person make you feel respected or admired?

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____
12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____

GO ON TO NEXT PAGE

1 = not at all
2 = a little
3 = moderately
4 = quite a bit
5 = a great deal

Question 3:

How much can you confide in this person?

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____
12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____

Question 4:

How much does this person agree with or support your actions or thoughts?

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____
12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____

GO ON TO NEXT PAGE

1 = not at all
2 = a little
3 = moderately
4 = quite a bit
5 = a great deal

Question 5:

If you needed to borrow $10, a ride to the doctor, or some other immediate help, how much could this person usually help?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Question 6:

If you were confined to bed for several weeks, how much could this person help you?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

GO ON TO NEXT PAGE

Question 7:

How long have you known this person?

1 = less than 6 months
2 = 6 to 12 months
3 = 1 to 2 years
4 = 2 to 5 years
5 = more than 5 years

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Question 8:

How frequently do you usually have contact with this person? (phone calls, visits, or letters)

5 = daily
4 = weekly
3 = monthly
2 = a few times a year
1 = once a year or less

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

PLEASE BE SURE YOU HAVE RATED EACH PERSON ON EVERY QUESTION. GO ON TO THE LAST PAGE.

9. During the past year, have you lost any important relationships due to moving, a job change, divorce or separation, death, or some other reason? [54]

_____ 1. No

_____ 2. Yes

IF YES:

9a. Please check the category(s) of persons who are no longer available to you.

_____ spouse or partner [55]

_____ family members or relatives [56]

_____ friends [57]

_____ work or school associates [58]

_____ neighbors [59]

_____ health care providers [60]

_____ counselor or therapist [61]

_____ minister/priest/rabbi [62]

_____ other (specify) _____ [63]

9b. Overall, how much of your support was provided by these people who are no longer available to you?

_____ 1. none at all

_____ 2. a little

_____ 3. a moderate amount

_____ 4. quite a bit

_____ 5. a great deal

APPENDIX E

HOME

4 MONTH INTERVIEW

FEEDING OBSERVATION

1. Try to obtain this observation before the interview, if possible.
2. Try to observe in the room the feedings are most often done.
3. Sit to the side of the mother - not 180°, but not face to face.
4. Observe length of feeding up to 15 minutes. Keep track of total feeding time.
5. May observe for Caldwell items from time you enter the home.
6. Instruct the mother that you will be observing and writing during the feeding and are not going to converse during the observation. She is to feed as she usually does and try to ignore your presence.
7. May begin to interview for Caldwell items if mother is still feeding after 15 minutes.

CALDWELL

I have some questions about you and the baby I would like to ask.

I will be writing while we talk so I won't miss anything.

Praise of baby	positive response from mother	11___
1. Typical day - You will remember that we are interested in knowing the kinds of things you and your baby are doing here at home. Could you describe a typical day of her/his for me? (Get most recent normal day.) Was yesterday usual? Could just describe that then - starting with when s/he woke up. Time up Eating times - how long do you feed each time? - ever at table with you and partner? Bath time Play times - doing what Nap times Bed times	1 meal/day	43___
2. Who besides you gives care to baby? (May know from previous questions.)	father q day	41___

Mo initiates vocalization to baby, 2X	1___
Mo responds to baby vocalizations with sound, 1X	2___
Mo teaches vocally, 1X	3___
Mo initiates verbal exchanges and/or is wordy, 3X	5___
Mo praises baby, 2X	
Mo caresses baby, 1X	10___
Mo responds positively when baby praised	11___
Mo does not interfere with baby's actions >3X (Protection not counted.)	17___

3. How often in a usual week do you go out and take the baby with you? — 4 per week — 22___

   If < 4/week ask if baby has been out any other time.

   ___ times where go? — stimulating public place 1/week — 21___

4. Do you get out without the baby any? Tell me about the last week since (date) _____

   How often? (approx.) Time gone (approx.)

5. Who sits when you leave the baby? Do you try to get the same person each time you leave the baby? — ≤ 3 regular substitutes — 20___

6. Babies learn so fast in these early months. What kinds of things do you do with your baby to help him/her learn new skills?
   i.e., helps to roll over
   putting things out of reach so baby can try to get it
   (May observe this.) — helps learn new skill — 37___

7. Some babies really like to be messy, like splashing water, and messing in their food - Does yours? How often does s/he do that kind of play? — mo allows occasionally 3X/1 week — 7___

8. Does your child do anything yet that you object to and that you feel you need to use discipline for? What is that? How do you handle that? — physical punishment 0-1 X in last week — 15___

Mother's time with baby.

9. Do you ever find yourself talking with the baby while you work? Like telling her/him what you're doing - asking how they like that, etc. — yes — 36___

Play things and time.

10. I have several questions about things your baby plays with. Most people feel that toys and play things have something to do with helping a baby grow and mature. What kind of things do you have for your baby which s/he now uses or plays with?

    has muscle activity toy - crib gym, ball, jumpseat, door swing — 26___

_____

Mo initiates vocalization to baby, 2X — 1___
Mo responds to baby vocalizations with sound, 1X — 2___
Mo teaches vocally, 1X — 3___
Mo initiates verbal exchanges and/or is wordy, 3X — 5___
Mo praises baby, 2X — 8___
Mo caresses baby, 1X — 10___
Mo responds positively when baby praised — 11___
Mo does not interfere with baby's actions >3X (Protection not counted.) — 17___

child must be allowed to work with toys

has push or pull toy		27___
has stroller, walker, Kiddie car - wheels that child can ride on		28___
learning equipment appropriate to age - cuddly toy		30___
for learning		
- to increase stimulation, i.e., mobil, high chair, play pen		31___
- hand-eye coordination toys in-and-out toys, fit-together toys, beads (snap) crib gym		32___
- stacking or nesting toys, blocks, circles on a stick		33___
- toys for literature and music		
books	3 books	45___
musical rattle and books	both	34___

11.	What kind of toys has the baby gotten recently?	toys that ↑ development, ↑ new skills	40___
12.	Does s/he play with them? How does s/he get to know the new toy?	mo plays with toy with baby 1st time	38___
13.	Do you give her/him things to play with? i.e., hand him/her things start mobil moving	mo structures time	39___
14.	Where do you keep her/his toys?	consistent place that baby can get to	24___
15.	Do you have any pets?	to play with or look at	19___
16.	Have you ever read to her/him? Does anyone else? How often? (Reassure that this isn't expected.)	3X/week	42___
17.	Have you taken baby for any other well baby visits since the 1 month one when we last saw you?		
	2 month	had 2 mo.	
	4 month	appt. for 4 mo.	23___
18.	Do you have any relatives (or close friends that you would turn to like a relative) that you see with the baby on a regular basis? How often is that?	1/month	44___

Mo initiates vocalization to baby, 2X	1___
Mo responds to baby vocalizations with sound, 1X	2___
Mo teaches vocally, 1X	3___
Mo initiates verbal exchanges and/or is wordy, 3X	5___
Mo praises baby, 2X	8___
Mo caresses baby, 1X	10___
Mo responds positively when baby praised	11___
Mo does not interfere with baby's actions >3X (Protection not counted.)	17___

OBSERVATIONS TO MAKE DURING INTERVIEW

Mother initiates vocalization to baby 2X - (not in response to baby - may be words or sounds).	1___
Mother responds to baby's vocalizations with vocal sound once.	2___
Mother tells the name of an object during visit or says the name of a person or object in a teaching manner.	3___
* Mother's speech is clear and audible. (Interviewer can understand and communicate with mother.)	*4___
Mother initiates verbal exchanges with interviewer - asks questions spontaneously or gives more than asked for. (Does either 3X.)	5___
* Mother generally talks freely and gives more than brief answers to questions.	*6___
Mother spontaneously praises baby 2X. Can count a negative statement about a remarkable achievement, i.e., "It's terrible how that kid rolls, she/he almost rolled off the changing table this morning!" said with pride, or some positive feeling.	8___
* When speaking of or to baby, mother's voice conveys positive feeling - not generally querulous.	*9___
Mother caresses or kisses baby 1X. Blowing kisses count. Caressing includes stroking and patting.	10___
Mother shows some positive response to praise of child.	11___
* Mother does <u>not</u> shout at baby - does not raise voice above that required for distance.	*12___
* Mother does not express overt annoyance with or hostility toward baby. Give an 0 if mother says baby is hard to care for, says the kid is driving her up the wall or wearing her out.	*13___
* Mother neither slaps nor spanks baby.	*14___
* Mother does not scold, criticize, or run down the baby. (Directly to the baby.)	*16___
Mother does not interfere with baby's actions or restrict movement more that 3X, i.e., taking toy away from baby, putting baby into playpen from floor, stopping baby when s/he starts to grab visitor's purse. Restrictions can be verbal. (Interference is <u>not</u> coded if action is to prevent harm to baby.)	17___
* 10 books are present and visible in home. (May ask about this.)	*18___
* Baby's play environment appears safe.	*25___
* Mother provides toys or stimulation to baby.	*29___
* Mother keeps baby in view and looks at baby frequently.	*35___

I.	(19,20)
II.	(21)
? I.	(22)
IV.	(23)
V.	(24)
VI.	(25)
TOTAL	(26,27)

APPENDIX F

FOLLOW-UP POST CARD

SAMPLE POST CARD

March 1983

Dear _____:

Could you please call the Parent/Infant Research Office at 225-8788? We would very much like to visit you for a 6 month follow-up. Thank you for your help with this project.

Sincerely,

Ellen Mann, R.N., B.S.N.
Graduate Student

An Abstract of the Thesis of

Ellen G. Mann

for Master of Nursing

Date of receiving this degree: June 1987

Title: The Relationship of Maternal Social Support to the Child's Home Environment at Four to Six Months of Age

APPROVED: _____
Carol Howe, C.N.M., D.N.Sc. Thesis Advisor

Social support has been defined as the network that gives its members a feeling of being loved, esteemed and cared for. Studies have suggested that the amount and kind of social support a mother perceives may influence her ability to nurture and provide an environment of optimal growth for her child. The purpose of this study was to relate maternal perceptions of social support to a stimulating home environment for the child.

This study was part of an ongoing longitudinal study, A Comparative Study of Normal and High-Risk Pregnancies (Tomlinson, 1981), which was investigating the relationship between situational and psychological stress factors, the development of high-risk pregnancy and delivery, and the effect of risk status on maternal adjustment. This present study was of correlational descriptive design, and the subjects were a convenience subgroup of mothers and their

four to six month old infants. The Norbeck Social Support Questionnaire and Caldwell's Home Observation of the Environment were used at a home visit at four to six months post partum.

Results did not show a significant relationship between maternal social support and the child's home environment. Subjects in this sample scored lower on the NSSQ than Norbeck's original sample. The reason is not clear, but this sample was from a lower socioeconomic population, whereas the normative data were gathered on employed individuals with access to more and different kinds of social support. In addition, this sample scored higher on the HOME than a comparable sample which provided normative reference. A potential reason for this finding was the interest of this sample in participating in the study and being home with their babies.

It is not clear why there was no correlation between the NSSQ and the HOME. Likely, methodological factors such as small sample size and the narrow range of HOME scores are involved. Limitations included the small sample size and the questionable sensitivity of the tools used. Suggestions for further research are provided.