WHY WOMEN BREAST-FEED: THE INFLUENCE OF CULTURAL VALUES AND PERINATAL CARE ON CHOICE OF INFANT FEEDING METHODS AND SUCCESS AT BREAST-FEEDING

by

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Abstract

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A review of literature on breast-feeding shows that modern medical practices, the organization of obstetrical care in hospitals, and modern life-style combine to discourage women from choosing breast-feeding and to defeat their attempts to nurse their babies. Breast-feeding declined dramatically in Western society as industrialization developed, childbirth moved from home to the hospital, and infant feeding came to be managed by male physicians. A similar pattern is being repeated in third-world societies that are modernizing along Western lines today.

However, factors associated with modernization are insufficient as an inclusive explanation for infant-feeding practices. Modernization fails to explain, for example, why middle-class educated Western women are breast-feeding more often today than they did previously, why breast-

feeding rates remain high in some societies that modernize along non-Western lines, and why breast-feeding was rejected among women in elite classes in preindustrial societies.

A more inclusive explanation is that infant-feeding practices vary with women's power in social exchange. It appears that breast-feeding decreases when women's social power decreases relative to that of men in their own groups. As their power decreases, women's sexuality is more likely to be defined in terms of male needs and desires because it is used in social exchange as a quality bargainable for social status and economic support from men. This leads to a devaluation of sexuality in biological expressions of maternalism, including breast-feeding relationships with infants. Women's lesser power also curtails the extent they are able to define and control their own reproductive functions, and control health services dealing with contraception, pregnancy, childbirth, and lactation.

This analysis led to hypotheses that women will be more likely to choose breast-feeding, initiate it, and succeed at it when hospital care is supportive for breast-feeding, when women themselves have positive values about breast-feeding, when they accept it and other body functions as natural, and when they value strength and independence in women's social roles.

Data was gathered by questionnaire to test these hypotheses. The questionnaires included forty value-measuring items, as well as questions on infant-feeding plans and socio-

economic background. They were administered to 299 primiparae, during their pregnancies, in supportive and nonsupportive birth settings. The same women were interviewed by telephone six weeks after delivery.

Supportive hospital care was found to be important in choice of and success at breast-feeding, but other variables such as education, social class, age, and occupational status proved to be equally or more important. Furthermore, women were significantly more likely to choose breast-feeding and succeed at it if they had mother, friends, or relatives who breast-fed, if they attended childbirth education classes, and if they were attended during and after delivery by a midwife or female physician. These findings suggest that attitudes leading women to choose breast-feeding are acquired through social experience even before a woman becomes pregnant, and that social learning critical for succeeding at it is likely to come from interaction with other women who are knowledgeable about it as well as positive and supportive.

Analysis of the value-measuring data suggested that some value dispositions are more important for choice and initiation of breast-feeding, others more critical for success. Women were more likely to <u>choose</u> and <u>initiate</u> breast-feeding when they believed it benefits babies and is easy and convenient to do, but they were more likely to <u>succeed</u> at it if they expressed positive values about body functioning, accepted breast-feeding as a physical act, and valued independent social roles for women.

The data suggested that societies attempting to encourage breast-feeding to raise the standard of health for their children might develop woman-oriented (if not woman-controlled) supportive perinatal care, socialize females from an early age for accurate knowledge and positive values about breast-feeding, and encourage economic and social equality for women.

PREFACE

Women's health is a growing area for study today. It is a compelling work for many women, since it touches their own lives and experiences directly. I probably would not have chosen breast-feeding as a topic for research had I not breast-fed my own six children during the 1940s and 1950s against strong social pressure.

Studying women's health issues also is a rewarding work, since it grows from knowledge shared among women, and becomes a source for new knowledge to share. This study would not have been possible had it not been for other women who generously shared their work and their personal experiences with me--women in my classes, in the Women's Health Movement, in Sociologists for Women in Society, and in my friendship circles. I believe it is significant that I would not have breast-fed my children to begin with had it not been for the shared knowledge and social support of two very special other women--my mother and my sister. The vigor of the Women's Health Movement is fed, at least in part, by the excitement of women discovering and rediscovering what in previous times was women's knowledge.

It is my fortune to have a sympathetic and unusually supportive husband who shares my perspective on

these issues. His patience and critical editorial comments have been deeply appreciated throughout the time this effort was in progress.

Finally, I wish to express my sincere thanks to my adviser, Edgar Borgatta, and members of my committee, Patricia Kendall and Judith Lorber, who helped me every step of the way. Their wisdom and experience through the pleasures and pains of this academic exercise were a source of strength and hope.

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CHAPTER I

SUCCESS AND FAILURE AT BREAST-FEEDING

Introduction

The practice of breast-feeding has declined steadily in the United States for most of this century, but is once again becoming popular in the 1970s. At the same time, maternal nursing is becoming less prevalent in developing third-world societies (Berg, 1973, 1977). A common assumption holds that breast-feeding rates vary with changing fashions and changes in women's abilities to nurse their babies. However, research suggests that social and cultural factors play a major role in these changes by influencing both women's preferences in the matter of infant feeding, and the course of lactation once it is initiated (Newton and Newton, 1972; Auerbach, 1975).

This study examines social forces that affect breast-feeding behavior. It attempts to resolve questions about why some women choose breast-feeding but not others, and why some who choose it succeed at it while others fail. Two factors are presumed to be critical: 1) cultural values about breast-feeding and about the social-sexual identity of women; and 2) the social organization of childbirth care (Newton and Newton, 1972; Brack, 1975).

The Problem

Breast-feeding as a social problem

Infant feeding practices have far-reaching effects upon levels of child and adult health. Today, for example, the dramatic drop in breast-feeding rates in many third-world societies is accompanied by a rise in fertility, infant mortality, and infant morbidity (Population Reports, 1975; Jelliffe and Jelliffe, 1975b). Even in affluent societies where a high standard of living makes successful bottle feeding possible, significant health benefits from breast-feeding compared to formula feeding clearly have been demonstrated for both women and their babies (Oseid, 1975; Jelliffe and Jelliffe, 1970; Gyorgy, 1970; Hanson, 1972).[1] Despite these facts, breast-feeding practices have received very little attention from sociologists. However, they have been extensively researched in other disciplines, notably anthropology, psychology, biology, medicine, nursing and nutrition. A considerable body of knowledge has been generated in these other areas, and a sociological analysis will be helpful in organizing and interpreting it.

A sociological perspective also may offer explanations for fluctuations in breast-feeding rates over time,

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[1]Among other benefits, breast-feeding gives added protection to infants in terms of lower mortality rates, lower incidence of infection of all kinds, greatly reduced incidence of allergies and Sudden Infant Death Syndrome, and better nutrition. Adults who were breast-fed have significantly lower rates of ulcerative colitis and obesity. Among other benefits for the mother are significantly lower rates of postpartum hemorrhage and thromboembolism, and her uterus returns more quickly and completely to pre-pregnant size.

cross-culturally, and between social classes. For example, when rates first declined significantly in the United States, they fell among middle- and upper-class women, and remained high in the lower class for several generations. But today this is reversed, with rates higher in the middle classes and low among the poor. In some areas rates drop as societies modernize and industrialize; they remain high in other areas where the same processes are occurring. Interestingly, today it is in advanced industrial societies that rates once low are rising again.

Sociology might also address differences in perspective on infant feeding between societies and in the same society over time. Bottle feeding is defined as a "problem" in many developing societies today, as it was in the West a century ago. But this is not the case here, where breast-feeding rates are very low among our poor, and also are accompanied by high rates of infant morbidity, malnutrition, and mortality. Criticism is leveled at activities of infant food industries in third-world societies, but not here. Nor is a serious attempt being made here to persuade poor mothers of the benefits of breast-feeding their babies.

Breast-feeding as an area of study

The study of breast-feeding is primarily a problem in medical sociology. More specifically, it is a problem in the institutionalized medical management of childbirth and infant feeding. Obstetrical practices affect the decisions women make about feeding infants, and their early

breast-feeding experiences. During the first year of the infant's life, the pediatrician directs infant feeding.

But breast-feeding also is a problem in the sociology of women since, as will be shown, rates of breast-feeding vary and childbirth practices change with changes in women's social position. Perinatal care has both reflected and reinforced cultural views of what women are and should do.

Social Life and Lactation Failure

Breast-feeding is social behavior as well as a biological function. It is learned as other social behavior is learned, in social interaction. In traditional societies where breast-feeding flourishes, infants play a significant role in this interaction; but in modern society their role is limited by the organization of obstetrical management and by child-rearing practices. In traditional society older experienced women served as role models and socializing agents, but in modern society many women come to childbirth without ever having seen another woman breast-feeding. Experienced women seldom are available to new mothers during the critical time for learning--directly after childbirth.

In contemporary society various factors determine whether a woman will choose breast-feeding. Her decision depends upon her cultural experiences, the expectations of her reference groups, and the orientation of the medical personnel with whom she interacts during prenatal care. However, once the decision is made, successful nursing de-

pends upon her ability to establish and maintain lactation. As commonly expressed, she must be "able" to nurse, and "have enough milk."

The physiology of lactation

Medical authorities agree that few women--perhaps as few as two or three percent--have physical conditions preventing successful lactation (Sedgwick, 1921; Newton and Newton, 1972). Yet failure to produce milk, or to produce enough of it to nourish a baby (lactation failure) is common. It is often assumed that modern women fail more often than women in previous generations for genetic reasons. Niles Newton has argued against this on grounds that an alteration in a society's gene pool would be needed to alter the capacity to nurse--a change requiring many generations. When breast-feeding rates drop in modern society, typically they decline in one or two generations, suggesting that social--rather than biological factors intervene (Newton and Newton, 1972).

Learning to nurse involves establishing psychobiological response patterns that are maintained by a woman's desire to nurse, confidence in her body's ability to do so, and a relaxed, comfortable relationship with her baby (Eiger and Olds, 1972; The Womanly Art of Breast-feeding, 1958). These response patterns may be inhibited by social or psychological influences. Even successfully nursing mothers "lose" their milk or give less milk under adverse circum-

stances, and a new mother who lacks confidence or social support may fail despite a strong desire to succeed. Two processes are essential: building and maintaining an adequate milk supply, and establishing an adequate milk ejection reflex. Each process is controlled by a different set of interacting hormones (M. Newton, 1971; Population Reports, 1975). In the following pages the biological processes and the social influences that inhibit them will be discussed.

Building a milk supply: social influences. Building a milk supply depends upon breast stimulation provided by the infant's suckling. Nerve receptors at the base of the nipple stimulate the brain to release prolactin, which in turn stimulates milk production in the milk aveoli. The longer the baby stays at breast and the stronger its suckling, the more plentiful the milk supply.

In simpler societies social life permits unlimited breast stimulation. Babies are carried everywhere and accepted as part of social life. Clothing allows easy access to the breast, and babies nurse often day and night, as much for comfort as for food (Mead and Newton, 1967). No one is concerned with schedules, how much the baby gains, whether the milk is "too thin" or "too rich," or whether there is enough of it--all matters of great concern in our culture.

In modern society patterns of living limit breast stimulation. Breast-feeding is defined as a method for

providing food rather than an intimate relationship, and so comes under social rules for food (i.e., one eats at particular hours, does not eat between meals, and so on). The idea that the breast may be available for solace and comfort, as it has been in many other cultures, is specifically rejected.[2] Modern dress is not designed for comfortable breast-feeding, and propriety restricts places where nursing should occur. Babies are not easily tolerated in public, and provision for them at work places is rare. Even in the home mothers and babies are separated; a baby sleeps in its own crib--ideally in a separate bedroom. Society is run by the clock, and babies are fed on schedules that restrict number of feedings and, when breast-fed, length of feedings. Interestingly, when babies are bottle-fed, the concern is not about the length of the feeding but whether or not the bottle is emptied.

These practices fit well with bottle feeding where breast stimulation is not an issue. Furthermore, since cow's milk and other formula preparations are more slowly and less completely digested than breast milk, they stay in the baby's stomach longer, allowing bottle-fed babies to tolerate fewer feedings with longer intervals between (Foman,

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[2]For example, a current nursing text in pediatrics says, "If a baby continues to suck long after that (25 minutes) he is, in effect, using the mother as a human pacifier because each breast is stripped of milk in about ten minutes. It may be more feasible, under these circumstances, to use a regular pacifier rather than to have the baby suck at the breast for too long a time!' (Lipkin, 1974:59).

1974; Oseid, 1975). Bottle feeding clearly is more functional for a modern style of life than breast-feeding.

Current infant feeding practices became common only during this century while breast-feeding rates were falling. Child care manuals provide an interesting illustration of the shift from advice functional for breast-feeding to advice functional for bottle feeding. Holt's Manual was an authoritative and influential child care handbook in the late 19th century and early 20th. It was authored by the renowned Luther Emmet Holt, a pediatrician who headed Babies Hospital at Columbia Presbyterian Medical Center for many years. At the turn of the century, the manual advised nursing infants every two hours until five weeks of age. Not until the baby was nine months of age was a four-hour schedule recommended (Holt, 1898). In 1914 the U.S. Department of Labor, Children's Bureau, began publishing a handbook called Infant Care, which has gone through many revisions and been used by several generations of mothers.[3] The 1914 edition advised feedings every two and a half to three hours, and a four-hour schedule not until six months of age.[4] How-

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[3]Gordon (1968) reports that the Children's Bureau estimates that one in three babies born between 1914 and 1961 was an "Infant Care baby." More than 52 million copies of the first 11 editions were distributed.

[4]See also the U.S. Department of Labor 1913-1915 report on Save-the-Baby campaigns, which summarizes infant feeding advice from child care manuals distributed by a number of city and state health departments at that time. With minor variations, the advice on schedules and length of feedings is the same.

ever, even then the mother was cautioned that feedings should last only twenty minutes, and "not every time the baby cries." She was also cautioned against nursing or giving other food or liquid between scheduled feeding times. The 1924 revision of Infant Care said the baby should be fed every three or four hours, with feedings lasting only ten to twenty minutes (five to twenty-five minutes for "unusual babies") for the first six months (1924:8); and the 1938 edition said, "The usual time between feedings is four hours," and stated the times as 6 A.M., 10 A.M., 2 P.M., 10 P.M., and 2 A.M. (1938:6).

Feeding by the clock was advised from the beginning of the century. The rationale for this in earlier manuals was training the child for self-control. "Taking food by the clock is the first important lesson the mother can give the baby," said the 1924 edition of Infant Care (1924:8). Later in the century clock schedules were said to allow the mother to organize her other family responsibilities. Mothers also were routinely cautioned against picking babies up between meals, or taking them into bed for feedings.

Not until the 1950s did some of these expectations relax. With Benjamin Spock's widely read books on child care, it became acceptable to nurse infants when they were hungry and pick them up and cuddle them between feedings (1946, 1957, 1968). Uri Bronfenbrenner (1958:411) has observed that child care manuals influence patterns of child care. It is probable they also reflect what is happening in society. In either event it is not surprising that child

care advice became more functional for breast-feeding as rates began to rise in the middle class.

The milk ejection reflex: social influences. The second process necessary for breast-feeding is establishing an adequate milk ejection reflex (commonly called "let-down") --a stimulus-response mechanism that allows milk to become available to the baby. The baby's suckling activates milk ejection by signaling the brain to release oxytocin. This hormone causes myoepithelial cells surrounding the milk aveoli to contract, forcing milk into sinuses and ducts which carry it to the nipple. A woman experiences "let-down" as a physical sensation in her breasts within thirty seconds after the infant starts to suckle. The reflex works best when the woman is at once stimulated, relaxed, and confident in her ability to nurse. When established, it may be set off by other stimuli such as the baby's crying, the mother's thinking of her baby, or stimulation during bathing or sexual intercourse (Guyton, 1971; Newton and Newton, 1967).

Folk knowledge has long recognized the importance of "let-down," and the calm surroundings in which it operates best. Women working in fields were advised to wash their faces and hands in cold water and sit down to relax a few minutes before nursing. The 1914 edition of Infant Care said, "Calm, joy, laughter and delight in life coupled with a desire to nurse will make it possible for her to do so. Fear, anger and worry may serve to check the secretion of

milk" (1914:31). More recently controlled research studies have demonstrated that even successfully nursing mothers give significantly less milk when subjected to laboratory-induced stress (Newton and Newton, 1948). Attitudes prevalent about breast-feeding, and the pace of modern living, set the stage for inhibiting milk ejection. Many researchers believe this to be the principal reason for lactation failure among modern women.

Prudishness and modesty about the body, or embarrassment and shame about body functions, can prevent women from relaxing enough to allow the reflex to operate. These are consequences of Victorian ideals for women that are still conveyed in socialization to girls and young women. Women often name feelings of discomfort or embarrassment when asked why they do not choose breast-feeding (Newson and Newson, 1963; Brack, 1975). Research shows that women who breast-feed successfully are more likely to be comfortable with their bodies and relaxed about expressions of sexuality (Sears, Maccoby and Levine, 1957; Newton, N., 1973).[5]

Work, worry, and anxiety may inhibit milk ejection. Raphael (1976) observed that in traditional societies a new mother was protected from such stress for a period of time after delivery, but that in modern society patterns of protection disappear. In the consanguinal family a specific person--generally the woman's mother, sister, or co-wife--

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[5]Also see Alice Rossi's discussion of maternalism and sexuality (1973).

performed a "doula" role. A doula, according to Raphael, is a "person who mothers the mother."

In Western society midwives served a doula function in the past. Their fee included staying after the birth to care for the mother and the family and do light housekeeping. Female kin, neighbors, and trained or practical nurses played protective roles. When childbirth first moved into the hospital, the nursing staff in effect substituted for the doula, since it was expected the new mother would stay in the hospital for a considerable period of time. As recently as 1940 the customary stay after delivery was ten days to two weeks, the first six to eight of these days in bed. Today the hospital stay is more likely to be three or four days, and when the mother returns home with her baby, there is seldom a person there whose specific task is to "mother the mother."

Perhaps the most insidious factor blocking milk ejection is fear of failure, fostered on all sides by a formula-oriented society. Women know other women who have failed, making it an ever-present possibility. Infant feeding manuals, particularly those distributed by formula manufacturers, may subtly undermine confidence by suggesting that at times a supplement will be needed, that formula may be more dependable than breast milk, or that formula contains up-to-date nutrients valuable for the baby (implying that breast milk does not). Physicians erode women's confidence by insisting upon a standard of weight gain for

the baby that may be unrealistic or even undesirable. Many advise weighing the baby once a day or even before and after each feeding to see how much breast milk the baby gets; this can be a constant source of anxiety. The 1924 edition of Holt's Manual said, "The only sure way of telling how much milk the child is getting is to weight him before and after nursing, four or five times a day" (1924:47).

In summary, modern social life has been organized more suitably for bottle feeding than for breast-feeding. Patterns for child rearing, infant feeding, and everyday living present obstacles for a breast-feeding woman, and she needs to make qualitative changes in her life style in order to maintain a nursing relationship with her baby.

The Organization of Obstetrical Care and Lactation Failure

The first few days after delivery are particularly important in establishing breast-feeding, since mother and baby are developing a psychobiological relationship that may be precarious at the start, particularly if the mother (as well as the infant) is inexperienced. By and large, hospitals have regarded breast-feeding merely as an alternative to bottles, rather than a qualitatively different process. The same general rules for efficiency and smooth institutional management have been applied to both--rules that have defeated breast-feeding, even when a woman is strongly motivated to nurse. Although care is changing today in some hospitals, counterproductive practices still

are the rule in most; they are particularly common in hospitals that serve the lower class.

The principal practices defeating breast-feeding (although they do not interfere with bottle feeding) are medication and anesthetization during labor and delivery, and subsequent mother/baby separation. They are time-and-space efficient methods for getting babies born and managing infant care, which became routine in America during this century, although they never became as common in Europe (Haire, 1972; Haire, 1977; Rosengren, 1963; Montague, 1977).[6] Drugs leave the mother drowsy and uncomfortable, and, since they travel through the placenta before the umbilical cord is cut, may leave the infant lethargic and with a depressed sucking response for as long as four or five days. They interfere with the mother's neurohormonal responses and the baby's ability to suck vigorously enough or long enough to receive nourishment and to give the breast the stimulation it needs (Haire and Haire, 1968; Arms, 1975; Peterson and Mehl, 1977).

Keeping babies in nurseries prevents mothers from

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[6]Haire (1972) compares American birthing with European childbirth practices. Midwife deliveries and prepared childbirth deliveries are more common there; women are less often medicated and anesthetized, and babies are seldom separated from their mothers. In many countries in Europe it is customary for babies to be kept in a bassinet attached to the foot of the mother's bed, rather than in a nursery.

picking them up to feed them when they are naturally hungry. A breast-fed newborn generally needs food more often than a bottle-fed baby, because breast milk is more quickly and completely digested and leaves its stomach sooner. If the baby wakes hungry in the nursery and is given formula or glucose supplements, s/he is less eager for the breast, or may not wake at all for the scheduled feeding--the four-hour schedule is standard for nurseries. A weak baby or a lethargic baby finds the formula easier to get through a rubber nipple, and may then reject the breast, leading the mother to feel rejected herself. If the breasts are not emptied they may become painfully engorged, and the baby may have difficulty grasping the nipple properly. The result may be painfully damaged nipples, in which case the mother is frequently reluctant to continue nursing, or the physician may order the baby put on a formula.

There may be lack of privacy, a hurried atmosphere at nursing time, cracked nipples from antiseptic solutions, or hospital personnel who are nonsupportive or even disparaging. Any of these may leave a woman upset or frustrated, and interfere with the milk-ejection reflex. Poor "let-down" leads to what Doris Haire has called "the spiral of failure": the baby gets less milk at nursing, s/he is given supplements, then takes still less at breast. At this point, the doctor may say the baby is not gaining enough weight, and advises the bottle. The mother may be disappointed but also relieved, after a difficult and perhaps painful experience

(Egli, Egli, and Newton, 1961:314; Haire, 1972:29).

Like social life on the outside, hospital care is organized more suitably for bottle feeding. Furthermore, isolation of the woman from family and friends effectively cuts her off from those who might support her in her efforts to nurse, or act as experienced teachers.

The Profession of Medicine and Lactation Failure

Breast-feeding rates fell as physicians displaced midwives as birth attendants and moved childbirth to the hospital. The technology of obstetrics allowed physicians to enter the occupation of midwifery, and eventually to reorganize, monopolize, and control it (Brack, 1976). Freidson says a profession changes the definition and shape of problems in developing its own approach: "The layman's problem is recreated as it is managed" (1970b:xvii). Childbirth was recreated as an illness needing hospital care, and infant feeding was redefined from a mother-controlled activity to an activity a woman carries out under the supervision of an expert. Medicine claimed it early in the 20th century. Luther Emmet Holt said:

> I believe that it is the physician's prerogative to direct in the matter of feeding. Too long has this responsibility been assumed by ignorant nurses and inexperienced mothers, whose only guide has been the advice of friends or the circulars of proprietary food manufacturers, with what disastrous results to life and health is well known. (1901:6)

Today physicians are society's legitimate experts on infant feeding. According to a sociology of professions, professionals claim expertise on the basis of long socialization

into fields presumed beyond the layman's ken, and access to specialized knowledge in these fields. However, in the case of breast-feeding, medical practices are grossly discrepant from the scientific knowledge about it. The benefits of breast-feeding are well documented, but few physicians encourage it. The reasons why it succeeds or fails have been clearly demonstrated by research, but the organization of obstetrical management frequently defeats it.

One explanation for this discrepancy is that professionals develop practices based upon "what works" in everyday experience, rather than upon research and theory. Freidson has discussed "the omnipotence of the [medical] profession in deciding what is good for the patient," and says that clinical experience--firsthand contact with patients--"provides a basis for therapeutic choice that is believed to be superior not only to abstract considerations posed in the textbooks, but even to general scientifically verified knowledge" (1970b:86). Clinical experience demonstrates to the obstetrician and pediatrician that breast-feeding is likely to fail, and it is easier to put the baby on a formula from the beginning.

A second explanation for the discrepancy is that medicine is oriented toward pathology, disease and intervention, while breast-feeding is a normal process. It thrives when understood and encouraged, but tends to fail with intervention. Little attention is paid normal breast-

feeding in medical school; students receive far more information about pathology of the breast, breast infections and abscesses, calculating formulas for the premature or physically abnormal baby and so on (Applebaum, 1975; Esterly, 1975).

A cursory examination of pediatric and obstetric texts on the shelf of a medical school library, all published between 1963 and 1973, illustrates this point. Several texts did not discuss normal breast-feeding at all (Dewhurst, 1972; Winklestein, 1972), and those that did gave it a fraction of the space devoted to formula calculation and pathology. While some gave lip service to the benefits of breast-feeding, nearly all gave some advice that will help defeat it. For example, four-hour feeding schedules, short feeding periods, a long delay after delivery before the first feeding and early weaning are standard recommendations (Arena, 1969; Nelson et al., 1969; Reid et al., 1972). One text advised that one substitute feeding be given each day (Nelson et al., 1969:157), a practice that leads to a steadily decreasing milk supply unless the baby is older and milk is well established.

Many texts advised cleansing nipples with antiseptic solutions, which has been shown to remove natural protective secretions and increase the likelihood of drying, cracking, and the infections the solutions supposedly prevent.[7] A

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[7]For example, Arena (1969:76). Another (Reid et al.) stated that "before each feeding the nipples should be cleansed

paternalistic and disparaging attitude toward women was evident in some texts--an attitude, if adopted by the obstetrician, likely to undermine a woman's needed self-confidence. For example, one text said that "not all mothers are capable of breast-feeding, the main obstacle being lack of emotional maturity" (Arena, 1969:76). A similar attitude toward women was documented in Scully and Bart's study of gynecology texts (1973), Campbell's study of women's experience in medical school (1973), and Ehrenreich and English's historical study of medicine's treatment of women (1973).

Interestingly, nursing texts generally contained more complete and accurate information about normal breast-feeding and were more positive about it. But simultaneously they stressed the primary responsibility of the nurse to support the doctor, carry out his orders and the hospital rules, and to interpret these orders and rules to the patient (see, for example, Lipkin, 1974; Hamilton, 1974; Lerch, 1974). This is consistent with conclusions of Mauksch (1973) and others that nurses are socialized pri-

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with antiseptic, and, to minimize the risk of breast infection, it is now the practice to scrub the entire breast area 3 or 4 times daily with a detergent containing hexachlorophene." The same text stated (incorrectly) that the baby will show little interest in nursing until the third day postpartum (true primarily in babies whose mothers have been heavily anesthetized), and (incorrectly) that the breasts go through a cycle of milk production that usually covers a 3-to 6-month period with their "gradual involution."

marily to serve the needs of doctors and hospitals, rather than to be independent professionals serving the needs of patients.

Lack of knowledge about breast-feeding and lack of concern about it among physicians are not recent phenomena. In 1921 Drs. Sedgewick and Fleishner, in a report on infant mortality in Minneapolis, wrote:

> In education alone can be found the keynote whereby this situation can be remedied. . . . Too mcuh stress cannot be laid upon the importance of properly handling the problem in medical school. The hours and hours that are given over to the teaching of artificial feeding . . . stand out in striking contrast to the casual attitude so frequently taken in discussing with students the advantages of maternal nursing. Men graduate who have never seen a mother nurse a baby, and have no knowledge of the difficulties that might arise. (1921:153)

Even earlier, in Holt's writing, far more attention was devoted to formulas than to breast-feeding. Although he recommended breast-feeding highly, he wrote in 1901 that "modified cow's milk" was a good substitute, and "even superior in that it could have fat, sugar, and proteid adjusted, where breast milk could not" (1901:5).

Evidence suggests that midwife-attended deliveries at home and in birth centers today have a higher percent of women who successfully breast-feed than physician-attended deliveries (Stewart and Stewart, 1977). So do Prepared Childbirth deliveries, which minimize standard obstetrical management, and at least modify the physician's role (Auerbach, 1976). While these differences may be due in part to self-selection (women who choose alternative birthing methods

may also tend to choose breast-feeding), they also may be due to differences in the organization of childbirth care.

Midwifery is oriented toward the normal, while obstetrics is oriented toward the pathological. Midwives tend to do their work in a homelike setting, and use medication and technological intervention only as a last resort; medicine does the opposite. And midwifery includes other kin of the mother at the birthing, and treats mother and infant as a couple; medicine isolates childbirth from the family, then separates mother and baby into different medical specialties.

Furthermore, the midwife's relationship to the woman is likely to be different in quality from the physician's. Traditionally, a midwife lived in the same neighborhood and shared culture and class background with the women she served. She was usually a friend. Even today the highly trained nurse-midwife's relationship with her client is described in terms typical for primary relationships: "personal", "counselling", "warm", "supporting". (Lang, 1970, 1976; Stewart and Stewart, 1976; Twenty Years of Midwifery, 1966). On the other hand, the physician's relationship to the women ideally is secondary in nature--affectively neutral and functionally specific. His high prestige as a medical professional sets him apart from most of the patients he treats (Wilson and Bloom, 1972; Freidson, 1970a).

Finally, a midwife is a woman attending another woman in a woman's function, traditional in every society

throughout history before the cooptation of midwifery by medicine in the 19th and 20th centuries. Sex of attendant was thought to have a significant effect on childbirth outcome when men first entered midwifery, but has not been seriously questioned since medicine desexualized childbirth. Whether or not sex of attendant affects breast-feeding remains to be demonstrated, but it should be added as a possible factor.

Medicine, like other social institutions, both reflects and reinforces the value system and style-of-life of the culture. In its approach to health problems, it has by and large concentrated upon technological solutions. Medicine's solution to lactation failure, in a society not tuned to breast-feeding, was more and better formulas. It was a functional answer for getting 20th century babies fed, but helped defeat breast-feeding in the long run. Other latent functions of formula feeding include more dependence upon the physician by the mother for advice on infant feeding, more profit for the physician from more frequent consultations, more infant illnesses needing treatment by a physician (allergies is a medical specialty), and profit for formula manufacturers from increasingly more expensive and sophisticated products.

From a conflict perspective, a male-dominated profession has gained control of a formerly female occupation of getting babies born and caring for infants and new mothers. In doing so, it has changed the definitions for

behaviors involved, and has maintained power to reorganize institutionalized patterns. Medical patterns have served the needs of physicians rather than the needs of mothers and babies, and have been a significant factor in lowering rates of breast-feeding.

CHAPTER II

CULTURE, CULTURE CHANGE, AND INFANT FEEDING

A Cross-cultural and Historical Perspective

The effects of social class and modernization

Infant feeding practices become patterned and integrated into social institutions for child rearing. They vary over time, and are culturally relative for particular societies. In preliterate societies virtually all women nurse their babies, but as societies become increasingly complex, alternatives to the milk of the baby's own mother become socially acceptable--wet nurses, animal milk, various milk substitutes, and, in modern society, commercially prepared formulas and infant foods. With a choice, often more available to some groups than others, breast-feeding rates drop, and an increasing number of women either "cannot" nurse, or are socially expected to use an alternative (Mead and Newton, 1967; Wikes, 1953).

In complex societies breast-feeding varies according to social class position and degree of modernization. Before industrialization breast-feeding was practiced less often in the upper classes than among common people (Berg, 1973; Latham, 1977a). For example, slave women nursed children of plantation owners in the South before the Civil

War, and in prerevolutionary Russia wet nurses were brought in from the countryside to breast-feed babies of the aristocracy. In elite classes, norms proscribing breast-feeding for the baby's own mother may be very strong. The Grand Duchess Olga of Russia was said to have shocked her entire court by announcing she intended to nurse her baby herself (Breckenridge, 1952:1).

With industrialization rates fell for whole societies, but they fell first among the middle classes, later among the poor. This was true, at least, where industrialization proceeded along western lines. However, in advanced industrial societies, where rates currently are rising, the increase is predominantly among educated middle- and upper-class women, while rates remain low in the lower classes.

These general tendencies are modified by cultural factors, such as rural-urban residence, ethnicity, level of education, whether or not women work, and so on. Organizing principles appear to be the patterning of childbearing and child rearing behavior, the relative degree of power women hold to define their reproductive roles and expectations for female roles in the wider society.

The effect of women working on breast-feeding rates provides an example. Working per se apparently is not critical, since women have worked in many cultures and nursed babies as well. However, western industrial labor policies separate mothers and infants in the early postnatal months, and this curtails breast-feeding. Early in

this century, breast-feeding decreased among women factory workers in New England, who were expected to return to work soon after a baby was born, but remained high at the same time among women who worked long hours doing piecework at home (U.S. Children's Bureau series on infant mortality, 1914-37). Today in the People's Republic of China nearly all women work, primarily outside the home, yet 95% of babies are reported breast-fed, often for as long as two years (Chung, 1977; Greiner, 1977). But there labor policies encourage breast-feeding. Women are given four months leave after a baby is born, which assures that nursing will be well established. When they return to work, creches at every work place allow them to be near their infants, and they are given regular work breaks to feed them. Rates also are reported high in USSR, where a similar system is in effect, and in Israel (Berg, 1977:23).[1]

Breast-feeding in western society

Over the past several centuries breast-feeding practices have followed a recognizable pattern in western society, modified in each country by cultural heritage. Prior to in-

[1]While women working is assumed to be a major reason for artificial feeding, evidence does not bear it out. Greiner (1977:3) shows that employment is not an important reason for weaning among third-world women. Newson and Newson came to a similar conclusion in their study of a British community (1962:1744-45). Historically, rates have been lowest not among working women, but among women in leisured classes.

dustrialization most women breast-fed their infants except for a minority from leisured classes. As industrialization progressed, increasing numbers of women from the expanding middle classes chose alternatives to breast milk. Breast-feeding practices of working-class women were affected as work moved out of the home, but rates did not fall significantly for them until later than for the middle class.

Significant decline in breast-feeding occurred first during periods of rapid urbanization and grew more marked as modernization progressed. The decline accompanied the transformation of childbirth management as birthing moved from home to hospital, and male physicians displaced female midwives as birth attendants. It also accompanied significant changes in life styles, kin support systems, and women's social roles, as the extended family gave way to the nuclear conjugal unit.

Before industrialization women had been economic producers in farm, guild, and small businesses. When work moved to the factory and office, the middle- and upper-class woman's principal role shifted to wife/mother/keeper of the home, and, according to Veblen, consumer. The "Victorian Idealization" of women, which persisted well into the 20th century, developed with the industrial revolution. This is a definition of the "nature" of women as pure, kind, dependent, the repository of moral goodness, physically frail, intellectually inferior to men, prone to hysterias and other illnesses, and not very highly sexed. The significance of

these definitions for breast-feeding will be explored in a later section.

Typically, decline in breast-feeding occurred before cities established safe water supplies, public sanitation systems, and efficient transportation and refrigeration. Consequently breast-milk substitutes, insufficient nutritionally for the most part, were also open to contamination and spoilage. Dramatic increases in infant mortality and morbidity invariably accompanied decreases in maternal nursing, stimulating widespread concern.

Even wet nursing exposed babies to hazards. The literature contains abundant warnings about choosing a wet nurse clean in habits and free from disease.[2] In Europe during the 19th century it was common for families in large cities to "farm out" babies to the country to be wet-nursed. High death rates stemming from this practice led to legislation requiring registration of places where babies were put out. The Life Protection Act was enacted in England in 1872, and the Roussel Law in France in 1874. In France it was estimated that as many as 20,000 infants were farmed out in a year, and of these 75% died (Holt, 1910).

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[2]Wickes quotes from an old document that advised the wet nurse be of

> healthy lineage, good behavior, sober, even tempered, happy, chaste, wise, discreet, careful, observant, understanding, conscientious and always willing to give the breast. . . . Physically healthy with a pleasing countenance, 'ruddie mouth', and rosy complexion, and she should have verie white teeth, and broad but not pendulous breasts with good nipples. (1953:232)

The same source warned against employing redheads!

With the increase in infant mortality, public officials made efforts to persuade women to return to breast-feeding. For example, Berg reports that

> the high mortality related to an 18th century vogue against breast-feeding led the French government to print posters encouraging mothers to nurse. Finland reportedly went further; by royal proclamation penalties were assessed on non-nursing mothers whose children died in the first six months of their lives. After the decline in weight and height of British infantry recruits forced the minimum height requirement down from 5'6" to 5'3" in 1883, and to 5' in 1900, questions in Parliament led to a committee investigation and ultimately to a campaign to encourage breast-feeding. (1977:22)

Switzerland began a program of money incentives in 1911 to induce mothers to breast-feed. At that time, only 43% of Swiss women nursed, and the mortality rate was double for bottle-fed babies (Berg, 1977:23).

However, as the standard of living rose in expanding middle classes, improved public hygiene and home refrigeration made bottle feeding safer, and knowledge about formula preparation made it more nutritious. Consequently infant mortality and morbidity rates came under control, at least for the middle class. At the same time, a gradually developing baby food undustry used modern technology to make bottle feeding considerably more convenient, and persuasive marketing techniques to make it more appealing. Margaret Emslie, writing in Great Britain in 1931, mentioned "commercial exploitation" as a prime cause for bottle feeding:

> Mothers receive the full onslaught of a whirlwind of ads and of propaganda most ingeniously worded to assail their faith [in breast-feeding] . . . Before their time is come, almost, they have begun to believe that they "can't" nurse their babies, or that the offspring of

> their efforts will be "bonnier" if not subject to the toils of the breast. (1931:vii)

No one yet has systematically investigated the influence of the baby food industry in lowering breast-feeding rates in western culture, although it is being impressively documented for third-world societies while rates drop there today (Greiner, 1975).

As urban life styles became well established, breast-feeding rates continued to decline among middle-class women, and their infants apparently thrived on artificial feedings. Public furor over breast-feeding faded away, and bottle feeding became the norm--a norm eventually adopted by the lower class as well. Today breast-feeding rates are low in almost all of North America and Western Europe.

Breast-feeding in developing societies today

The pattern described for western society is being repeated in many third-world nations. Breast-feeding declines with modernization, infant mortality and morbidity increase, public officials become concerned, and frequently then attempt to reverse the trend toward bottle feeding (Jelliffe and Jelliffe, 1975b;Greiner, 1975, 1977).

Factors contributing to the decline are similar to those observed in the West. Chief among them is the introduction of modern practices for childbirth management. Birth is moved into the hospital and becomes a medical event managed by a physician rather than a social event attended by a midwife. Traditional patterns of kin support

for women in childbirth are broken by the shift of populations from rural to urban settings. Women who work are more likely to be in the labor market and away from home, rather than in home-based industries, and labor policies seldom foster breast-feeding. Women in affluent groups who do not work are likely to be influenced by western value systems about women. They adopt western ideas about modesty, dress, the erotic and cosmetic appeal of the breast, and feeding babies. Berg has remarked that the "stigma against nursing is one of the values unwittingly communicated to the less industrialized world" (Berg, 1977:21).

Breast-feeding rates are low in Australasia, several Caribbean nations, certain parts of Latin America, and some Asian countries where they have dropped recently. Breast-feeding is being replaced by bottle feeding in many populations of Asia and Africa, much of South and Central America, and some of Eastern Europe (Latham, 1977a:iv). Here the influence of urbanization and modernization is readily seen, when breast-feeding rates are compared for rural and urban populations in the same society. In Guatemala 98% of rural Indian babies are breast-fed after their first birthday compared to 57% of urban children. In Indonesia comparable figures are 90% and 70%. In Taiwan 97% of rural mothers are nursing their babies for six months compared to 61% in the cities (Berg, 1977:19).

Moreover, when the decline occurs, it is generally precipitous. Breast-feeding in Chile dropped from 90% in

1960 to 10% in 1968; in Singapore 80% of three-month-old infants were breast-fed in 1951, approximately 5% in 1971. Reports from many other countries show the same (Latham, 19771:iii).

However, today there are notable differences compared to the period when the western world modernized.. First, food shortages and population expansion are now worldwide problems, frequently affecting most seriously the societies where breast-feeding is declining. Escalating infant morbidity and mortality rates are an added burden when the economy is precarious, health is marginal, and food is scarce. As the western world modernized, world economy was expanding. Resources appeared to be limitless, and there seemed to be room for everyone, eventually, in the expanding middle classes. Today there is no such assurance. The privileged standard of living which makes successful bottle feeding possible is not likely to come soon, if at all, to a great proportion of the world's population (Lactation Review,3, No. 1, 1976).

Second, compared to the western world, breast-feeding rates appear to be dropping in third-world societies more quickly for the poor. The poor are least likely to have safe sanitary systems, pure water for mixing formula, and refrigeration to keep it from spoiling. They are least likely to be literate enough to read instructions for formula feeding, to understand possible consequences of giving up breast-feeding, and to have money to continue purchasing

breast milk substitutes. While working in Tanzania in the 1960s, Latham published evidence showing that "the cost of adequately bottle-feeding a 6 month old infant was equivalent to half the minimum wage in that country." He further commented that in Tanzania "the minimum wage, like that in many countries, is higher than the mean average income" (Latham, 1977a:vi). Commonly, an inadequate substitute replaces the expensive formula in the bottle, and the result is a malnourished baby.

Bottle feeding also is an economic drain at the national level. Auerbach reports that "feeding an artificial formula to only twenty percent of the children born in underdeveloped urban areas in the world would cost between three and four hundred million dollars per year. If the cost of medical care for the estimated ten percent of those children intolerant of cow's milk, plus treatment for other illnesses that occur as a consequence of artificial feeding was computed, this figure would be considerably higher" (1976:227). As the West modernized, dairy products and other breast milk substitutes were produced as part of the society's expanding economy; today western-based multinational corporations supply these products to developing countries as imports.

The increase in fertility rates which accompanies bottle feeding is an added problem. Although breast-feeding is not a reliable contraceptive in societies where child rearing practices restrict the time a nursing baby spends at breast, it controls fertility effectively in traditional

societies where breast-feeding is unrestricted (Population Reports, 1975; Knodel, 1977).[3] It has been estimated that breast-feeding has been more effective as a contraceptive than all imported means of preventing pregnancies, including the Pill and the Intrauterine Device (Kipley, 1974).

Many observers believe that marketing practices of global infant food corporations are affecting breast-feeding rates in developing countries more than any other single factor (Greiner, 1975; Jelliffe, 1975). These corporations are waging particularly effective campaigns to open new markets as birth rates fall in the western world and old markets shrink. They use the media effectively, and capitalize on a widespread belief that "western" is modern and therefore better. Latham says:

> Many of the advertisements used imply that it is easier and more sophisticated to bottle feed. They suggest that it produces healthier babies. The newspaper advertisements frequently show a well dressed local woman in front of a pleasant clean house, bottle feeding a content plump baby. The message will often state that a particular product produces strong and bouncing babies. The implication is that nice people with nice houses wanting nice babies bottle feed their infants. The advertisement may point out how easy and how good

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[3]The contraceptive effect of breast-feeding is due to increased levels of the hormone prolactin, produced as a response to breast stimulation. Prolactin inhibits ovulation and menstruation, conserving the woman's iron and protein reserves as she nurses. Some argue that breast-feeding depletes a woman's body, which is of course true if her food supply is inadequate. It nevertheless helps prevent frequent pregnancies, many of them stillborn, if she is undernourshed, which put an even greater strain on her body. Furthermore in some cultures there are taboos against intercourse with a lactating woman, which provide further insurance against pregnancy.

> it is to bottle feed with a particular product. In fact, as previously stressed, it is incredibly difficult and extremely bad for the majority of Africans, Latin Americans and Asians. (Latham, 1977a:iv)

Formula manufacturers also direct promotional literature to physicians, and use persuasive advertising in medical journals. They coopt the authority and prestige of modern medicine by giving free samples of formula to mothers through physicians, hospitals, and travelling "milk nurses" whom they employ. Greiner remarks that "breast milk substitutes are unique (with the possible exception of narcotics) in the ease with which repeat customers can be secured. A mother encouraged by a 'milk nurse' to try a product, or given a free sample, may find that a few weeks later she no longer has the option to breast-feed [because her milk will have dried up for lack of breast stimulation], whether or not she can afford to buy more of the product" (1977:44).

The situation is complicated by the fact that analyses, both professional and nonprofessional, typically remain on a macrosocial level, defining the issue in birth and death rates, dollars-and-cents economics, activities of multinational corporations, and so on. In journal articles and news items in the popular press, breast milk is frequently regarded as a natural resource, dwindling as world food supplies become critical. Solutions suggested generally emphasize educational programs to convince women to breast-feed, or legislation to curb profit-making interests, prohibit medical professionals from endorsing products, and the like. An interesting manifestation of this concern

is the campaign being conducted by an advocacy group in the U.S. that publishes a newsletter, holds annual conferences, and organizes protest activities. A primary focus of this group is a boycott of products of the Nestlé's corporation, one of the principal distributors of infant formula in developing countries (Infact notes, 1978).

However, this macrosocial approach seldom takes account of personal difficulties encountered by women in changing societies where traditional values and support systems are slipping away, and where new attitudes about women and childbirth are undermining the old. Breast-feeding is a complex psychobiological process that does not respond automatically to demand or even to desire on the part of the woman. A woman needs networks of support and protection, if she is to breast-feed successfully. She needs to value breast-feeding and have confidence in her body's ability to do it. She needs to be well nourished, so that she in turn can nourish her child, and she needs to know that the rest of her family is being fed. The appeals of formula manufacturers are heeded at least in part by women who come to believe--or hope--that some food from the western world will make their babies stronger, when the lives they and their families lead are marginal at best.

Breast-feeding in the United States

Today in the United States breast-feeding varies, as it has historically, according to region, size of com-

munity, and subcultural grouping. Some states have more than double the breast-feeding rate of others (Meyer, 1968). College-educated women are more likely to breast-feed than high-school-educated women (Auerbach, 1967:379); middle- and upper-middle-class women are more likely than lower-class women (Rivera, 1971); suburban women more likely than women in either metropolitan or rural areas (Meyer, 1968:712).

In America breast-feeding rates appear to have fallen later and also to have fallen lower than they did in the rest of the western world (Maternity Care in the World, 1966). One reason for this difference may be that medical management of childbirth was introduced here after it became popular in Europe, but eventually became more dominant here than there (Brack, 1976). By the late 1960s, 95% of deliveries in the United States were attended by physicians in hospitals, while the majority of babies in Europe still were delivered by midwives, many at home or in nonhospital settings (Haire, 1972). Another reason may be that male dominance and the Victorian Idealization of women went to greater extremes here, apparently, than in Europe (Welter, 1978).

History of breast-feeding in the United States

Prior to the Civil War most women nursed their infants, although "hand feeding"--giving babies feedings of animal milk or pap or various mixtures of cereals, boiled bread, gravies, or beer--was a prevalent practice. Wet

nurses were not as common as in Europe except among the privileged class of plantation owners in the South (Bracken, 1953). Miller and Swanson observe that bottle feeding generally was condemned, even though literature directed to "fashionable women" gave advice on formulas. Interestingly, articles about the poor pictured lower-class women at the same time as "able to nurse for many months with an especially abundant supply of milk" (1958:8).

Between the Civil War and World War I, bottle feeding became more acceptable, and the woman who preferred it was "no longer pictured as a disgrace to her sex, an unnatural degenerate who preferred books and a gay social whirl to the true and inborn responsibilities of motherhood" (Miller and Swanson, 1958:14). Even then manufacturers of breast-milk substitutes were advertising presumed benefits for their products. A pamphlet for Mellius Foods for Infants and Invalids dated 1894 (9th edition) carried a message similar to (but less subtle than) present-day commercial copy. The implication is clear that lactation failure is unavoidable, but easily remedied by the product:

> All authorities agree that breast milk of a healthy mother is the best nourishment. . . . There are, however, many mothers who are entirely unable to nurse their babies, and with many more the secretion of milk fails in a short time; sometimes the breast milk is so poor that the child's stomach is filled with a fluid that does not nourish him; in all cases an artificial substitute must be resorted to. (Mellius Foods, 1894:8)

A pitch for Mellius Food follows, plus testimonials from satisfied customers reporting miraculous results, and several pages of glowing praise from nurses and physicians.

Health problems due to rapid urbanization became critical in the United States early in the 20th century. Industrialization and waves of immigration brought dense concentrations of people to cities where water supplies and sanitation systems were inadequate and often appalling by present-day standards. Slums grew and problems of health and housing grew with them. Mortality rates for the entire society were high; they soared among infants and child-bearing women, groups particularly vulnerable to disease, infection, and the consequences of poverty.

During this period, health authorities initiated a number of studies on infant mortality, clearly documenting higher death rates among bottle-fed babies. The Children's Bureau, created in 1912 by the United States Department of Health, conducted a series of studies in major cities. Infant deaths in Waterbury, Connecticut, for example, were found to be twice as high for bottle-fed compared to breast-fed babies, and four times as high for infants under six months (U.S. Department of Labor, Publication No. 2-9:63). As late as 1934 a study done in Chicago showed that for the first nine months of life, death rates were ten times as high for bottle-fed babies compared to babies partially breast-fed, and fifty times as high compared to babies totally breast-fed (Grulle, Sanford, and Herron, 1943).

The studies also showed that standard of living was pertinent. Breast-feeding rates were high for poor and foreign-born populations, yet their infant mortality rates

were frequently twice as high as those for more affluent and native-born groups, showing that "other factors come to bear such as housing, income, water supply and sewage disposal" (U.S. Department of Labor, No. 2-9:63). In Montclair, New Jersey, "a particularly favored suburban community" with a "notably efficient health officer," statistics showed infant mortality rates more highly correlated with income than with feeding method. The report concluded: "It would seem, then, that the disadvantages of a low income were sufficient to offset the greater prevalence of breast-feeding among the poorer families" (U.S. Department of Labor, No. 11: 23).[4]

Health departments of state and local governments responded by waging public battle for safe water supplies, sanitary food distribution, and sewage systems. They also defined bottle feeding as a critical issue and organized educational campaigns to encourage breast-feeding. They distributed pamphlets quoting statistics on infant mortality, urged women to breast-feed, and gave detailed instructions for doing it. The New York State Department of Health, working through local health officers, aimed to "put a copy [of its pamphlet] in the hands of every expectant mother." "If you love your baby, nurse it," said the pamphlet. "Mother's milk

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[4]Studies in Europe showed the same. In 1908 data from the Netherlands indicated that for "high prosperity" populations infant mortality was 17 per thousand for breast-fed babies, 70 for bottle-fed; for "low prosperity" populations, 63.5 per thousand for breast-fed babies, 311 for bottle-fed (Hutton, 1977).

is nature's food, and no other food is as good." In some areas "mothercraft" classes were organized to encourage women in breast-feeding (U.S. Department of Labor, No. 2-9, 1913-15).

In Chicago there was a poster campaign to encourage women to nurse. One poster read:

> 70% of city babies get their milk through a tube 60 miles long. It takes 36 hours--often 42 hours--for the milk to run from the cow end of the tube to the babies' end of the tube. This tube is open in many places and baby's food is frequently polluted. It is often wrongly kept in overheated places. Then there may be a diseased cow at the country end of the tube. AND YET SOME PEOPLE WONDER WHY SO MANY BABIES DIE! On the other hand the mother-fed baby gets its milk fresh, pure and healthful--no germs can get into it. TO LESSEN BABY DEATHS LET US HAVE MORE MOTHER-FED BABIES. You can't improve on God's plan. FOR YOUR BABY'S SAKE--NURSE IT! (U.S. Department of Labor, 1913-15:17)

In New York City the Department of Health instigated a system of Milk Stations to distribute free milk to poor women who could not nurse, and who could not afford to buy milk. Interestingly, a subsequent report on the program made a point of denying accusations that the program "indirectly encouraged artificial feeding" (U.S. Department of Labor, No. 2-9:29). A similar charge has been directed today at programs that distribute free powdered milk in developing countries where breast-feeding is in radical decline (Berg, 1977:21).

Child care handbooks of that time urged mothers to breast-feed, even while giving advice that helped defeat it. The 1914 issue of Infant Care was emphatic in advocating breast-feeding. The 1951 revision, issued in a period when infant mortality rates were under control and breast-feeding

rates much lower, said: "It is the spirit in which you feed your baby that counts, rather than the kind of milk he gets" (Infant Care, 1951:29).

Some of these campaigns apparently increased breast-feeding and decreased infant mortality.[5] But such changes amounted to temporary fluctuations in the long steady decline in maternal nursing. The balance seems to have tipped toward bottle feeding in the 1920s and 1930s. The United States Children's Bureau reported that between 1913 and 1915 in New York City, 32% of all babies under one year of age were entirely breast-fed, and 60% were partly breast-fed (U.S. Department of Labor, No. 2-9:29). Other data showed that between 1911 and 1916 58% of city babies were still receiving breast milk in the 12th month of life (Foman, 1974:2). However, studies in 1946 showed only 38% of babies breast-fed on discharge from the hospital (Bain, 1948:313).[6]

The trend to bottle feeding was noted primarily in the expanding middle classes, and was popularly believed to

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[5]Sedgewick and Fleischner reported a drop in infant deaths from 87.9 per thousand in 1916 to 72.1 in 1917 and 65 in 1919 as a result of an educational campaign in Minneapolis that increased breast-feeding considerably (1921:153).

[6]This figure, though widely quoted, does not reflect breast-feeding rates for babies born at home, the majority of whom were in poor families, and more likely at that time to be breast-fed. In 1940 44.3% of babies were not born in hospitals. By 1955 this number had decreased to 5.7%, and by 1968 to 1.5% (U.S. Department of Health, Education & Welfare, Table I-S; I-20).

be a consequence of women's "new emancipation." But the trend was not new. Earlier statistics from the infant mortality studies had shown many middle-class women bottle feeding, either by choice or because of lactation failure. As early as 1901 Holt remarked that

> maternal nursing, as now carried on, has as large a proportion of failures charged to its account as any method with which I am familiar. The proportion of successes among women of the better class in New York City is, in my experience, hardly 20%. (1901:1)

It is a curious sidelight that during the twenties fashionable clothing for women seemed to deny they had any breasts at all, and some women bound their breasts to appear flat-chested.

Breast-feeding rates continued to decline until the late 1960s both for percent of women nursing and for length of the nursing period. Studies in 1956 showed 21% of babies breast-fed on discharge from the hospital; and in 1966, 18% (Meyer, 1968). Other studies reported that between 1950 and 1970 20% to 25% of women nursed their babies for one week, but only 10% to 15% for two months or more. In 1972 30% were reported breast-feeding for at least one week, 15% for two months or more (Foman, 1974:13).

However, after World War II, even as overall rates were declining, middle-class women began to breast-feed once more, while rates dropped among the poor. Bronfenbrenner summarized data from ten studies on child-rearing practices covering the period from 1930 to 1955 and concluded that "in the early period--roughly before the end of

World War II--both breast-feeding and demand feeding were less common among the middle class than among the working class. In the later period, however, the direction is reversed; it is now the middle-class mother who more often gives her child the breast and feeds him on demand" (1958:407). In 1970 data collected in New York City and San Francisco showed 25% of middle-income women breast-feeding their babies for at least four weeks, compared to only 5.9% of lower-income mothers (Rivera, 1971; see also Davis and Havighurst, 1946; and Freedman, 1953). The same class differences are recorded for Great Britain (Hollingsworth and Russell, 1973:139), Sweden (Foman, 1974:7), and Norway (Latham, 1977a: iv).

These fluctuations in breast-feeding rates followed changes in the social organization of childbirth care. Middle- and upper-middle-class women first adopted physician-attended births in the 19th century, and it was among them that breast-feeding rates fell first. As the medical specialty of obstetrics slowly displaced midwifery and moved birthing to the hospital, it was middle-class women who could afford the luxury of an anesthetized hospital birth. Poorer, rural, and foreign-born women were being delivered at home and by midwives well into the 20th century (Twenty Years of Midwifery, 1966; see also U.S. Department of Labor Infant Mortality Series No. 3).

But today it is middle-class women who are embracing changes that are moving childbirth away from the medical mod-

el, and even, in a small but growing minority of cases, out of the hospital altogether. They are the principal participants in the current Birth Reform movement, not only as organizers and educators, but also as mothers choosing alternative birthing patterns.

This movement gained momentum after World War II with the introduction of ideas, imported from Europe, of Grantly Dick-Read and Pierre Vellay for "natural" or "prepared" childbirth. Middle-class women--and men--both lay and professional, organized and worked for changes in hospital obstetrical procedures, for training pregnant women for unanesthetized births, and more recently for wider acceptance of midwife-attended births and home births as alternatives to hospital care. Two standard practices they have pressed to reduce or eliminate are medicated and anesthetized deliveries, and mother/baby separation--practices that were shown (in chapter I) to interfere with the establishment of a satisfying breast-feeding relationship.

Equally important, during the same period a new wave of feminist consciousness has been altering women's social status and self-perception. Feminist activities have led to a developing Women's Health Movement, committed particularly to change in women's perceptions of their bodies and their sexuality, and to change in gynecological care. These influences, like the change in childbirth care, have so far affected the behavior and self-concept of middle-class women to a greater extent than lower-class.

Theoretical Perspectives

Breast-feeding as deviance

As bottle feeding gained acceptance in the 20th century, breast-feeding came to be treated as deviant behavior. Women who nursed their babies faced negative sanctions and other processes of social control. They frequently had to defend and justify their behavior to physicians, relatives, and friends, and learn to handle various degrees of hostility, ridicule, and pressures to bottle feed. Niles Newton observed that breast-feeding was taboo as a topic of conversation for many years, and that pictures of women breast-feeding never appeared in the media. In 1975 the New York Times carried a story about the arrest of three women because they were nursing their babies in a public park (1975:34). The charge was "indecent exposure."

Breast-feeding was deviant in several senses, indicating that values and beliefs about it were ambivalent and contradictory. On one hand it carried the stigma of having been associated with lower classes for a century or more, while bottle feeding was associated with middle-class status and upward mobility. Throughout the ages privileged women employed less privileged women to feed their babies, in much the same way they employed them to cook, tend their children, and do various forms of housework. As breast-feeding increases now among middle-class women, it is receiving the same attention and scrutiny both from profession-

als,[7] and from the popular press,[8] that other forms of lower-class (i.e.,"deviant") behavior received when adopted by members of the middle class. Marijuana smoking, abortion, and women out of wedlock keeping their babies come to mind as examples of other behavior similarly treated.

Furthermore, in the U.S. the definition of the female breast primarily as an object of sexual and erotic stimulation for men has contributed to negative feelings about breast-feeding. Some women express an aversion for handling their own breasts (necessary during breast-feeding), and some men express jealousy of the nursing infant. A general discomfort in the U.S. culture with the body and body products has caused breast-feeding, for some women, to be associated with feelings of disgust, embarrassment and shame.[9]

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[7]Recently two journals devoted exclusively to breast-feeding have begun publication: The Lactation Review (Vol. 1, No. 1, 1976) and the Keeping Abreast Journal (Vol. 1, No. 1, Jan./March, 1976). The Lactation Review is published by the recently formed Center for the Study of Human Lactation in Westport, Connecticut. An editorial in an early issue commented:

> Up to four years ago most scientific meetings concerned with fertility or growth or nutrition had never included a session on breast-feeding. Currently there's hardly a major conference on pediatrics, anthropology, nutrition or family planning which does not have a session devoted to one of another aspect of breast-feeding (Vol. 2, No. 1:1).

[8]Articles discussing breast-feeding have appeared recently in popularly read publications such as Consumer's Guide, the New York Times, Harper's Bazaar, Psychology Today, Ms. Magazine, and Science. It is being discussed in feminist literature (Seamon, 1972; Our Bodies Our Selves, 1976), and in texts on marriage and the family, where it was seldom if ever mentioned previously.

[9]Such attitudes frequently are mentioned by women as

On the other hand, breast-feeding was seen as "good" although difficult to do. Therefore, it was deviant in the sense that "overachieving" is deviant. Medical texts, nursing texts, and infant feeding manuals (particularly those distributed by formula manufacturers) still imply that it is outside the range of normal for some women, and possible for others only if they exert extra effort, persevering when faced with inevitable obstacles. Physicians and nurses reassure women they need not feel guilty if they reject breast-feeding, nor inadequate if they try it and fail. In this respect it is interesting that members of La Leche League, who are staunch in their belief that every woman can breast-feed and should be encouraged to do so, are considered fanatics, even by persons who are positive about the merits of breast-feeding.

A deviance perspective explains the lack of concern in our society for educating the poor to the benefits of breast-feeding. When breast-feeding is normative, as it is in developing countries, and as it was here at the turn of the century, authorities are more likely to correlate poor infant health with lack of maternal nursing, and attempt to persuade women to return to breast-feeding. On the other hand, when breast-feeding is deviant and bottle feeding normative, infant health is more likely to be seen as a problem with medical remedies, and lack of maternal nursing

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reasons for not choosing to breast-feed. See, for example, Newson and Newson, 1962.

is overlooked as a contributing factor.

A deviance perspective also suggests an explanation for media treatment of stories on environmental contamination of human milk. Media discussions have sensationalized reports of breast-milk contamination and distorted facts, which is not uncommon in stories on other behavior defined as deviant. Medical and biological researchers point out that contamination is widespread in our society, and affects formulas and other infant foods as well as breast milk; they are unanimous in the opinion that advantages of breast-feeding outweigh possible disadvantages from contamination. Public health officials have declared that evidence to date does not contraindicate breast-feeding (Rall, 1977; Brown, M., 1976; La Leche League International, Information Sheets, 1978). Even so, media stories often leave an impression that breast milk is harmful, while other forms of infant feeding are not.[10]

Breast-feeding as a function of women's power in social exchange

A deviance perspective is helpful in describing social response to breast-feeding women in modern society, but inadequate for analysing historical and cross-cultural variations in infant feeding practices.

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[10]Stories frequently carry disturbing headlines such as "Mother's Milk Found To Contain Pesticides" (N.Y. Times, 1977), and "Is Breast Milk Dangerous to the Baby?" (N.Y. Daily News, 1977), while relevant facts are neglected or buried in the body of print. (The latter article implied that breast milk is dangerous unless a woman uses unusual discipline and sacrifice to rid her body of contaminants.) The Environmental Defense Fund used breast milk contamination to dramatize their campaign

A perspective based upon life-style changes that accompany industrialization also falls short, since it fails to account for low rates of maternal nursing among preindustrial elites, the current increase in breast-feeding among middle-class women in advanced industrial societies, and the comparatively high rates sustained in some societies (such as the People's Republic of China) that are industrializing along non-western lines.

A more inclusive framework for analysis is provided by a social exchange perspective, with specific reference to the consequences of differential power in social exchange relationships between men and women. Breast-feeding rates appear to vary according to the amount of social power women in a given society or group possess relative to the men in their own society or social group. Women's relative power is associated with the degree to which they (as a group) are

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against pollution. A 1970 EDF media ad was captioned in bold-faced type: "Is Mother's Milk Fit For Human Consumption?" It read: "Nobody knows, but if it were on the market, it could be confiscated by the Food and Drug Administration. Why? TOO MUCH DDT." EDF's pamphlet on the subject (Harris and Highland, 1977) presented a more balanced assessment than the newspaper campaign. However, it also advised women to have their milk tested for contaminants, a procedure that is costly, unavailable in most areas, and, according to authorities, unnecessary.

Such media coverage apparently has had some effect on public opinion. Several women interviewed for this study reported they did not intend to try breast-feeding because they had heard that breast milk had "things" in it that could "cause cancer." One woman reported having seen an hour-long television documentary that left the impression breast milk was harmful. Her mother telephoned her afterward to convey her concern that the woman might decide to breast-feed her baby.

able to control the organization of institutionalized patterns for reproduction and lactation, frame the social definitions for these functions, and maintain female support systems for childbearing and lactating women (Rossi, 1977; Lorber, 1978).

A social exchange analysis suggests that industrialization lowers breast-feeding rates not only because of life-style changes, but also and more importantly because modernization is accompanied, when it proceeds along western lines, by a loss of social power for women relative to men (Blumberg, 1978). However in advanced industrial societies middle- and upper-middle-class women apparently are gaining a measure of social power, and it is here that rates of maternal nursing are increasing. In societies modernizing under non-western ideologies, women gain (or at least maintain) more equitable power relative to men in their own groups, and in these instances breast-feeding rates remain at a relatively high level.

In the West as industrialization developed women's status fell. Working women were paid progressively less than men in the labor market (Sullerot, 1971), and women in the expanding middle classes became consumers, dependent upon men for social status and economic support (Veblen, 1899; Friedan, 1964). Blumberg (1978:30-31) has shown clearly that women are more likely to be oppressed physically and politically where they lack appreciable economic power. She has also shown that women are losing power today in

third-world societies where western ideology is shaping social change, in much the same way that women did when the West industrialized (1978:109).

As women's status fell, they lost control they previously held over their own bodies, their reproductive functions, and the organization of childbirth care (Ehrenreich and English, 1972, 1973). Their personal attributes (beauty, charm, virginity, sexuality) were modified to please men, because these constituted bargainable commodities exchangable for social status and economic support.

Nearly a century ago, Charlotte Perkins Gillman (1966) saw a connection between women's economic dependence upon men, the necessity to define femininity to please and attract them,[11] and the consequences for childbirth:

> The more absolutely woman is . . . cut off from all economic use and made wholly dependent on the sex relation as a means of livelihood, the more pathological does her motherhood become. The overdevelopment of sex caused by economic dependence on the male reacts unfavorably upon her essential duties. She is too female for perfect motherhood! . . . Small, weak, soft, ill-proportioned women do not tend to produce large, strong, sturdy, well-made men and women. (1966:182)

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[11] Implications of male possession of the female breast and control over it are interesting. Some women interviewed for this study said their husbands would not allow them to breast-feed. Others said they were afraid nursing would spoil the shape of their breasts, making them less attractive to their husbands. Several women who had nursed before reported that their own fathers or other male kin had ordered them to a back room, or even out of the house when they nursed their babies with other family members present. A woman who works in a program teaching breast self-examination reported that women occasionally say they must ask their husbands' permission to examine their own breasts.

Peter Blau's explanation of the power factor in exchange is pertinent in this connection. He notes that

> persons or groups who have benefits at their disposal that others need . . . can attain power over the latter by making the supply of these benefits contingent upon compliance. This principle is manifest in social relations of all kinds from the most intimate between two persons to the most distant in large collectivities. (1969:65)

Before the industrial revolution women owned businesses and were apprentices, and as midwives and healers they controlled knowledge about reproduction and the rules for childbearing (Sullerot, 1971; Thrupp, 1948:169-74; de Beauvoir, 1953:100). Simone de Beauvoir remarks that a woman of the people "could go out, frequent taverns and dispose of her body as she saw fit almost like a man; she was her husband's associate and equal" (1953:100). This was not true for women in the patriarchal aristocracies, who were treated as virtual possessions by men in their class (Lorber, 1978; Blumberg, 1978). It was among these privileged women of leisure that breast-feeding rates were lower and that male physicians first practiced midwifery in the 17th and 18th centuries.

The professionalization of medicine included the displacement of the midwife by the male gynecologist/obstetrician, and a redefining of pregnancy, childbirth, and lactation as medical conditions needing the expertise of a specialist. Studies have shown that male physicians by and large discourage breast-. ding explicitly or implicitly by negative attitudes, lack of interest in or practical

knowledge of normal breast-feeding, a tendency to "manage" infant feeding, and treat lactation in terms of pathology (potential complications) rather than normality (Hollen, 1976; Haire, 1967).

From the late 19th century on in America, a male-dominated and profit-oriented medical profession controlled the organization of perinatal care and, in partnership with a male-dominated church and state, defined rules for contraception and abortion. This control was more complete for middle-class than lower-class women, who were attended by their own midwives well into the 20th century, and obtained abortions, however inadequate they may have been. Lower-class women continued to nurse their babies long after breast-feeding rates fell in the middle class. It has also been noted that lower-class women held more power in social exchange relative to men in their own class than did their middle-class sisters (Simmel, 1955:182; Goode, 1964:373; Blumberg, 1978).

Traditionally, middle-class women were socialized for physical weakness, dependence upon a dominant male, a low threshold for pain, and ignorance of their own reproductive functions. These "feminine" qualities made them willing consumers of the very practices that defeat breast-feeding in the hospital--particularly a medicated and anesthetized delivery and mother/baby separation. Jessie Bernard has observed that although socialization for motherhood is all-pervasive, it has also been counterproductive, structured

in such a way as to produce precisely the characteristics in girls that are dysfunctional for motherhood (1975:72). Anne Seiden has said that "childbearing, like child rearing, is an athletic and libidinal task, tough and demanding, sometimes exciting, often exhausting," and that rather than encouraging our young women to develop pride and mastery in it, we have "infantilized" them by "encouraging humiliating dependency and a cry to be relieved of pain" (1975:7).

This situation is perpetuated by scientific research that ignores childbirth and lactation as aspects of women's sexuality. Newton (1973) has demonstrated that breast-feeding, undrugged childbirth, and coitus are interconnected, and that a woman's body manifests similar neurohormonal and physiological responses in each. And yet, she observes,

> there is a tendency in our society to place special emphasis on the types of female sexual behavior that are of particular pertinence to adult men. Thus women's responses in coitus are singled out for considerable attention while discussion and research on the psychophysiologic aspects of other reproductive behavior tends to be muted. (1973:77)

Rossi (1973) suggests that this discrepancy reflects (while it reinforces) an androcentric system of values, and that men's greater power in society has allowed them--as a group--to place a male definition on women's sexuality:

> Christian theology and its associated male-dominant family and political systems have imposed a wedge between maternalism and female sexuality. We define maternity in culturally narrow ways, clearly differentiating it from sexuality, and requiring that women deny the evidence of their senses by repressing the component of sexuality in the maternal role. I suspect that the more male dominance characterizes a western society the greater is the disassociation between

> sexuality and maternalism. It is to men's sexual advantage to restrict women's sexual gratification to heterosexual coitus, though the price for the woman and a child may be a less psychologically and physically rewarding relationship. Cultural insistence that the breast is more a sexual than a maternal object--currently more acceptable publicly in a sexual display than in a maternal display of nursing--may be accepted by women who then refuse to try nursing their infants or discontinue it upon discovering that it involves a physiological blend of the sexual and the maternal. (1973:167-68)

According to exchange theory, interaction among members in a system (in this case men, women, and infants) develops a division of labor in which roles are allocated on the basis of supply and demand, to satisfy human needs of each. But Eisenstadt (1971) and others have reminded us that unequal power permits some persons and groups to define the situation to their own advantage. He says, for example, that

> the central value system and presumed needs of any society are neither given nor to be found within it in some natural way, but are mostly imposed by those people or groups that succeed in seizing and monopolizing positions of power within it. It is therefore the distribution of power, and not the objective needs of any society nor any common values and norms that is the main determinant of the differential allocation of roles or positions in a society. (1971:38)

With advanced industrial society the situation has changed. Now middle- and upper-middle-class women are more likely to work and be independent in their relationships with men. Their increased power in social exchange allows them greater control over contraception, abortion, and (through the Birth Reform Movement) the organization of childbirth. But perhaps more critical than this, they are challenging and beginning to change the social definition

of femininity and female sexuality. Little girls and young women are more likely to be socialized for emotional and physical strengths, and to know and maintain control over their own bodies. Some women are redefining reproductive activities as expressions of women's sexuality--positive and even sensuous experiences rather than medical conditions, "painful," or "a duty." Barbara Seamon, for example, writes that breast-feeding "is as sensual . . . experience unlike any other, somewhat related to and yet different from good sex" (1972:285). These are the changes that have affected breast-feeding rates.

However, as suggested previously, these changes have affected primarily a selected base of middle-class women that includes educated and professional women, some feminists and "natural living" enthusiasts, and more traditional women who are the backbone of the La Leche League and Birth Reform movement. It remains to be seen how pervasive and long-lasting these changes will be, and to what extent they will affect poor and working-class women.

Three models for infant feeding systems

The previous discussion has shown that infant feeding is patterned by cultural expectations and childbirth management. Behavior systems, that may be described as ideal-type constructs or models, develop from these expectations; these systems in turn affect individual decisions about feeding babies, and the breast-feeding experiences of women who choose to nurse.

Today in the United States ideologies supporting childbirth and infant feeding are changing. Consequently at least three such behavior systems exist: one in which bottle feeding is valued over breast-feeding, one in which breast-feeding is valued over bottle feeding, and a third where both bottle and breast are viewed equally "good." Each pattern is undergirded by appropriate attitudes and beliefs about infant feeding, a system of perinatal care that fosters the valued method, and a definition of the sociosexual nature of women that reinforces the system.

From a symbolic interactionist perspective, a woman will learn about infant feeding in these interaction systems, where others practicing the behavior share common experiences and definitions for it. She will have had some contact with one of more of them by the time she is in her first pregnancy, even though she may have had very little direct experience with the practical details of feeding babies. She will have internalized cultural values and expectations for reproductive roles, infant care, maternal behavior, and sex roles from socialization through family, peer groups, schools, the media, and so on.

These behavior systems for infant feeding are described below not as real situations, but as hypothetical models. They probably exist in pure form only rarely, with most situations containing elements from one or more of them, even though the elements appear to be contradictory or incompatible.

Bottle feeding preferred over breast-feeding. A system advocating bottle feeding has been widely accepted for the greater part of this century, and was the basis for discussion on lactation failure in chapter I. Where this pattern predominates, formula feeding is normative, and hospital care and social life are functionally compatible with it. Breast-feeding is believed old-fashioned, difficult, and likely to be accompanied by discomfort and medical complications. Women are believed potentially incapable of breast-feeding for various reasons. There is low tolerance for infants in public, disapproval and shock when women nurse in "inappropriate" places, and general disapproval for breast-feeding toddlers and sleeping with babies--behavior common where breast-feeding is freely accepted.

Physicians, the authorities on infant feeding, implicitly or actively discourage patients from breast-feeding. Women are "good patients" when following a physician's advice, and "listening to old wives' tales" when following advice from other women. Childbirth is medicated, anesthetized, and characterized by technological intervention, a low level of participation by the woman, and routine mother/baby separation.

In this model women have low social value in social exchange as economic producers, child producers, and child feeders. They are economically dependent on men and valued for display as sex objects by men. Men are the female's reference group (not other women) for sexuality, reproduc-

tion, lactation, and success at work or breast-feeding. Work is defined as incompatible with reproduction, and labor policies are punitive for childbearing and breast-feeding women.

This model also is associated with the values and life style of a high-technology society, in which rational efficiency and instrumentalism are important in all areas including birthing and parenting, and valued by women as well as men. Bottle feeding is more convenient both for professional and working-class women, because it permits child care arrangements for young infants apart from their mothers.

Breast-feeding preferred over bottle feeding. In this model breast-feeding is preferred over formula feeding for the infant's physical and emotional development, the mother's health, and a sound mothering relationship. All women are believed capable of nursing (with rare exceptions). "Choice" between breast and bottle is not an issue, since the superiority of nursing is not questioned. Even adoptive mothers make a strong effort to induce lactation, and with the support of like-minded women, they frequently are successful (Auerbach, unpublished).

Persons committed to these values see breast-feeding as qualitatively different from bottle feeding. It is defined not as "giving food" (although the nutritional superiority of breast milk is not questioned), but rather as a unique psychobiological relationship between mother and

infant. The meanings placed on the relationship vary from the practical to the quasi-mystical. Some see it as "best" or "healthy" or "natural", others are convinced mother and baby are bound in a spiritual way not possible with alternative feeding methods. Meanings placed on breast-feeding are not unlike meanings placed upon sexual relations in a marriage. Breast-feeding may be seen as a duty or obligation for the woman, a "right" of the baby, an important life experience, or as something special only the mother can give her baby. Or it may be seen as physically pleasurable--a sensuous or even sexual experience. Men involved in this system as husbands, fathers, or birth attendants are supportive for breast-feeding, and believe it strengthens family relationships.

In this model women are not economically dependent upon men, and have high social value as economic producers, child producers, and child feeders. Reproductive technology is ordered by female physiology, reproductive expertise is female dominated, and childbirth practices emphasize normality rather than potential complications. Medication, anesthetization, and technological intervention are avoided except under unusual circumstances. Female support systems are maximized in birthing and lactation. Women focus on their natural healthy physiology, and participate actively in economic production without sacrificing their reproductive role.

This model most closely resembles the ideology for

reproduction and childbirth practices of preliterate cultures and nonelite groups in preindustrial society. Where it prevails today, women nurse their babies with few problems and few failures. Some or all of the beliefs are espoused by the most radical alternative childbirth systems: home birth with or without a lay midwife or physician in attendance, and nurse-midwife attended delivery in birth centers or hospitals (Stewart and Stewart, 1978). They are also expressed by La Leche League, some women's self-help health groups, and persons committed to back-to-the-earth life styles, "natural food" and Holistic Health Movements. They are suggested in the writing of some feminists (by no means all) (Seamon, 1972; Rossi, 1973), nutritionists (Berg, 1977; Greiner, 1977; Jelliffe, 1975), and researchers in psychosomatic obstetrics (Newton, 1972, 1973; Rossi, 1977; Seiden, 1975). Klaus and Kennell's work on infant/parent bonding (1976), and Prescott's work on the relationship between body contact in infancy and violent behavior later in life (1976) provide suggestive evidence for qualitative differences between breast and bottle feeding. The ideology of this model also is evident in the editorial slant of Keeping Abreast Journal and the Lactation Review.

Breast and bottle feeding are equally good. A third model, the one most prevalent today, seems to be a transitional model. Here neutrality is expressed toward the relative merits of breast and bottle, but behavior systems

reflect ambivalence and ambiguity. The underlying assumptions are "free choice" and "individual action," although the norms require women to follow (male) physician's advice, and in practice physicians seldom discuss infant feeding with patients. Women frequently have no realistic knowledge of the demands or the consequences of either breast or bottle feeding.

On one hand breast-feeding is regarded as natural and good for mother and baby (provided the woman is able to nurse and chooses to do it), but formula feeding is believed just as good, and the relationship between mother and baby the same in either case provided the baby is held as he or she is fed. Expression of love and closeness is said to be critical rather than feeding method. A woman who tries breast-feeding is regarded as conscientious and trying to do the best for her baby, but since it may be difficult she is not criticized if it fails. The socially restricting nature of breast-feeding is an acceptable reason for rejecting it altogether. So is simple preference for bottles. If the woman's husband has a strong preference, it is assumed she will defer to his wishes in the matter, rather than risk tension and conflict in the marital relationship. Since no real advantage is assumed for one method over the other, the choice has less priority than family harmony.

The beliefs and values undergirding this model were reinforced by child development studies of the 1940s and

1950s that demonstrated no significant differences between breast-fed and bottle-fed children on a number of behavioral measures (Hoffman and Hoffman, 1964:19-41). They are widely expressed today in popular advice on child care (Spock, 1968; Gordon, 1968), the media (Consumer's Guide, 1977), textbooks, and so on. For example, a popular introductory text in psychology reads:

> For years people have been debating the relative merits of breast and bottle feeding. The research indicated that it doesn't make any real difference which way the baby is fed--as long as the mother is comfortable with the method she is using. . . . When mothers show signs of tension in the feeding situation, their babies also show signs of the tension. When mothers are relaxed, their babies tend to be calm too. The relationship is the same regardless of the method. . . . One notable authority sums it up like this: "The truth is that the emotional health of both mother and baby is best served by whatever generates the most pleasure between the two, the greatest closeness and affection, one for the other." (Davidoff, 1976:83)[12]

By and large, these are the values expressed by medical professionals, and constitute the rationale for a neutral policy on breast-feeding. Auerbach reports a reluctance among physicians to express an opinion on breast-feeding for fear of giving women "hang ups" (1976). A team of medical

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[12]Interestingly, the "notable authority" quoted is not a research scientist but a practicing pediatrician, and the passage is from an article he published in the N.Y. Times Magazine (June 6, 1971). The article provoked a storm of letters to the editor refuting many of the author's factual statements about breast milk and breast-feeding, and challenging his value orientation. They came from medical researchers such as Derrick B. Jelliffe, and other authorities on breast-feeding, such as Sally W. Olds, coauthor of The Complete Book of Breast-feeding (one of the most widely read handbooks today), the president of La Leche League, and Ashley Montague (Letters, N.Y. Times Magazine, 4 July 1971).

researchers at Mount Sinai Hospital concluded a study on infant feeding by saying, "It would seem unwise for a hospital to establish other than a completely neutral policy on the matter." Their recommendations were based on a survey of the literature that showed "at present no cogent evidence supporting or refuting the advantages of either method over the other," and on data from the women studied showing "that emotional factors apparently play a dominant role in determining choice of infant feeding technique, and many of those who elect to breast-feed fail to meet the minimum criterion of six weeks" (Brown, Lieberman, Winson, and Pleshette, 1960:428).

Nursing texts recommend that nurses remain neutral and support a woman in whatever method she chooses. Nurses are advised against urging a hesitant woman to try breast-feeding lest she really may not want to do it, and communicate unexpressed negative feelings to her baby. Concern about causing guilt in women who choose bottle feeding is common (Schmitt, 1970; Lerch, 1974: Lipkin, 1974; Hamilton, 1974).

Current changes in practices surrounding pregnancy and delivery make the inherent ambiguities in this model more apparent. A both-methods-are-fine approach generally is taken in La Maze and other prepared childbirth instruction. Women taking the instruction are more likely to choose breast-feeding (Doering and Entwistle, 1975; Auerbach, 1976), but even in hospitals where it is supposedly encouraged, established medical routines interfere with

easy and trouble-free breast-feeding.

A study by Knael illustrates that although hospitals profess a neutral stance on infant feeding, they remain organized for bottle feeding. She compared the ideas of nurses with ideas of LLLI mothers on the needs of breast-feeding women during the hospital stay. On the one hand nurses said breast-feeding should be encouraged, but on the other hand they said that changes the breast-feeding women desired, such as "rooming in" and early nursing in the delivery room, were unnecessary or undesirable, and presented practical difficulties to the staff (Knael, 1974).

Even where postnatal care is being modified to meet the needs of breast-feeding women more adequately, options such as "rooming in" are uniformly more available to private patients or middle-income women in suburban areas. This appears to indicate not a basic change in value orientation on the part of professionals, but rather an attempt to meet demands of medical consumers where it is economically profitable for the hospital to do so.

In this model the critical aspect of social support and socialization is overlooked, and occurs rarely or accidentally. By default bottle feeding is likely to prevail, because medical routines favor it, and women are neither knowledgeable enough nor strong enough to challenge the medical experts. Success at breast-feeding (like a professional career) is not a matter of individual motivation and achievement, but rather develops out of active encourage-

ment and a social support system for learning the ropes and for difficult periods.

Recent developments and conclusions

Interestingly, very recent research studies and reports from professional organizations indicate an apparent swing away from a neutral stance on infant feeding and toward a position more favorable to breast-feeding. This change apparently is a response to the weight of medical and biological research on the benefits of breast-feeding, and a concern for the consequences of bottle feeding in third-world nations, if not in more affluent societies.

For example, a study by Sloper, McKean, and Balm (1975) stated that staff (pediatric, in Jon Radcliff Hospital, Oxford) opinion had strengthened in favor of breast-feeding due to recent reviews citing the considerable advantage to human infants of receiving breast milk. Another (Sacks, Brada, and Hill, 1976:183) said that "once again it is becoming accepted that breast milk is the best food for newborn babies." In May 1974 the World Health Organization adopted a resolution that urged all member nations to take vigorous action to promote a return to breast-feeding (Twenty-Seventh World Health Assembly, 1975), and an International Pediatric Association seminar on nutrition in 1975 emphasized the need for educational programs to promote breast-feeding.

In 1976, The committee on Nutrition of the American Academy of Pediatricians "restated its position" on breast-

feeding on the evidence that "certain nutrient interactions may result in some advantages of human milk over formulas" and that "the physical contact between mother and infant which breast-feeding entails is advantageous in that early physical contact between mother and infant promotes better interaction" (American Academy of Pediatrics, 1976:275). The report concluded: "This statement proposes recommendations toward increasing the practices of breast-feeding" (1976:278). Two years later, in a joint statement with the Nutrition Committee of the Canadian Paediatric Society, the Committee's recommendations were much stronger: "Breast-feeding is strongly recommended for full-term infants, except in the few instances where specific contraindications exist. Ideally, breast milk should be practically the only source of nutrients for the first four to six months for most infants" (American Academy of Pediatrics, October 1978: 591).

However, it has been suggested here that infant feeding choices and practices are not likely to change in response to professional pronouncements, admonitions from political authorities, or programs to change women's attitudes. They appear, rather, to respond to women's participation in economic life, their status relative to men, and their ability to control their own sexuality and reproductive functions. Breast-feeding rates declined in the past regardless of efforts to persuade women to nurse, and in the face of evidence that infants were more likely to die when fed by bottle. They began to rise again when women's

social power increased, despite the fact that breast-feeding was treated as deviance, hospital care and social life were organized in patterns unfavorable to it, and technology had made bottle feeding relatively safe.

Only a sincere concern to improve the quality of life for women in society, and a recognition of their unique needs during pregnancy, childbirth, and the first year of their infants' lives will bring about lasting change in the infant feeding choices they make, and their ability to breast-feed.

CHAPTER III

RESEARCH DESIGN AND PROCEDURE

Premises and Hypotheses

The study is based upon the general proposition that breast-feeding is learned social behavior, patterned by cultural expectations and reference groups, and responsive to the social organization of childbirth care. Four specific propositions follow.

1. Women are more likely to choose breast-feeding in the prenatal period, initiate it after the baby is born, and maintain lactation successfully when they are cared for prenatally and during childbirth in a childbirth setting that encourages and supports breast-feeding. This actually breaks down into three separate hypotheses:
   a) The more prenatal care encourages breast-feeding, the more likely women will choose it rather than bottle feeding.
   b) The more perinatal care supports breast-feeding, the more likely women will be to initiate it.
   c) The more postnatal care supports breast-feeding, the more likely women who choose breast-feeding will maintain lactation successfully.
2. Women will be more likely to choose breast-feeding,

initiate it, and succeed at it, if they have learned to value breast-feeding as good for babies and enjoyable for women. This leads to six separate hypotheses:

a) The more women define breast-feeding as good for babies, the more likely they will be to choose breast-feeding.

b) The more women define breast-feeding as good for babies, the more likely they will be to initiate it.

c) The more women define breast-feeding as good for babies, the more likely they will be to maintain lactation successfully.

d) the more women define breast-feeding as enjoyable for women, the more likely they will be to choose breast-feeding.

e) The more women define breast-feeding as enjoyable for women, the more likely they will be to initate it.

f) The more women define breast-feeding as enjoyable for women, the more likely they will be to maintain lactation successfully.

3. Women will be more likely to choose breast-feeding, initiate it, and succeed at if if they have learned to value strength and independence for women, rather than weakness and dependence. This breaks down into three hypotheses:

a) The more women accept strength and independence in sex roles for women, the more likely they will be to choose breast-feeding.

b) The more women accept strength and independence in sex roles for women, the more likely they will be to initiate breast-feeding.

c) The more women accept strength and independence in sex roles for women, the more likely they will be to maintain lactation successfully.

4. Women will be more likely to choose breast-feeding, initiate it, and succeed at it when they have internalized values that allow them to accept the body and body functions without embarrassment and shame. This leads to three hypotheses:

a) The more women express acceptance of the body and body functions, the more likely they will be to choose breast-feeding.

b) The more women express acceptance of the body and body functions, the more likely they will be to initiate breast-feeding.

c) The more women express acceptance of the body and body functions, the more likely they will be to maintain lactation successfully.

The following variables are pertinent:

1. Dependent variables

a) <u>choice of feeding methods</u>

b) <u>initiation of breast-feeding</u>

c) <u>success at breast-feeding</u>

2. Independent variables

a) Childbirth setting: supportive or nonsupportive for breast-feeding.

b) The woman's values about breast-feeding: breast-feeding is best for mothers and babies, or bottle feeding is preferable.

c) the woman's values about the sociosexual status of women: strength and independence valued for women, or weakness and dependence.

d) the woman's values about the body and body functions: acceptance or nonacceptance.

Method

Questionnaires

Questionnaires were used to measure choice of feeding methods, values about breast-feeding, and values about women's sociosexual status. (Sample questionnaire appendix #1.) The questionnaire also included items on other variables presumed to influence infant feeding, such as socioeconomic background and perception of attitudes of significant others.

Choice of feeding methods. This was recorded by an item asking the woman's plans for feeding her baby. Values were measured by 40 attitude items. These were culled from an original list of 78 questions selected from the literature or accumulated from experience, then pretested on a sample of 178 college students. (Sample pretest questionnaire appendix #2.) A factor analysis of the pretest data showed

items clustered under seven principal factors that were labeled 1) breast-feeding is sexually attractive, 2) breast-feeding is demanding, 3) breast-feeding is embarrassing, 4) breast-feeding is good for babies, 5) women enjoy breast-feeding, 6) acceptance of the body and body functions, and 7) women's sociosex roles. Items with high factor loadings were chosen for the final questionnaire.

Eighteen questions concerning factual information about breast-feeding, excluding overly technical matters, also were included in the pretest. It was expected they would form an overriding single factor (knowledge about breast-feeding), and constitute a pertinent variable for the final questionnaire. However, the analysis did not bear out the assumption, and they were not used in the study.

The questionnaires were administered to primiparae (women pregnant for the first time) during the fifth to ninth months of pregnancy. First pregnancy was chosen to avoid influence from former childbirth experience.

Two hundred and ninety-nine usable questionnaires were collected. Twenty-three more were eliminated because of insufficient information, or because respondents were multiparous (in second or subsequent pregnancies).

Telephone follow-up interviews

Telephone follow-up interviews were used to determine whether 1) breast-feeding was initiated, and 2) lactation was maintained successfully. (Sample telephone interview

schedule appendix #3.) Women were interviewed approximately two months after delivery. For the purposes of this study, breast-feeding was considered "successful" when lactation was maintained for six weeks.

The interview schedule also contained questions on type and frequency of feeding supplements if used, problems encountered with breast-feeding, and childbirth factors presumed to influence infant feeding such as length of labor, complications during labor, use of medication and anesthesia, the woman's perception of support for breast-feeding in the hospital, and presence or absence of supportive help at home. When telephone contact was unsuccessful, an abbreviated form of the interview schedule was sent by mail to the respondent with a cover letter and return envelope.

Two hundred and nine interviews were completed and four contacts were maintained where the women had not delivered their babies at the time the data were processed. Of the 86 cases remaining, addresses for 13 were unobtainable. Follow-up forms were mailed to 73. Twenty-four of these were returned completed; nine were returned marked "undeliverable" for various reasons, and 40 were not returned.

Of the 40 not returned, 23 respondents had planned to bottle feed their babies; 17 had planned either to breast-feed, to feed with a combination of breast and bottle, or were undecided at the time the original questionnaire was

completed. A letter was sent by certified mail to the 17 who intended to breast-feed or were considering it. The letter asked simply for a checked response to three questions: 1) whether or not breast-feeding had been initiated; 2) if "yes", how long it had been practiced; and 3) whether or not serious problems had been encountered maintaining lactation. Replies were received to four of these letters.

In all, follow-up information was obtained for 237 cases (209 by telephone, 28 by mail), or 79.3% of the total sample. Of these, one pregnancy was terminated by spontaneous abortion, and one baby died at birth, leaving infant feeding information for 235. The remaining 64 cases were used in the analysis of choice of feeding variable.

Telephone interviewing was on the one hand a frustrating chore (respondent never home, suspicion of the interviewer, telephone disconnected, and so on), and on the other hand a heartwarming experience. Many of the women apparently welcomed an opportunity to recount their childbirth and infant feeding experiences to an interested listener, and were surprisingly open about their feelings and reactions. The interviews were a rich source of qualitative information.

Summary of data sources:

Questionnaires	299 cases
1. Telephone follow-up	209 "
2. Mail follow-up	28 "
	237
2 cases baby died	-2
follow-up cases	235

Childbirth settings

The major portion of the data was gathered in two hospitals: Hackensack Hospital in Hackensack, New Jersey, and New York Lying-In Hospital, the maternity service at Cornell Medical Center, New York City. They were chosen to provide a comparison between childbirth care that is nonsupporting for breast-feeding, and care that is supporting.

Obstetrical care in Hackensack Hospital is an example of care typical for hospitals adhering to the ideology of the First Model described in the previous chapter, where breast-feeding is treated simply as an alternative feeding method. Perinatal care for all women is functionally organized for bottle feeding, and no effort is made to encourage or support women nursing their babies. Care at New York Lying-In illustrates the ideology of the Third Model. Bottle feeding and breast-feeding are considered equally "good", and the nurses maintain a neutral position. However, maximum information is supplied for women who prefer nursing their babies, and programs are offered to provide the support they need.

When this project was well under way, information was obtained about two recently organized Birth Centers --one at 92nd Street in Manhatten, and one in Englewood Cliffs, New Jersey--where nurse-midwives are attending deliveries. The centers were visited, and it was apparent that they provide maternity care characteristic of the Second Model described in the previous chapter, where breast-feeding is valued over bottle feeding. Since this appeared

to be a unique opportunity to gather information in these settings, and the administrators were willing to cooperate, the Centers were added to the study. Unfortunately only 11 questionnaires were obtained due to lack of time. However, they provide an interesting comparison population. Future research on breast-feeding surely should include midwife-attended deliveries in plans for data gathering, since they are increasing in number and significance.

Hackensack Hospital

Hackensack Hospital is located in a large suburban county seat, and serves clinic and private patients from a wide semiurban section of Bergen County. It has a reputation as a "good" hospital. The obstetrical care is typical of "standard" care provided in most suburban hospitals. Babies are kept in a central nursery after delivery and are cared for by the pediatric staff; mothers by the obstetric staff. Rooming-in is available only to private patients in single rooms. Breast-fed and bottle-fed babies alike are taken to mothers for feeding on a four-hour schedule.

The nursing staff instructs prenatal clinic patients in basic childbirth and child care information, but under trying circumstances. Classes are conducted informally during the clinic waiting period in a large alcove off a main hall, and are interrupted by passing stretchers and by women being called one by one into examining rooms. When infant feeding was discussed, the instructor made a point

of saying breast-feeding and bottle feeding are equally good, and that it is important for the mother to choose a method she feels comfortable with. No mention was made of nutritional, emotional, or financial benefits of breast-feeding. The pamphlets on infant feeding that were supplied were produced and distributed by the manufacturers of Enfamil, an infant formula product. Women who wish instruction in La Maze, or other Prepared Childbirth methods, find it on their own initiative and attend classes conducted by private instructors in the community.

New York Lying-In Hospital

For the past generation New York Lying-In Hospital has pioneered in developing family-centered maternity care, where "rooming-in" is a central feature. Infants stay in bassinets by their mothers' beds, rather than in a central nursery during the day. Staff nurses, trained both in obstetrics and pediatrics, care for women and babies together as couples. Mothers are instructed to care for their own infants, and take major responsibility for bathing and changing them. They hold and cuddle them when they wish, and feed them "on demand" rather than a rigid four-hour schedule. Fathers are encouraged to visit any time during the day.

These services are limited to one floor. More traditional care is available on other floors of the hospital (if the beds are filled on the "rooming-in" floor there is no choice); but even there women have more freedom to have their

babies with them outside the standard four-hour feeding times than is possible in more traditional hospitals.

During the prenatal period, women are encouraged to take instruction for "natural" or "prepared" childbirth. A generation ago, the hospital sponsored instruction in the early Grantly Dick-Read method; today, in La Maze Prepared Childbirth. Classes are held at the hospital, and taught by staff nurses, who are clinical nurse specialists in obstetrics. The supervisor of nurses reported that approximately one-third of the women coming in for delivery have had La Maze classes. Of these, about 75% are private patients, 25% clinic. The fee for instruction is reduced considerably for low-income patients to encourage them to attend. Most women who have had prepared childbirth are reported to nurse their infants, as do most who choose "rooming-in." According to the nursery-room nurse, this pressures other women to breast-feed who originally did not plan to nurse.

Further encouragement for breast-feeding is provided by bimonthly classes on breast-feeding for pregnant women, and biweekly classes held on the maternity floor for women after delivery. These are conducted by a clinical nurse specialist, who has a master's degree in high-risk obstetrics, and has developed a specialty in breast-feeding. She authored the pamphlets and other instructional material on breast-feeding that are distributed at the hospital's childbirth preparation classes, and on the maternity service. These materials were consistent with the latest research on breast

functioning and lactation.

The clinical nurse specialist visits breast-feeding mothers regularly in the hospital to give them support and any help they may need working out breast-feeding problems. She also is available by phone for help after they return home.

Another program encourages mothers of premature infants to breast-feed. They are taught to express their milk, either manually or with a breast pump, for their infants in the premature nursery. This stimulates and maintains the supply of breast milk and gives the baby optimum nourishment until he or she is strong enough to nurse at breast. But it is a difficult and time-consuming process, and a mother willing to do it needs strong support and encouragement from the staff.

When asked about the policy on infant feeding, a nursery-room nurse said that women used to be "pushed" to breast-feed. She said, "We used to go to the mothers who weren't planning to nurse and say, 'Why don't you give it a try? It's so good for the baby.'" But now it is assumed the woman probably has made up her mind by the time she reaches the hospital. "Pushing her seldom changes the decision," she explained, and is "likely to cause tension" in the developing relationship between mother and child. Information is made available, the woman's decision is respected, and help is supplied to support her choice. When asked why the approach changed, she said it wasn't ordered or "decided" at any level; there simply was a "different

attitude among the nurses about what ought to happen."

Midwife-attended Birth Centers

Birth Centers are unusually supportive for breast-feeding, because midwives approach birthing as a normal rather than a medical event, maintain a personal one-to-one relationship with the birthing woman throughout pregnancy and the postpartum period, and use technological intervention, medication, and anesthetization very infrequently if at all. High-risk pregnancies are screened out prenatally and managed by physicians, and the few emergencies that require medical care after labor begins are taken by ambulance to cooperating hospitals.

Birthing at Englewood Cliffs Center and at Maternity Center Association in Manhatten takes place in a homelike setting, with family and friends of the woman's choosing keeping her company throughout labor and delivery if she wants them there. She may be up and around, engaged in ordinary activities (TV, cards, preparing light meals, etc.) until the last stages of labor; then she labors and delivers in the same bed without surgical preparation. After delivery the baby is kept in a bsssinet in the mother's room, or may remain in the mother's bed. Mothers and infants usually return home the same day the baby is born. Both centers reported that their patients come from all socioeconomic levels, and that virtually 100% of them choose breast-feeding.

Obtaining a Sample of Respondents

An attempt was made to obtain a representative sample of women in first pregnancies delivering at each of these birth settings. Permission was obtained in both hospitals to approach clinic patients in the prenatal clinic waiting rooms. After a personal introduction and an explanation of the project, the women were asked to complete the questionnaire. Very few refused. Since Hackensack Hospital held prenatal clinics once a week on Wednesday mornings, it was possible to approach every patient who appeared over a period of four months. New York Lying-In held clinics each weekday morning; Thursday and Friday clinics there were visited regularly.

The clinic waiting rooms were a rich source of supplementary information. Informal conversations with patients provided insight into prevalent values and beliefs about feeding babies. Nurses were interviewed informally whenever possible, and on several occasions physicians were interviewed. Educational films shown for the patients were viewed at both hospitals. They ranged over various aspects of childbirth, pregnancy, contraception, and infant care and feeding. They clearly reinforced values and beliefs underlying the traditional medical model for childbearing and child care, and differed in significant ways from films and educational materials being circulated by women's health groups and childbirth change organizations such as NAPSACK and ICEA. Many of them were distributed by baby food and baby product industries (as are the pamphelts on the same topics which

line the racks in doctors' offices and clinic waiting rooms). A systematic study of the content and value orientation of the films, and the vested interests of the film makers and distributers, would be a productive area for future research.

The clinics provided a sample of low-income respondents representative of the areas the hospitals served. Finding a similar sample of middle-income women was more difficult. Several approaches were used with varying success. Approximately half the 299 questionnaires collected are from private patients, but a higher proportion of them are privileged upper-middle-class women than would be found at random.

At New York Lying-In private patients were contacted through La Maze classes. The nursing staff in charge of instruction gave permission to attend the classes, and a short period of time to explain the project and distribute the forms. As far as possible, every evening class was covered during the four-month data-gathering period.

However, La Maze women are known to be a group self-selected on the basis of interest in childbirth preparation, and more likely than nonprepared women to choose breast-feeding. Furthermore, they completed questionnaires with husbands (or baby's father) present, occasionally looking on and reading answers. While this may have increased the accuracy of responses to factual questions, the effect on answers to attitude questions is difficult to assess. One

husband actually commandeered the questionnaire and filled it out himself with obvious enjoyment, checking with his wife to see if she agreed with his answers. That questionnaire was discarded.

An attempt was made to obtain non-La Maze private patients through attending physicians at the hospital. It was not successful. The chief of obstetrics, who had approved and sponsored the project from the beginning, was asked for help in obtaining respondents. He took the request to a staff meeting, where two obstetricians offered to participate. When interviewed both of these physicians expressed interest in the project and a desire to promote wider acceptance of breast-feeding. They offered to distribute the questionnaire personally to their patients, which seemed on the surface to be a method lending the physician's authority to the project and assuring better returns. But only one form was returned completed. At length, when one of the physician's was seen again, he said his patients were not interested in filling out the forms. The nurse in the other office expressed regrets that patients had not volunteered to complete the forms.

In Hackensack a list of area obstetricians was obtained from the clinic nursing staff, and each was approached for an interview. Three physicians in solo practice were contacted (including the chief of obstetrics), and three group practices. In four of these cases the physician interviewed expressed interest in the project and gave permission

for questionnaires to be left in the office. In two offices nurses took responsibility for asking patients to complete the forms, and there were good returns. In the other two cases, physicians said they preferred to speak to patients about the project themselves, and no questionnaires were returned. A fifth physician declined because he was in the process of moving an office. In the sixth case, the largest ob/gyn group practice in the area, an interview was granted with an administrative nurse, who relayed the request and the supporting materials to the obstetricians. It was never possible to speak with any of the physicians, although several attempts were made. Finally a message relayed through the nurse declined participation on the ground that the questionnaire contained too many questions having nothing to do with breast-feeding.

It is notable that in every case where cooperation was truly useful and productive, either in clinic situations or in private practices, it was due to the efforts of nurses. While obstetricians expressed approval and interest, they seldom if ever were instrumental in obtaining completed questionnaires.

Because of these difficulties gathering information from middle-income women, a third hospital was added: Riverside Hospital in Secaucus, New Jersey--a physician-owned hospital that serves only private patients. Here a personal friend on the nursing staff provided an introduction to the nurse in charge of hospital-sponsored childbirth

classes. These classes gave general information on childbirth and child care, but were not instruction in "prepared" methods for delivery. They were similar in content to the instruction given clinic patients at Hackensack Hospital, but were conducted in a formal classroom setting at night with husbands attending. Permission was granted to ask for respondents in three of these classes. Since all patients were required to take the classes, the self-selection factor operant in the La Maze groups was eliminated.

Postnatal care at Riverside is comparable to Hackensack Hospital. "Rooming-in" is available, but few women take advantage of it, in part, at least, because they seldom are aware that it is possible. The majority of babies are kept in a central nursery, and no attempt is made to encourage and support breast-feeding.

The 11 questionnaires from women planning to deliver at Birth Centers were obtained from the Englewood Cliffs Center, where the chief nurse midwife herself asked women to cooperate. No forms were returned from the New York Maternity Center at 92nd Street. Administrators there gave permission for a poster on the bulletin board asking for volunteers; questionnaires and return envelopes were left at the desk. Several follow-up phone calls and several return trips to the Center brought reassurances of interest and cooperation, but no questionnaires.

One hundred and seventy-one questionnaires were obtained from women planning to deliver at New York Lying-In

Hospital; 76 in Hackensack; 33 at Riverside. Six others from women who planned to deliver at Pascack Valley Hospital, Pascack Valley, New Jersey, were returned from the office of a cooperating physician, who delivered at Pascack Valley as well as Hackensack. Maternity care at Pascack Valley was checked and found to be similar to Hackensack in the qualities significant for this study, and the cases were retained in the sample.

Summary

Questionnaires	Number
New York Lying-In Hospital	171
Hackensack Hospital	78
Riverside Hospital	33
Pascack Valley Hospital	6
Englewood Cliffs Birth Center	11
	299
Follow-up interviews: women delivered at	
New York Lying-In Hospital	133
Hackensack Hospital	55
Riverside Hospital	26
Pascack Valley Hospital	5
Englewood Cliffs Birth Center	8
	227
Cases discarded in analysis of hospital postnatal care influence:	
Flushing Hospital, Jacobi Hospital, Stamford Hospital. (baby born in emergency during winter snowstorms--no transportation)	3
Englewood Hospital (emergencies from Englewood Cliffs Birth Center)	3
Other hospitals for personal reasons	2
	235
Baby died, spontaneous abortion	2
	237

The data from Hackensack, Riverside, and Pascack Valley Hospitals were kept separate when processed, but

combined for analysis of birth-setting influence for several reasons. First, obstetrical care in each is essentially the same in respects important for this study. Second, the majority of patients from Hackensack were clinic patients; all from Riverside and Pascack Valley were private patients. Together they provide a population of low- and middle-income suburban women receiving maternity care typical for "good" suburban hospitals. New York Lying-In provides a population of low- and middle-income women delivering at a large teaching hospital stressing optimum childbirth care and encouraging breast-feeding. The Birth Center provides a small comparison population of midwife-attended deliveries in an optimum setting for breast-feeding.

To simplify discussion, women from New York Lying-In Hospital will be referred to as the New York population; those from New Jersey suburban hospitals as the New Jersey population; and from the Birth Center as the birth center population.

Characteristics of the Sample

In the final sample, 148 respondents received care from private physicians, 138 in clinics, and 11 from midwives. Nearly half were receiving Prepared Childbirth instruction (46%). The sample was spread fairly uniformly over ranges in age, education, and reported family income. However, each of these categories was somewhat heavily loaded at the "upper" extreme, with more older, better-educated, and higher-income

respondents than would have been expected, at least for first pregnancies. This bias reflects the upper-middle-class composition of La Maze classes at New York Hospital. Of the total, 21.7% were private patients at New York Lying-In, and reported family incomes of $25,000 or more.

AGE

Under 18	14	4.7%
18-20	51	17.1%
21-25	95	31.8%
26-30	88	29.4%
31-35	44	14.7%
36-40	6	2.0%
40+	1	.3%
	299	100.0%

EDUCATION

Grade school	3	1.0%
Some high school	45	15.1%
High school graduate	83	27.8%
Some college	67	22.4%
College graduate	40	13.4%
Some graduate school	20	6.7%
Graduate or professional degree	41	13.7%
	299	100.0%

FAMILY'S TOTAL ANNUAL INCOME

Less than $5,000	47	15.7%
$ 5,000 - $ 9,999	39	13.0%
10,000 - 14,999	34	11.4%
15,000 - 24,999	58	19.4%
25,000+	77	25.8%
No Answer	44	14.7%
	299	100.0%

Over three-quarters of the women (76.3%) answered "yes" to the question, "Have you been working before or during your pregnancy?", and a higher-than-expected proportion said they had worked in high-status occupations--reflecting, again, the upper-middle-class bias of the sample.

OCCUPATION

Professional or executive	22	7.4%
Managerial; own business	30	10.0%
Semiprofessional (public school teacher, nurse, etc.)	65	21.7%
White collar office worker	70	23.4%
Factory or other low status occupation	35	11.7%
	222	74.2%
Student	3	1.0%
Not working	64	21.4%
No answer	10	3.4%
	299	100.0%

Distribution of the sample among ethnic and religious categories was fairly representative of the composition of the New York metropolitan area. Of the sample, 67.2% was white, 17.7% black, 10% hispanic, and 5% reported other ethnic identification (Asian, Indian, Oriental). (Hackensack is one of the few Bergen County towns having a significant and growing black community.) Of the sample, 50.8% was Catholic, 22.4% Protestant, and 7.4% Jewish. No religious identification was reported by 8.7%; the remainder reported various other affiliations (Pentacostal, Moslem, etc.).

CHAPTER IV

ANALYSIS

This study tests hypotheses that birth settings and cultural values will influence choice, initiation, and success at breast-feeding. Since socioeconomic factors are known to affect infant feeding, their influence on this sample will be discussed first as a basis for comparison. Then the effects of birth settings and values will be explored. Finally, other factors will be discussed that were significant--the woman's occupational status, the influence of friends, mothers and other close relatives, and the influence of birth attendants.

The findings are to be seen as suggestive, with more definitive studies required to establish external validity. Tests of significance for statistical tables are omitted, since they imply the sampling base satisfies ideals of a clear experimental design, and this was not possible.

Dependent Variables

Choice of feeding methods was measured by an item reading, "How do you plan to feed your baby?" Four answers were possible: "I plan to bottle feed," "I plan to breast-feed," "Combination breast and bottle," and, "I have not decided."

Over half the respondents (51.8%) indicated they planned to initiate breast-feeding (32.1% said, "Breast-feed;" 19.7% said, "Combination breast and bottle"). Of the rest, 39.1% planned to bottle feed, and 9.0% were undecided when they completed the questionnaire.

The percent choosing breast-feeding is high compared to rates in published studies early in the 1970s, but apparently reflects an actual increase nationwide in the second half of the decade.[1]

Feeding method initiated was recorded simply as bottle feeding or breast-feeding. Combination feeding was not included as a category in the follow-up interview, since its meaning is ambiguous in practice. Combination feeding may mean one or two supplementary bottles a week to one mother, or two substitute bottles a day to another. Interview questions were included to determine whether supplementary feedings were given, how often, and reasons for their use.

One hundred thirty-nine women initiated breast-feeding, representing 46.5% of the original sample, or 58.9% of the follow-up sample. Of the original sample

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[1]An October 1978 report by the American Academy of Pediatrics said that "in 1976 surveys by Mead Johnson Company and Ross Laboratories found that 53% of infants in the United States and 48% of those in Canada were breast-fed at the time of discharge from the hospital" (p. 596). Other researchers report informally that 50% is not uncommon for initiation of breast-feeding in many areas today; in California 80% is not uncommon (Round-table discussion on human lactation; September 1978 ASA Annual Meetings).

32.4% bottle fed their babies; 20.4% could not be reached for follow-up information. Of those who initiated breast-feeding, 90.6% had indicated they planned to breast-feed or combination feed, 8.0% had originally chosen bottle feeding, and 1.4% had been undecided.

Women who had been undecided were considerably more likely to initiate bottle feeding after delivery (48.2%) than breast-feeding (7.4%). An unusually high percent of these women could not be located for follow-up information (40.7% compared to 26.5% of those who chose bottle feeding, 13.8% of those who chose combination feeding, and 12.5% of those choosing breast-feeding). Also there were more unmarried women among the undecideds (33.0%) than in other categories, and more of them reported low incomes. These data suggest that babies are more likely to be breast-fed when the mother has a stable and secure home situation. Some of the women, perhaps, were planning to give their babies up for adoption. They also suggest that women and infants in these populations may be underrepresented in infant feeding statistics.

Of those who breast-fed 56.7% reported using no supplements; 13.4% used them infrequently to allow the mother some freedom; 29.9% used them regularly. Women who originally chose breast-feeding were less likely to report using supplements regularly (24.4%) than those who originally chose combination feeding (42.9%).

"Success" at breast-feeding was measured by a

follow-up question asking how long the woman nursed her baby. The criterion for "success" was set at six weeks, because lactation generally is well established by that time, and early breast-feeding problems have been solved. Weaning after six weeks is more likely due to choice than to lactation failure. (However, any criterion for "success" is necessarily arbitrary. A woman who planned nursing for four weeks and did so easily has obviously succeeded by her own measure.)

Of those initiating breast-feeding 84.3% were nursing at two weeks, and 76.3% at the end of the six-week "success" period. Ninety-five women, or 68.3% of the 139 who initiated breast-feeding, continued to nurse for eight weeks or more.

Results showed 86.1% of women who used no supplements, and 82.4% who used them infrequently, breast-fed six weeks or more, compared to 55.3% of those who used supplements regularly.

Socioeconomic Factors and Infant Feeding

Correlations between choice of feeding methods and socioeconomic variables support findings from other research on breast-feeding. Those who chose breast-feeding or combination feeding were more likely to be better educated (table 1), report higher family income (table 2), and come from higher social class as measured by father's occupational position (table 3). Older women were more likely to choose

TABLE 1

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY EDUCATION

	High School Diploma or Less	Some College or College Degree	Some Graduate School or Graduate Degree	Total
	%	%	%	%
Bottle feeding	53.4	33.7	18.0	39.2
Combination breast and bottle	13.7	25.2	23.0	19.7
Breast-feeding	22.1	32.7	52.5	32.1
Undecided	10.7	8.4	6.6	9.0
	100.0%	100.0%	100.0%	100.0%
Number of cases	(131)	(107)	(61)	(299)

TABLE 2

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY INCOME

	Less than $15,000	$15,000 or More	Total
	%	%	%
Bottle feeding	45.8	31.1	38.0
Combination breast and bottle	19.2	22.2	20.8
Breast-feeding	28.3	39.3	34.1
Undecided	6.7	7.4	7.1
	100.0%	100.0%	100.0%
Number of cases	(120)	(135)	(255)
No answer on income			44
			299

TABLE 3

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED BY WOMAN'S FATHER'S OCCUPATION

	Skilled/ Unskilled Worker	White-Collar	Executive Professional Managerial	Total
	%	%	%	%
Bottle feeding	45.6	35.2	26.0	37.5
Combination breast and bottle	21.6	19.7	21.9	21.2
Breast-feeding	25.6	35.2	43.9	33.1
Undecided	7.2	9.9	8.2	8.2
	100.0%	100.0%	100.0%	100.0%
Number of cases	(125)	(71)	(73)	(269)
No answer on father's occupation, or father absent				30
				299

breast-feeding than younger women (table 4). Level of education had a stronger influence than income, social class, and age.

Furthermore the effect of these socioeconomic variables persisted in correlations with measures for initiation of breast-feeding and "success." In the follow-up sample of 235 cases, more-educated women were more likely to initiate breast-feeding: 42.4% of those with a high school education or less, 63.8% of those with some college or a college degree, and 76.8% of those with graduate schooling nursed their babies in the hospital. Of those who breast-fed, women with higher levels of education were more likely to breast-feed past six weeks: 66.7% of those with high school education or less, 75.0% of those with some college or a college degree, and 86.0% of those with graduate education nursed their babies six weeks or more. The same increasing effect was evident when income, age, and social class as measured by father's occupation were cross-tabulated with initiation and "success" variables.

The Effect of Birth Setting on Infant Feeding

New Jersey hospitals were used as a measure for birth setting nonsupportive for breastfeeding, New York Lying-in Hospital for a setting that, while neutral in policy, included support systems for breast-feeding women in practice. The eleven cases from Englewood Cliffs Birth Center suggested the influence of midwife-attended non-hospital birth settings as opposed to hospital birthing.

TABLE 4

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY AGE

	25 Years of Age or Younger	26 Years of Age or Older	Total
	%	%	%
Bottle feeding	49.4	27.4	39.2
Combination breast and bottle	15.0	25.2	19.7
Breast-feeding	26.2	38.8	32.1
Undecided	9.4	8.6	9.0
	100.0%	100.0%	100.0%
Number of cases	(160)	(139)	(299)

Although eleven cases are too few to be statistically significant, they were retained as a category in the analysis because they consistently measured at the extreme of variances not only on birth setting variables, but also on measures for values. Had this not occurred, they would be of little interest.

Women delivering at New York Hospital chose breast-feeding more often than women delivering at New Jersey suburban hospitals. Of New York women questioned, 55.6% chose either breast-feeding or combination breast and bottle, compared to 41.9% of New Jersey women (table 5). They also initiated it more often (66.2% of them did) compared to New Jersey women (41.9%).

At New York Hospital over 10% more women initiated breast-feeding than chose it originally; for New Jersey hospitals the percent remained the same. Cross-tabulating choice of feeding methods with initiation, and controlling for birth setting (table 6) shows the difference is due in part to more New York women initiating breast-feeding when they originally said "combination" or "undecided;" New Jersey women more often settled on the bottle. Also, 20% of New York women who originally chose bottle initiated breast-feeding instead. The comparative figure for New Jersey women is 4.5%.

Of those who initiated breast-feeding, a greater percent from New York Hospital were "successful." Of these, 77.3% went on to nurse their babies for six weeks or more

TABLE 5

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY BIRTH SETTING

	New Jersey Hospitals	New York Lying-in Hospital	Birth Center	Total
	%	%	%	%
Bottle feeding	51.3	33.3	0.0	39.2
Combination breast and bottle	21.4	19.9	0.0	19.7
Breast-feeding	20.5	35.7	100.0	32.1
Undecided	6.8	11.1	0.0	9.0
	100.0%	100.0%	100.0%	100.0%
Number of cases	(117)	(171)	(11)	(299)

TABLE 6

PERCENT INITIATING BOTTLE FEEDING OR BREAST-FEEDING, BY CHOICE OF FEEDING METHODS, IN THREE BIRTH SETTINGS

	New Jersey Suburban Hospitals				New York Lying-in Hospital				Birth Center	
	Chose Bottle	Chose Comb.	Chose Breast	Unde-cided	Chose Bottle	Chose Comb.	Chose Breast	Unde-cided	Chose Breast	Total
	%	%	%	%	%	%	%	%	%	%
Initiated bottle feeding	95.5	27.8	0.0	100.0	80.0	10.0	0.0	83.3	0.0	41.9
Initiated breast-feeding	4.5	72.2	100.0	0.0	20.0	90.0	100.0	16.7	100.0	58.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of cases	(44)	(18)	(21)	(3)	(40)	(30)	(51)	(12)	(8)	(227)

Delivered at other hospitals	8
Baby died	2
No follow-up information	62
	299

compared to 63.9% of New Jersey women.

All 11 Birth Center women chose breast-feeding; all initiated it (including three who were taken to Englewood Hospital for emergency deliveries), and all continued breast-feeding past six weeks.

The findings appear to support the hypothesis that more supportive birth settings influence women to choose, initiate, and succeed at breast-feeding. However, the difference in rates for breast-feeding and bottle feeding comparing birth settings was no greater than the difference previously noted comparing income, social class, and age. It was less pronounced than the correlation between level of education and breast-feeding. This suggests the possibility that women who are likely to breast-feed because of other factors may self-select themselves into birth settings that encourage it. Percentaging the correlation in table 5 to make birth setting the dependent variable--asking in effect how many women who chose breast-feeding delivered their babies at New York Hospital and the Birth Center--lends support to this interpretation (table 7). Seventy-five percent of breast-feeding women are found in these more supportive settings that account for only 60.9% of the total sample.

A second possibility is that the correlation between birth settings and breast-feeding may be spurious. As noted in chapter III, the sampling procedure drew a disproportionate number of educated upper-middle-class

TABLE 7

PERCENT CHOOSING PARTICULAR BIRTH SETTINGS, BY CHOICE OF FEEDING METHODS

	Bottle Feeding	Combination Breast and Bottle	Breast-feeding	Undecided	Total
	%	%	%	%	%
New Jersey hospitals	51.3	42.4	25.0	29.6	39.1
New York Lying-in Hospital	48.7	57.6	63.5	70.4	57.2
Birth Center	0.0	0.0	11.5	0.0	3.7
	100.0%	100.0%	100.0%	100.0%	100.0%
Number of cases	(117)	(59)	(96)	(27)	(299)

women, who were more likely to breast-feed, in the New York sample. Of the New York women 68.4% reported they had had some college or held a college degree, while only 36.7% of New Jersey women reported the same. Cross-tabulating choice of feeding methods by birth setting while holding education constant (and collapsing categories for clarity--table 8) suggests that hospital setting accounted for some of the variance, but education accounted for even more. The more supportive hospital setting in New York Lying-in made a difference primarily for better-educated women.

Higher income also was correlated positively with infant feeding measures; but 61.3% of New York women reported family income at $15,000 or over, compared to 42.1% of New Jersey women. A threefold table shows that for the New Jersey sample income did <u>not</u> alter infant feeding choice markedly, while in the New York sample it did. High-income women in New York were more likely to breast-feed, but low-income women were even <u>less</u> likely to choose breast or combination feeding than low-income women in New Jersey (table 9), suggesting that the supportive program at New York Lying-in made little difference, comparatively, for the poorer women there.

Interestingly, while Birth Center women reported lower family incomes than the mean--three of the 10 who answered the question on income reported $15,000 or more --they also reported higher level of education than the

TABLE 8

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY BIRTH SETTING, ACCORDING TO LEVEL OF EDUCATION

	High School Education or Less				Some College, or College or Graduate Degree			
	New Jersey hospitals	New York Lying-in Hospital	Birth Center	Total	New Jersey hospitals	New York Lying-in Hospital	Birth Center	Total
	%	%	%	%	%	%	%	%
Bottle feeding	58.1	50.0	0.0	53.4	39.5	25.6	0.0	28.0
Combination breast and bottle	14.9	13.0	0.0	13.8	32.6	23.1	0.0	24.4
Breast-feeding	21.6	18.5	100.0	22.1	18.6	43.6	100.0	39.9
Undecided	5.4	18.5	0.0	10.7	9.3	7.7	0.0	7.7
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of cases	(74)	(54)	(3)	(131)	(43)	(117)	(8)	(168)

TABLE 9

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY BIRTH SETTING, ACCORDING TO INCOME

	Less than $15,000				$15,000 or More			
	New Jersey hospitals	New York Lying-in Hospital	Birth Center	Total	New Jersey hospitals	New York Lying-in Hospital	Birth Center	Total
	%	%	%	%	%	%	%	%
Bottle feeding	45.5	51.7	0.0	45.8	52.5	22.8	0.0	31.1
Combination breast and bottle	27.3	13.8	0.0	19.2	20.0	23.9	0.0	22.2
Breast-feeding	23.6	24.1	100.0	28.3	20.0	45.7	100.0	39.3
Undecided	3.6	10.3	0.0	6.7	7.5	7.6	0.0	7.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of cases	(55)	(58)	(7)	(120)	(40)	(92)	(3)	(135)
								120
No answer on income								44
								299

mean. Eight of the eleven reported having some college or a college degree. This suggests there may be interesting differences between these women and ones choosing other alternatives--differences worth further exploration on a larger matched sample.

Data on type of childbirth instruction provides further evidence that self-selection may have contributed to higher breast-feeding rates in supportive birth settings. Prepared Childbirth instruction apparently influenced women to choose breast-feeding (table 10). But on the other hand it may be assumed that inclination to breast-feed is part of a general orientation toward childbirth that precedes, therefore causes women to attend Prepared Childbirth instruction. Percentaging the same cross-tabulation toward type of childbirth instruction leads to an even-higher positive correlation: 67.4% of women who planned to breast-feed were taking Prepared Childbirth instruction, and 59.6% of those choosing combination feeding, compared to 26.7% of those choosing bottle feeding.

Women who had Prepared Childbirth also were more likely to initiate breast-feeding[1] (73.4% compared to 34.8% of those who had hospital-sponsored classes, and 34.9% who had no

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[1]An item on the follow-up interview schedule repeated the question on childbirth instruction, to record women who took classes after they completed the original questionnaire. Initiation and success variables are cross-tabulated with the follow-up responses; choice variable with the responses on the original questionnaire.

TABLE 10

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY TYPE OF CHILDBIRTH INSTRUCTION

	Prepared Childbirth Instruction	Classes giving general Information	No Classes or "None Yet"	Total
	%	%	%	%
Bottle feeding	22.5	54.0	54.7	39.5
Combination breast and bottle	24.6	22.0	11.3	19.4
Breast-feeding	46.4	16.0	21.7	32.3
Undecided	6.5	8.0	12.3	8.8
	100.0%	100.0%	100.0%	100.0%
Number of cases	(138)	(50)	(106)	(294)

No answer on childbirth instruction 5

299

classes at all),[1] and more likely to "succeed" at it. Of those with Prepared Childbirth who initiated breast-feeding 80.9% nursed six weeks or more, compared to 56.3% who had hospital classes, and 66.7% who had no classes.

However, fully 65.7% of New York women reported they were taking Prepared Childbirth instruction, while only 15.4% of New Jersey women said the same. (All 11 women from the Birth Center had Prepared Childbirth instruction.) Is birth setting more salient, or is Prepared Childbirth instruction? Cross-tabulating choice of feeding methods with birth setting, and controlling for type of childbirth instruction, suggests that Childbirth Instruction had the stronger influence (table 11). While there is some variation between hospital settings on choice of breast or combination feeding, the differences between hospitals on choice of bottle feeding as opposed to breast and combination feeding all but disappears.

It may be argued that Prepared Childbirth is part of hospital prenatal care at New York Lying-in, where the hospital staff sponsors it and provides facilities for instruction. Yet even though women are encouraged to attend, it is still a matter of choice. Only a third of all women

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[1]Interestingly, clinic patients at Hackensack Hospital often reported they had no instruction, although it was given at each prenatal clinic while they waited for the doctor's call. The informality of the teaching situation apparently prevented them from perceiving it as a "class."

TABLE 11

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY BIRTH SETTING, ACCORDING TO TYPE OF CHILDBIRTH INSTRUCTION

	Prepared Childbirth Instruction				Classes Giving General Information	No Classes or "None Yet"		
	New Jersey Hospitals	New York Lying-in Hospital	Birth Center	Total	New Jersey Hospitals	New Jersey Hospitals	New York Lying-in Hospital	Total
	%	%	%	%	%	%	%	%
Bottle feeding	25.0	23.9	0.0	22.5	55.1	56.0	56.6	54.2
Combination breast and bottle	43.8	23.9	0.0	24.6	22.5	12.0	10.7	11.2
Breast-feeding	25.0	45.0	100.0	46.4	16.3	24.0	19.6	21.5
Undecided	6.3	7.3	0.0	6.5	6.1	8.0	16.1	13.1
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Number of cases	(18)	(109)	(11)	(138)	(49)	(50)	(57)	(107)
								138
								49
No answer on childbirth instruction								5
								299

delivering at New York Lying-in are reported to take the course. (Women delivering at the Birth Center also are encouraged by the midwives to seek instruction in Prepared Childbirth.)

An item on the questionnaire designed to investigate the possibility that self-selection drew breast-feeding women into more supportive birth settings (Q: "Why are you using this particular hospital?") brought meaningless results. There were 43.5% who checked "Because my doctor is located there," and another 20.7% "Because it is near my home." The rest wrote in comments such as "highly recommended," "good hospital," and so on. A more carefully worded question or series of questions obviously was needed. Self-selection is a topic worth follow-up research.

Differences in birth experiences and in postnatal care also were presumed to influence infant feeding measures. An assumption that less medication and fewer birth complications would be inversely correlated with initiation of breast-feeding was not borne out by the data. In fact, women who reported they were given medication once of more than once during labor were as likely to initiate breast-feeding as those who had none, and equally likely to succeed at breast-feeding. Women reporting they had had birth complications were slightly more likely to breast-feed (61.5% of them did) than those who had none (56.7%), and were equally likely to breast-feed six weeks or more.

On the other hand, women who reported their birth

experience as "very good" ("marvelous", "terrific," etc.) were more likely to initiate breast-feeding (64.1% compared to 51.7% for women who reported negative feelings about the birth), and more likely to breast-feed six weeks or more (82.1% compared to 73.3%). Women who had been given no anesthetic for the delivery were considerably more likely to breast-feed. Of them 74.3% nursed their babies compared to 46.5% of women who had anesthetic. And those who had "rooming-in" service or were not separated from their babies at all were more likely to breast-feed successfully than those who followed a four-hour feeding schedule in the hospital or were separated from their babies because of medical problems. Of those who breast-fed six weeks or more, 57.1% had less mother/baby separation, 42.9% had more.

While these correlations with birth experience variables appear to be functions of hospital care, they also may be interpreted as functions of women's value orientation to childbirth generally. Presumably women whose life experience led them to internalize values of the second model for infant feeding systems proposed in chapter II would be more likely to approach childbirth with positive attitudes, seek information in childbirth preparation classes, resist anesthetic during delivery and require less, and tolerate less separation from their infants, as well as have positive and accepting attitudes about breast-feeding.

The Effect of Cultural Values on Infant Feeding

Forty items on the questionnaire measured values

about breast-feeding, women's sociosexual status, and acceptance of body functions. Respondents were asked to indicate agreement or disagreement on a four-point scale: "definitely agree," "probably agree," "probably disagree," and "definitely disagree." A factor analysis was carried out, and the items did in fact cluster into categories essentially corresponding to those named on the pretest: 1) breast-feeding is sexually attractive, 2) breast-feeding is demanding, 3) breast-feeding is embarrassing, 4) breast-feeding is good for babies, 5) women enjoy breast-feeding, 6) acceptance of body and body functions, and 7) women's sociosex roles. Items with high factor loadings were selected in each category, and cross-tabulated with choice, initiation, and success variables.

A summary of correlations between these value items and infant feeding variables is presented in table 12. Percentages refer to number of respondents agreeing with each value statement (that is, they checked either "definitely agree" or "probably agree"). Column I shows percent agreeing who chose bottle feeding compared to those who chose combination breast and bottle, and those who chose breast-feeding only. Column II shows percent agreeing who initiated bottle feeding compared to those who initiated breast-feeding, and column III shows the same for those who breast-fed for less than six weeks compared to those who breast-fed six weeks or more.

The results suggest that while value commitments

TABLE 12

PERCENT WHO ANSWERED "PROBABLY AGREE" OR "DEFINITELY AGREE" ON EACH VALUE ITEM, BY CHOICE, INITIATION, AND SUCCESS MEASURES

QUESTIONNAIRE ITEMS	COLUMN I Choice			COLUMN II Initiate		COLUMN III Success	
	Bottle	Comb.	Breast	Bottle	Breast	Under 6 Weeks	6 Weeks
	%	%	%	%	%	%	%
1. Sexual attractiveness							
a) During the months women breast-feed, they are more sexually attractive (49).	8.5	28.6	37.1	11.4	31.5	29.0	32.2
2. Breast-feeding is demanding							
a) Breast-feeding places too much demand on a woman's time (40).	60.3	35.6	20.2	59.0	29.0	39.3	25.7
b) Breast-feeding ties a woman down too much (70).	60.4	32.2	12.9	59.4	20.6	33.3	16.5
3. Breast-feeding is embarrassing							
a) Women who breast-feed in public have no modesty (42).	25.2	35.6	21.9	28.0	25.9	42.4	20.8
b) Breast-feeding should never be done in public (50).	37.9	44.1	34.7	44.2	35.5	51.5	30.5
4. Breast-feeding is good for the baby							
a) A breast-fed baby will be healthier as an adult (64).	20.2	61.0	65.6	21.3	61.0	60.7	61.7

b) Breastfed babies grow up to be more emotionally healthy (72).	28.6	68.4	81.9	25.0	75.2	78.1	74.3
5. Women enjoy breast-feeding							
a) Women breast-feed in part because they get sexual pleasure from it (39).	13.7	21.4	29.7	14.7	28.0	15.6	32.0
b) Women breast-feed to get physical satisfaction (54).	25.7	36.8	40.9	25.0	38.5	30.3	41.2
6. Acceptance of body							
a) Natural body odors are repulsive (66).	35.5	35.7	28.0	34.9	27.0	41.9	22.6
7. Women's sociosex roles							
a) A woman's place is basically in the home (41).	28.2	32.2	23.4	23.9	25.6	27.3	25.0
b) Men are better than women in most things outside the home (61).	22.4	42.1	13.7	22.1	15.9	21.2	14.3
Maximum possible number	(117)	(59)	(96)	(96)	(139)	(33)	(106)
Minimum number found	(106)	(56)	(89)	(88)	(130)	(31)	(99)

influenced breast-feeding rates, they did so in a complex pattern. Four general statements may be made about the data:

1. Woman who breast-fed were considerably more likely than those who bottle fed to agree that breast-feeding is good for the baby and that women are attractive when they breast-feed.

On factors 1 (Breast-feeding is sexually attractive) and 4 (Breast-feeding is good for the baby) there is a large and clear-cut difference between bottle feeders, on the one hand, and breast-feeders and combination feeders on the other hand. There is no appreciable difference between breast-feeders and combination feeders in column I, or "successful" and "unsuccessful" breast-feeders in column III.

2. Women who chose exclusive breast-feeding and who breast-fed "successfully" were considerably more likely than women who bottle fed to agree that women enjoy breast-feeding and that it is less troublesome to do. Women who chose combination feeding or who breast-fed "unsuccessfully" were somewhat more likely than bottle feeding women to agree with these statements, but also somewhat less likely than women who breast-fed exclusively and "successfully."

For example, on factors 2 (Breast-feeding is demanding) and 5 (Women enjoy breast-feeding) the difference between bottle feeders and women who breast-fed exclusively and "successfully" is strong (columns I and II), while women who chose combination feeding and those who breast-fed "unsuccessfully" fall somewhere in between (columns I and III).

3. Women who breast-fed "successfully" were considerably more likely than those who were "unsuccessful" to accept breast-feeding and body functions as natural.

On factor 3 (Breast-feeding is embarrassing) and factor 6 (Acceptance of body and body functions) there is a

major difference in column III between "successful" and "unsuccessful" breast-feeders. A similar difference appears in factor 5, column III (noted previously), where "successful" breast-feeders are more likely to agree that breast-feeding is physically enjoyable. Taken together, these suggest that acceptance of breast-feeding as a physical act may be a crucial factor in successful nursing.

4. Women who breast-fed exclusively and "successfully" were more likely than combination feeders or "unsuccessful" breast-feeders to express positive attitudes about independent roles for women.

On factor 7, item b (Men are better than women in most things outside the home) there is a clear difference between breast-feeders and others on choice, initiation, and success variables. There is little difference on item 7a (Women's place is basically in the home) except for column I. However, this may simply mean that the item is out-of-date at a time when the majority of women are in the work force.

The data suggest that while some value dispositions influence choice between breast and bottle feeding, other value dispositions influence style of infant feeding (i.e., combination or exclusive breast-feeding) and "success" at nursing babies. Beliefs about the benefits of breast-feeding for mothers and babies, and about whether or not it is troublesome to do apparently had greater influence on <u>choice</u> and <u>initiation</u> of breast-feeding as opposed to bottle feeding. However, values about women's social role, about

body functions, and about breast-feeding as a physical act apparently were more critical for choice of exclusive breast-feeding and "success".

The data essentially support hypotheses about values, and supply evidence for models of infant feeding patterns suggested in chapter II. Women apparently are more likely to choose breast-feeding and do it successfully when they feel competent and valued as women, are comfortable with their bodies, and have positive values about breast-feeding and its worth.

The value items also raised questions about women who plan to feed with a combination of breast and bottle compared with those who say they plan to breast-feed exclusively. An obvious assumption is that they differ primarily in plans to return to work and supplement breast-feeding to expedite child care. However, the data suggest that whatever practical considerations may pertain, the women also differ in value orientation. While they measured closer to breast-feeders than bottle feeders on some factors (factor 1, Sexual attractiveness; factor 4, Breast-feeding is good for the baby; factor 5, Women enjoy breast-feeding), their agreement on these matters was never as positive as the breast-feeders'. On factor 2 (Breast-feeding is demanding) there was considerable distance between combination feeders and breast-feeders, although not as much as the distance between bottle feeders and breast-feeders. Most interesting, on two value items that seemed critical for

"success" or "failure" at breast-feeding (factor 3, Breast-feeding is embarrassing; and factor 7, Women's sociosexual roles), there was a greater difference between combination feeders and breast-feeders than between bottle feeders and breast-feeders.

A more definitive study exploring these differences between women who say they plan to breast-feed and those who say they plan to use a combination of breast and bottle might provide insight into unanswered questions about success and failure at nursing. In this study rates for initiation and "success" were notably lower for combination choice women. All women who planned to breast-feed exclusively initiated it, and of these 84.5% went on to breast-feed "successfully;" by contrast, 84.1% of women who chose combination feeding actually initiated it, and of those 66.7% went on to breast-feed six weeks or more (tables 13 and 14).

Possibly combination feeders are more likely to be women who believe they ought to breast-feed from a sense of duty, but have difficulty accepting it as a physical act. If so, it seems possible they would be more likely to have problems with let-down reflex, breast infections, and other complications related to milk supply. They may be women who need more supportive postnatal care, or who might benefit from realistic counseling to weigh physical and emotional costs for them against the possible benefits of continued breast-feeding.

TABLE 13

PERCENT INITIATING BREAST OR BOTTLE FEEDING BY CHOICE OF FEEDING METHODS

	Bottle Feeding	Combination Breast and Bottle	Breast-Feeding	Undecided	Total
	%	%	%	%	%
Initiated bottle beeding	87.2	16.0	0.0	86.7	40.9
Initiated breast-feeding	12.8	84.0	100.0	13.3	59.1
	100.0	100.0	100.0	100.0	100.0
Number of cases	(86)	(50)	(84)	(15)	(235)

No follow-up information	62
Baby died	2
	299

TABLE 14

PERCENT "SUCCEEDING" AT BREAST-FEEDING, BY CHOICE OF FEEDING METHODS

	Bottle Feeding	Combination Breast and Bottle	Breast-Feeding	Undecided	Total
	%	%	%	%	%
Breast-fed less than six weeks	54.5	33.3	15.5	0.0	23.7
Breast-fed six weeks or more	45.5	66.7	84.5	100.0	76.3
	100.0	100.0	100.0	100.0	100.0
Number of cases	(11)	(42)	(84)	(2)	(139)

Finally, it is interesting to note that on virtually every value item the women who chose midwife-attended deliveries in the Birth Center measured like women who breast-fed exclusively and successfully, but to a greater extreme. That is, when agreement was high, Birth Center women measured higher; when agreement was low, they measured lower. This reinforces previous speculation that self-selection processes channel women predisposed to breast-feed into birth settings and programs such as childbirth preparation that foster it. It also supplies suggestive evidence for the models for infant feeding systems proposed in chapter II. (Interestingly, the one exception to this tendency was on item 7a (A woman's place is basically in the home) where 5 of the 11 Birth Center women agreed with the statement compared to less than a third in the rest of the sample. This raises an interesting question about the sex role orientation of women choosing midwife-attended deliveries, and a possible avenue for continued research.

Breast-feeding and Woman's Work Status

It is commonly assumed that women who breast-feed are more likely to be home-bound than working women. However, 228, or 76.3% of women in the sample reported they worked, or had been working during pregnancy, and of those who chose breast-feeding, 84.4% were working women. Of those who chose combination 76.4% worked, and 71.9% of those who chose bottle feeding. The difference between working

and nonworking women who initiated breast-feeding was small; however, 90.6% of those who breast-fed six weeks or more had been working women, compared to 69.0% of those who breast-fed less than six weeks.

Furthermore, the higher the prestige of the woman's occupational position, the more likely she was to choose breast-feeding (table 15). Only women in low status factory or domestic occupations chose breast-feeding less often than nonworking women. Women in higher status occupations also were more likely to initiate breast-feeding, and to succeed at it. Women who had worked at any job were more likely to breast-feed past six weeks than women who had not worked.

Moreover, women who chose breast-feeding were more likely to say that work to develop their own careers was very important to them (59.8% said so) than women who chose bottle feeding (49.3%). This may mean that they are more oriented to self-realization in the work world, and more economically self-sufficient, reinforcing the hypothesized breast-feeding preferred model in chapter II. On the other hand, it may be simply a function of higher education and occupational status of these women. There was no significant difference on statements that working to earn own money was important, or that working to earn money for the family was important.

These occupational data are not surprising, since work status and educational level are related, and breast-

TABLE 15

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING, OR UNDECIDED, BY WOMAN'S OCCUPATIONAL POSITION

	Professional or Executive	Semi-Professional	White Collar or Hourly Worker	NA or Not Working	Total
	%	%	%	%	%
Bottle feeding	17.3	33.8	47.6	48.6	39.5
Combination breast and bottle	28.8	18.5	15.2	21.6	20.0
Breast-feeding	40.4	40.0	27.6	23.0	31.4
Undecided	13.5	7.7	9.5	6.8	9.1
	100.0%	100.0%	100.0%	100.0%	100.0%
Number of cases	(52)	(65)	(105)	(74)	(296)
Student					3/299

feeding rates increase with education. However, the data also may indicate influence of type of employment on choice of feeding methods. Women in professional or executive positions may have flexibility in their work lives that allows them to take time off from work to be with their babies after delivery, or to arrange daily schedules to meet the demands of breast-feeding a baby--options not readily available to white collar or hourly workers.

The Influence of the Women's Mothers, Female Friends, and Relatives

Women who had been breast-fed themselves, and those who had seen friends and relatives breast-feeding, were more likely to nurse their own babies. These factors influenced choice, initiation, and success variables as strongly as socioeconomic factors, birth settings, or value measures.

Of those questioned, 91.0% of the women knew, or reported they knew, whether or not their own mothers had breast-fed them. Information about infant feeding apparently is exchanged between mothers and daughters despite the high mobility of present-day society and the relative isolation of the nuclear family. In responding 30.4% said they had been breast-fed; 50.2% said they had not; and 10.4% reported their mothers had tried breast-feeding, but it had not worked out. Of the 31 women whose mothers had failed at nursing, 22 gave specific reasons for the failures; in each case, they were problems known to be

solvable with the help of a knowledgeable and supportive person (i.e., sore nipples, breast infection, not enough milk, "I wouldn't take the breast," and so on). If the woman reported she had been breast-fed, she was more likely to choose breast-feeding (table 16). She was also more likely to initiate it, but not more likely to succeed. Interestingly, the mother's failure apparently did not deter the daughters from choosing breast-feeding, but seemed to make them more likely to try it.

Of the sample, 116 women or 38.8% reported their mothers would be with them to help after the baby was born. Some women reported in the follow-up interview that mothers who had not nursed were overly anxious about the breast-feeding--concerned that the baby was not getting enough milk, wanting to weigh the baby continually as a check, or wanting to give the baby a supplementary bottle. One woman said she had to (diplomatically) send her mother home, because she couldn't "handle the hassle." Some grandmothers were frankly disappointed they could not give the baby its feedings. One woman said that both her mother who had not nursed, and her sister who had tried and given up, seemed to be envious of her success and waiting for her to fail.

Others reported their mother's surprise that they were "able" to breast-feed, or that it was trouble-free and enjoyable. Several said their mothers expressed regret or sadness that they themselves had not attempted to breast-

TABLE 16

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING, AND UNDECIDED, BY THE WOMAN'S REPORT OF HOW HER MOTHER FED HER

	Her Mother Bottle Fed	Her Mother Breast-fed	Mother Failed at Breast-feeding	Total
	%	%	%	%
Bottle feeding	52.7	26.4	12.9	39.3
Combination breast and bottle	14.0	24.2	29.0	19.1
Breast-feeding	24.7	38.5	54.8	32.7
Undecided	8.7	10.9	3.2	8.8
	100.0%	100.0%	100.0%	100.0%
Number of cases	(150)	(91)	(31)	(272)
Doesn't know				27
				299

feed. One said, "My mother watches me feed the baby and says she thinks it's beautiful, and wishes she'd done it herself." Contrary to the situation in traditional society, members of a younger generation of women appear to be teaching members of the older generation about breast-feeding.

They also teach one another. Women who reported their friends and relatives nursed babies were more likely to choose breast-feeding themselves (table 17). They were also more likely to initiate it (67.1% of those reporting friends initiated breast-feeding compared to 44.3% reporting none), and more likely to "succeed" (77.9% compared to 71.4%). Interestingly, nearly a third (32.8%) said they had <u>never seen</u> friends or relatives breast-feeding. Of the others, 49.5% said they had seen only one or two, and only 17.1% said they had seen three or more. The effect of role-modeling is evident in that those who had seen three or more were considerably more likely to breast-feed and to do so successfully.

One woman reported that all the women in her neighborhood breast-fed, and that she automatically assumed she would when she became pregnant. Another said all the women in her circle of friends had breast-fed, and were urging her to do the same. She felt the social pressure but resented it, since she did not intend to nurse.

<u>The Influence of Birth Attendants and Other Supporting Persons</u>

Physicians, whether in clinics or private practices,

TABLE 17

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING AND UNDECIDED, BY HOW MANY FRIENDS AND RELATIVES THE WOMAN HAD SEEN BREAST-FEEDING

	None	One or Two	Three or More	Total
	%	%	%	%
Bottle feeding	48.0	39.9	19.2	38.9
Combination breast and bottle	17.3	18.9	26.9	19.8
Breast-feeding	26.5	31.1	46.2	32.2
Undecided	8.2	10.1	7.7	9.1
	100.0%	100.0%	100.0%	100.0%
Number of cases	(98)	(148)	(52)	(298)
No answer				1
				299

played a minor role in influencing choice of feeding methods. Most women reported the doctor they saw for prenatal examinations did not talk with them about infant feeding (72.0%) or told them to make up their own minds about it (18.4%). More women reported receiving information from books and pamphlets (73.6%), from women friends (67.3%), from women in their families (58.5%), and from childbirth classes (29.4%) than from obstetricians (20.1%).

A woman obstetrician in the New York Lying-in clinic who had practiced for many years (and appeared to be past normal retirement age) made interesting comments on this issue. She said that in her experience there is a great deal of "emotional overlay" surrounding breast-feeding because of its sexual nature, and that this is the major reason male obstetricians ignore it or handle it poorly. Women physicians and nurses, she felt, support breast-feeding mothers better <u>because they are women</u>. She also held that women who had borne and nursed babies themselves made much better supporting persons than women who had not.

She further remarked that even with the best of intentions physicians (male or female) in group practice cannot support women well, since consistency and continuity are critical in effective support. In group practice a woman may see a different physician each time she has a checkup, and each may have a different approach.

For clinic patients, seeing a different physician at each visit is a general rule, and they frequently re-

ceive very little personal attention from the ones they see. A clinic nurse at Hackensack Hospital mentioned that a rule there requiring the physician rather than the nurse to check the pregnant woman's blood pressure was instigated to keep the physician in the examining room a little longer, thus making the patient feel the doctor had done something for her.

By comparison, the woman obstetrician quoted above said that she makes a point of bringing up infant feeding with her private patients early in the pregnancy, and spends a lot of time supplying information about it. She lets the woman know she feels breast-feeding is valuable. After delivery she remains in close contact with the nursing mother and gives her strong and continuing support as long as it is needed. She said that 95% of her private patients breast-fed--a high percent for any population in the United States.

Of the women queried 11.4% reported they had women attending them; 56.5% reported men; and 32.1% were clinic patients. Women with female birth attendants were more likely to choose breast-feeding (table 18) than those with male attendants. They were also more likely to initiate it (75.9%) compared to 60.7% with male attendants, and more likely to breast-feed past six weeks (90.9% compared to 74.4%). Clinic patients were less likely to choose breast-feeding than those attended by private practitioners of either sex (table 18), and less likely to initiate it (the comparative

TABLE 18

PERCENT CHOOSING BOTTLE FEEDING, COMBINATION BREAST AND BOTTLE, BREAST-FEEDING, AND UNDECIDED, BY SEX OF BIRTH ATTENDANT

	Female Attendant	Male Attendant	Both Attend in Clinic	Total
	%	%	%	%
Bottle feeding	20.6	37.9	47.9	39.2
Combination breast and bottle	8.8	21.9	19.8	19.7
Breast-feeding	61.8	33.7	18.8	32.1
Undecided	8.8	6.5	13.5	9.0
	100.0%	100.0%	100.0%	100.0%
Number of cases	(34)	(169)	(96)	(299)

figure is 48.4%) or succeed at it (71.0%).

The comparison between clinic patients and those attended by private practitioners is worthy of note. However, since the number of female birth attendants is small, the comparison between them and male attendants is merely suggestive. Furthermore, since 11 of the 34 women reporting female attendants were reporting midwives, the organization of childbirth care may have influenced the infant feeding variables as well as sex of attendant.

Even so, the correlation supplies a measure of evidence about the influence of women supporting other women. Added to the influence of Prepared Childbirth instruction (women taught), supportive care in New York Lying-in Hospital (woman-organized and supervised), and the influence of mothers and other women friends and kin who have breast-fed, it suggests that women who choose breast-feeding and succeed at it more often have close contact with other women who are knowledgeable about it. It also suggests that networks of female associations may be a primary source of values, beliefs, and interaction patterns that comprise the infant feeding systems hypothesized in chapter II.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary and Discussion of Historical Evidence and Theoretical Assumptions

Evidence was presented in the opening chapter showing that modern medical practices, the organization of obstetrical care in hospitals, and modern life-style combine to discourage women from choosing breast-feeding, and to defeat their attempts to nurse their babies. In the second chapter historical evidence was reviewed documenting a decrease in breast-feeding in Western society as industrialization developed, childbirth moved from home to the hospital, and infant feeding came to be managed by male physicians. A similar pattern was noted for third-world societies that are modernizing along Western lines today.

Cumulative evidence documented the part played by modern society generally in lowering breast-feeding rates, but pertinent questions were left unanswered. Why are middle-class educated women breast-feeding their babies more often today than they did previously when modernization was less advanced? Why did breast-feeding rates remain high in some societies that modernized along non-Western lines? How are low rates for breast-feeding among preindustrial elites to be accounted for, when modernization could not

have influenced their lives?

A tentative hypothesis was advanced that infant feeding practices vary with women's power in social exchange. It was suggested that breast-feeding decreases when women's social power decreases relative to that of men in their own groups. As their power decreases, women's sexuality is more likely to be defined in terms of male needs and desires, because it is used in social exchange as a quality bargainable for social status and economic support from men. This leads to a devaluation of sexuality in biological expressions of maternalism, including breast-feeding relationships with infants. Women's lesser power also curtails the extent they are able to define and control their own reproductive functions, and the extent they are able to control health services dealing with contraception, pregnancy, childbirth, and lactation. Evidence was offered that women's power relative to men's did in fact decrease with industrialization; that it was lower among preindustrial elites than among common people; and that it is decreasing in third-world societies, although it has remained comparatively high in some societies that are modernizing along non-Western lines.

Summary and Discussion of Data Analysis

Analysis of statistical research data tested hypotheses that women are more likely to choose breast-feeding, initiate it, and succeed at it when birth settings are supportive for breast-feeding, and when women's values are

positive toward breast-feeding, body functions, and strength and independence for woman's social roles.

Supportive birth settings were found to influence choice of and success at breast-feeding. Women delivering in New York Lying-in Hospital, where nursing care emphasized education and support for breast-feeding, were more likely to choose it, to initiate it, and to "succeed" at it than women delivering in the less supportive New Jersey hospitals.

However, other independent variables were found to be equally important. Hospital care was no more highly correlated with infant feeding variables than level of education, social class background, age, or attending Prepared Childbirth classes. This suggested that women who nurse their babies may be predisposed to do so through cultural learning before they become pregnant, then self-select themselves into birthing environments that encourage it. The fact that all women who chose midwife-attended deliveries breast-fed their babies successfully seemed to support this idea.

Indeed, cumulative evidence from the data suggested that dispositions favorable to breast-feeding, and social learning needed for it, may come from women, or networks of women, who are knowledgeable about breast-feeding, have positive rather than neutral attitudes toward it, and are strongly supportive for other breast-feeding women. There were higher rates among women who had mothers, friends, and relatives who breast-fed, among women who attended women-

taught childbirth education classes, among women who were attended during delivery by other women, and among women who were attended postnatally by highly informed and supportive women.

Birth settings, then, may be not so much causal agents or socialization agents for breast-feeding as conducive and enabling environments where dispositions learned elsewhere may flourish (or have difficulty surviving). Christopher Jencks made a similar point in his study of education. He concluded that primary differences in academic achievement are due not so much to "quality" of schooling, or money spent on schools, as to backgrounds of experience from which children come to school.

This is not to say that hospitals are unimportant, but rather that social learning--much of it occurring outside the childbirth setting and long before women even become pregnant--may be even more important. Presumably such social learning includes not only factual information about infant feeding, but also social definitions of the value of breast-feeding and what women are and should be as women.

Analysis of the data on values reinforced this possibility. Values toward infant feeding, women's social role, and body functions were found to correlate with measures for choice, initiation, and "success" at breast-feeding. Women apparently chose breast-feeding because they believed at a cognitive level that it benefits babies and is easy

and convenient to do. On the other hand, success or failure among those who chose to nurse seemed more closely related to values about body and body functioning, and independent roles for women. Presumably these values led women to feel more or less comfortable about nursing, which in turn may have affected neurohormonal responses necessary in milk production and ejection. This interpretation supports psychobiological research on the effects of stress on milk-ejection.

The evidence lends support for the original premise that breast-feeding is learned as other social behavior is learned, through interaction with other social actors who value and practice the behavior, have a system of shared meanings for it, and act as role models, socializing agents, and reference groups. Through interaction with other women who nurse their babies, women learn not only appropriate norms, but also, and perhaps more importantly, they learn to define the behavior as desirable, beneficial, and pleasurable, even before learning how to do it.

When breast-feeding is socially deviant, the learning process may be similar to learning other types of deviant behavior --comparable, for example, to Howard Becker's description of becoming a marijuana user, or Edwin Sutherland's description of learning criminal behavior through differential association. But whether social norms define it as deviant or normative, breast-feeding still has to be learned, as any skill or art is learned. Inexperienced persons learn through interaction with experienced persons, and they learn more readily from enthusiastic and positive teachers than from neutral or negative ones. It should

not be surprising that breast-feeding rates were low for several centuries when women were taught to look for advice from, and be dependent upon, male physicians who could not have practiced the behavior themselves, and who had been taught through their own professional socialization to maintain a neutral stance and doubt women's capacity to succeed. Nor should it be surprising that women rejected breast-feeding when they were socialized to view their bodies with shame and embarrassment, and more in terms of seductive entrapment for men than biological functioning in childbirth.

This analysis suggests an explanation for failure of campaigns in the past to convince women to breast-feed, and for variable "success" rates that have perplexed hospital staffs and led them to adopt a policy of neutrality on infant feeding. First, the organization of obstetric care separated new mothers from interaction with other experienced breast-feeders and also from interaction with their infants. Second, even though educational information on the benefits of breast-feeding convinced women to try it, sustained breast-feeding that was trouble-free and emotionally satisfying to the nursing couple was less than likely if the woman had internalized values that led her to feel embarrassed by it, negative toward body functions in general, and physically and emotionally weak and dependent. The

Victorian idealization of womanhood and related definitions of female sexuality promoted such values.

An interactionist analysis also suggests an explanation for the historical shift to bottle feeding by middle-class women, followed several generations later by lower-class women, and the recent shift back to breast-feeding by women of the middle class. The majority of lower-class births took place in the home well into the 20th century. Consequently, lower-class women were attended by their own midwives and remained in contact with female friends and relatives who were experienced breast-feeders. They were less likely to be medicated and anesthetized for the birthing, and were not restricted from interaction with their babies. In contrast, the last of the middle-class midwives disappeared in the mid-1800s. Childbirth for middle-class women was dominated by male obstetrical thought even before it was moved into the hospital early in the 20th century. Middle-class women, therefore, were isolated from supportive women-directed networks, were more commonly medicated and anesthetized during delivery, and to a greater extent were restricted from interacting with their newborn infants.

On the other hand, today such organizations as ASPO and LLLI are providing more homelike birth experiences and supportive women networks for middle-class women once again, while childbirth for poor women is more likely to be hospitalized, highly technologized, and attended by an impersonal hospital staff. Lower-class women are least

likely to be in Prepared Childbirth classes, which in most cases are offered by trained middle-class women in their own homes for a fee not underwritten by health insurance or public funds.

Furthermore, a significant change has occurred in the past generation in middle-class women's perception of themselves as women, and in their perception of their bodies and their sexuality. Traces of Victorian prudery still exist, but most educated women are far more knowledgeable about their bodies and body-functioning, and less inhibited by norms of "propriety" and modesty than their mothers and grandmothers were.

Taken as a whole, the evidence lends support to theoretical assumptions advanced previously that women are more likely to breast-feed when their social power increases relative to men in their own groups, and when they have greater ability to define and control their own reproductive functions. It also suggests that significant changes may be necessary if breast-feeding rather than formula feeding is to prevail among the poor in our own society and in developing nations. Health services for pregnant and lactating women will need to be woman-oriented if not woman-controlled and dominated; industrial labor policies will need to encourage women to participate in productive work on an equal basis with men, but at the same time recognize the need to protect the lactating woman and her nursing relationship with her child. The World Health Or-

ganization, nutritionists, medical researchers, economists, and finally the American Academy of Pediatrics agree that increased breast-feeding will raise the level of health in the coming generation of children. It might be well, then, to state clearly that this is a social contribution of some merit, and that public policy should be framed to recognize it as such.

Areas Meriting Research in the Future

The following areas for possible research are suggested by issues raised in the study:

1. The influence of commercial advertising for infant foods on breast-feeding rates in Western society in the past and in the present. Promotional practices of formula manufacturers in developing countries have been investigated thoroughly, but have been neglected as a contributing cause for low breast-feeding rates here.
2. Infant feeding practices among the poor in the United States, with particular attention to correlations between bottle feeding, infant malnutrition, and infant morbidity. A study of physician-patient relationships for low-income women, and the effects of childbirth care they receive in public hospitals might provide insight into why breast-feeding rates are lower for them than for middle-class women. An investigation of personal adjustments working women find necessary to feed their infants might clarify their needs in this area.

3. The influence of sex of birth attendant on choice of feeding methods and success at breast-feeding. Lack of support for breast-feeding from physicians generally has been documented, but little is known about the relative influence of male as opposed to female physicians, or of women physicians who have breast-fed their own babies as opposed to those who have not.

4. A controlled study of obstetrician-attended hospital births compared to midwife-attended births at home or in birth centers. The small comparison population of midwife-attended births in this study suggested that infant feeding patterns are significantly different for women who choose them. But it is not at all clear whether differences are due to sex of attendant, type of interaction between parturient women and birth attendants, the nonhospital setting, or to differences between women who chose unconventional birth settings and those who did not.

5. The presumed network of association through which women learn to value breast-feeding and choose it over bottle feeding. A related area is the actual process by which women learn to breast-feed. Here a study focusing upon symbolic interaction between the woman, her infant, and significant others in the learning situation would be most useful.

Conclusions and Implications for Public Policy

It is tempting to conclude from a cross-cultural and historical survey that modern medicine and baby food

industries are responsible for low breast-feeding rates. There is abundant evidence that physicians and merchants have coopted infant feeding, influenced its course and management, and profited from women's dependence upon them.

However, such an analysis avoids taking into account changes in the larger social structure and its mores, which affect attitudes, values, and self-concept of the women who have babies. These value systems and perceptions appear to affect the choices women make in the long run about infant feeding, and their ability to breast-feed when they choose it.

Medicine and merchandising are social institutions that reflect the surrounding culture. They also influence it. But if the rise in breast-feeding today represents a basic change in infant feeding practices, it is occurring not at the whim of medicine or business interests, but because of other more far-reaching changes in the way women perceive themselves and their maternal functions, and their increased ability to exert some control over where and how they give birth.

This analysis suggests the following recommendations for changes in policy, if authorities are truly interested in promoting breast-feeding:

1. Encourage nonhospital deliveries for normal childbirth, attended by well-trained professional midwives, with an efficient backup emergency service. Train more women obstetricians for complicated in-hospital deliv-

eries.

2. Encourage business-labor practices that allow working women to establish and maintain a nursing relationship with their infants. Four months' post-delivery leave with high quality day care available (publicly funded) near every workplace is optimal.

3. Promote realistic education about childbirth and lactation including the hazards posed to infants by high-technology birthing and infant feeding practices. This should begin in public school health classes; the seventh month of pregnancy is too late. Socialize women from childhood to understand their own bodies and take responsibility for them. Accurate information about the medical profession's role in childbirth and child feeding should be publicized.

4. Most important: encourage full participation by women in the political and economic life of the society. Socialize women from childhood for independence and partnership with men in the workplace and the home, rather than for dependence upon them.

Breast-feeding will not necessarily be the optimum infant feeding method for all women everywhere. But women need accurate knowledge about it and about their reproductive functions in order to make sound choices. And they need social systems that support their choices, if the choices are to be viable.

APPENDIX 1

INFANT FEEDING QUESTIONNAIRE

This questionnaire is part of a research project to determine how new mothers make a choice between bottle feeding and breast-feeding, and how satisfied they are later with the method they choose. After your baby is born you will be asked another set of questions about your baby's progress.

The information you provide will be treated confidentially. The questionnaire is number coded and your name will be separated from the questionnaire as soon as it is received. Absolutely no one but the research principal investigator will have access to this information, and the only use that will be made of the information will be scientific analysis. No person will be identified in any way in subsequent scientific reports.

Name _____

Address _____

Telephone number _____

PLEASE CHECK THE ANSWER THAT APPLIES TO YOU

1. In which month of pregnancy are you?

   6th month ___
   7th month ___
   8th month ___
   9th month ___

2. How do you plan to feed your baby?

   I plan to bottle feed ___
   I plan to breast-feed ___
   Combination breast and bottle ___
   I have not decided ___

3. What are your reasons for feeding the baby this way? _____

   _____

4. How does the baby's father feel about this?

   He wants me to bottle feed the baby ___
   He wants me to breast-feed the baby ___
   He says he doesn't care one way or the other ___
   We haven't talked about it ___

5. How does your own mother feel babies should be fed?

She thinks babies should be bottle fed ___
She thinks babies should be breast-fed ___
She doesn't think it makes a difference ___
We haven't talked about it ___

6. Did your mother breast-feed you?

Yes ___
No ___
Don't know ___
She tried, but it didn't work out ___
(if it didn't work out, what was the reason? _____)

7. What doctor are you seeing during your pregnancy?

My own family doctor ___
My own gynecologist/obstetrician ___
The hospital clinic doctors ___
Other (please specify) ___

8. What advice has the doctor given about feeding babies?

Advised bottle feeding the baby ___
What reason did he give? _____
Advised breast-feeding the baby ___
What reason did he give? _____
Told me to make up my own mind ___
Doctor has not talked to me about feeding the baby ___

9. What sex is your doctor?

My doctor is a woman ___
My doctor is a man ___
There are both men and women doctors in the clinic ___

10. How many different friends or ralatives have you actually seen breast-feeding their babies?

None ___
One or two ___
Three or more ___

11. Have you been attending classes about childbirth?

Yes, classes which give instruction for prepared (natural) childbirth ___
Yes, classes which give general information about childbirth ___
No regular classes ___

12. How much information about feeding babies have you received from the following sources?

	Information		
	None	Some	A Lot
Member of La Leche League	___	___	___

	Information		
	None	Some	A Lot
Doctor	___	___	___
Instruction in the Childbirth classes	___	___	___
Books and Pamphlets	___	___	___
Women in my family	___	___	___
Women friends who have babies	___	___	___

13. How many babies do you plan to have altogether?

One ___
Two ___
Three ___
Four or more ___

14. Which hospital will you go to when your baby is delivered?

Hackensack Hospital ___
New York Lying-in ___
Other (please specify) _____

15. Why are you using this particular hospital?

My doctor is located there ___
The hospital is close to my home ___
Other _____

16. When you take the baby home from the hospital, will there be someone special to help you for a while with your work around the house?

Practical nurse ___
Mother ___
Mother-in-law ___
Sister or other female relative ___
Mother's helper ___
The baby's father ___
Other ___
No one to help ___

17. How long will this person stay to give you help? _____

18. How old are you?

Under 18 ___
18 to 20 ___
21 to 25 ___
26 to 30 ___
31 to 35 ___
36 to 40 ___
41 or over ___

19. How much formal education have you had?

Grade school ___
Some high school ___

Finished high school ___
Some college ___
Finished college ___
Some graduate school ___
Graduate or professional degree ___

20. What is your ethnic or racial identification?

Black/Afro-American ___
Hispanic ___
White ___
Other (please specify) _____

21. What is your religion?

No religious identification ___
Jewish ___
Catholic ___
Protestant ___
Other (please specify) _____

22. What was your father's usual job or occupation while you were growing up?

_____

23. What was your mother's usual job or occupation while you were growing up?

_____

24 & 25. How much formal education did your parents have?

	Father's education	Mother's education
Grade school	___	___
Some high school	___	___
Finished high school	___	___
Some college	___	___
Finished college	___	___
Some graduate school	___	___
Graduate or professional degree	___	___

26. Have you been working before or during your pregnancy?

Yes ___
No ___

(if your answer is "no", please skip to question #31)

27. If "yes", what was your usual job or occupation? Please describe in full.

_____

28. How important was each of the following as a reason for working?

	Very important	Somewhat important	not at all important
to have my own money	___	___	___
to earn money for my family	___	___	___
to develop my own career	___	___	___
to stay out of the house	___	___	___

29. Do you intend to return to work after the baby is born?

Yes ___
No ___

30. If you return to work, how soon will that be?

As soon as I think the baby can be left at home ___
After all my children are in school ___
I have no plans to work again ___

31. What is your marital status?

Single, living alone ___
Single, living at home with parents ___
Single, living with a man ___
Married ___
Divorced ___
Widowed ___
Separated ___

32. What is the usual job or occupation of your husband or male head-of-household?

_____

33. What is your family's total annual income?

Less than $5,000 ___
Between $5,000 and $9,999 ___
Between $10,000 and $14,999 ___
Between $15,000 and $24,999 ___
$25,000 or more ___

34. How often have you had the following experiences?

	Never	Sometimes	Quite often
Painful menstruation	___	___	___
Missed or irregular menstrual periods	___	___	___
Nausea during pregnancy	___	___	___
Orgasm (climax) during sexual intercourse	___	___	___
Miscarriage	___	___	___

35. What is your attitude toward the Woman's Liberation Movement?

Strongly opposed ___

Moderately opposed ___
Moderately in favor ___
Strongly in favor ___
I belong, or did belong to a consciousness-raising group ___

Would you care to comment about why you feel the way you do?

_____

THE FOLLOWING ARE OPINIONS ABOUT INFANT FEEDING AND OTHER ATTITUDES. WE WOULD LIKE YOUR OPINION ON ALL OF THESE QUESTIONS. PLEASE ANSWER EVERY QUESTION. "PROBABLY AGREE" MEANS YOU AGREE MORE THAN YOU DISAGREE WITH THE ITEM. "PROBABLY DISAGREE" MEANS YOU DISAGREE MORE THAN YOU AGREE WITH IT.

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
36.	Bottle feeding is more convenient than breast-feeding.	___	___	___	___
37.	Bottle feeding is just as good as breast-feeding, providing the baby is held while being fed.	___	___	___	___
38.	Breast-feeding is the womanly thing to do.	___	___	___	___
39.	Women breast-feed in part because they get sexual pleasure from it.	___	___	___	___
40.	Breast-feeding places too much demand on a woman's time.	___	___	___	___
41.	A woman's place is basically in the home.	___	___	___	___
42.	Woman who breast-feed in public have no modesty.	___	___	___	___
43.	Women who breast-feed are more feminine.	___	___	___	___
44.	Breast-feeding is embarrassing to those who have to watch it.	___	___	___	___
45.	The warm bodily contact in breast-feeding is important to the security of the infant.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
46.	A woman can get more satisfaction out of helping her husband become very successful than by having a career herself.	___	___	___	___
47.	Women who breast-feed get to look dowdy and matronly at a young age.	___	___	___	___
48.	Breast-feeding interferes with a woman's ability to have a career.	___	___	___	___
49.	During the months women breast-feed, they are more sexually attractive.	___	___	___	___
50.	Breast-feeding should never be done in public.	___	___	___	___
51.	There is a lower rate of sickness and death among breast-fed babies.	___	___	___	___
52.	Breast-feeding is a nuisance for everyone involved.	___	___	___	___
53.	Breast-feeding develops a healthy bond of intimacy between mother and baby.	___	___	___	___
54.	Women breast-feed to get physical satisfaction.	___	___	___	___
55.	Breast-feeding in public is obscene.	___	___	___	___
56.	Taking care of babies and children is clearly a woman's job.	___	___	___	___
57.	There is too much tolerance for sexually suggestive materials in magazines, TV, and movies.	___	___	___	___
58.	Breast-feeding keeps a woman in a worn-down condition.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
59.	Breast-feeding restricts the other activities of parents too much.	___	___	___	___
60.	Breast-feeding, like other body functions, should be done in private.	___	___	___	___
61.	Men are better than women in most things outside the home.	___	___	___	___
62.	Bathing suits and other clothing have gone too far in exposing the body.	___	___	___	___
63.	Breast-feeding increases a woman's physical attractiveness.	___	___	___	___
64.	A breast-fed baby will be healthier as an adult than one who was not.	___	___	___	___
65.	Seeing his wife breast-feeding makes a husband feel closer to the family.	___	___	___	___
66.	Natural body odors are repulsive.	___	___	___	___
67.	Men should make most of the important decisions in families because they are generally more intelligent and rational than women.	___	___	___	___
68.	Children of the opposite sexes should not see each other nude.	___	___	___	___
69.	Virtually all women are physically able to breast-feed.	___	___	___	___
70.	Breast-feeding ties a woman down too much.	___	___	___	___
71.	Women who breast-feed generally get a lot of pleasure from it.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
72.	Breast-fed babies grow up to be more emotionally healthy.	___	___	___	___
73.	Pictures in magazines of women breast-feeding are in poor taste.	___	___	___	___
74.	Women who breast-feed expect special privileges and attention.	___	___	___	___
75.	A woman should follow her doctor's advice about whether or not to breast-feed.	___	___	___	___

If you want to make any comments about the questionnaire please add them at the bottom of this page. Also, if you have any ideas or feelings about breast-feeding or bottle feeding that the questionnaire did not touch, we would be most interested to hear them.

Thank you for your cooperation.

APPENDIX 2

PRETEST QUESTIONNAIRE

This is a pretest questionnaire for a research project in Medical Sociology being done through the C.U.N.Y. Graduate Center, Forty-second Street, New York, New York. The project will involve New York City hospitals, and include surveys of various medical personnel.

You will be informed of the results when the data has been tabulated. There also will be class discussion on the research design and on some of the sociological issues involved.

* *

The following are opinions about infant feeding and other attitudes. We would like your opinion on all of these questions. Please answer every question. Mark the corresponding box next to each item to indicate whether you agree or disagree. "Probably Agree" means you agree more than you disagree with the item. "Probably Disagree" means you disagree more than you agree with it.

	Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
1. Breast-feeding is the womanly thing to do.	___	___	___	___
2. Breast-feeding ties a woman down too much.	___	___	___	___
3. Formula feeding is the civilized approach to feeding babies.	___	___	___	___
4. The warm bodily contact in breast-feeding is important to the security of the infant.	___	___	___	___
5. There is too much nudity these days.	___	___	___	___
6. A woman's place is in the home.	___	___	___	___
7. Ideally, a family today should have no more than two children.	___	___	___	___

	Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
8. Women who breast-feed lose their figures.	___	___	___	___
9. Women breast-feed to call attention to themselves.	___	___	___	___
10. Pictures in magazines of women breast-feeding are in poor taste.	___	___	___	___
11. Bottle feeding is more convenient than breast-feeding.	___	___	___	___
12. Women who breast-feed expect special privileges and attention.	___	___	___	___
13. Breast-feeding interferes with a woman's ability to have a career.	___	___	___	___
14. Breast-feeding is embarrassing to those who have to watch it.	___	___	___	___
15. Bottle-fed babies tend to be less dependent than breast-fed babies.	___	___	___	___
16. Bathing suits and other clothing have gone too far in exposing the body.	___	___	___	___
17. Men who earn good salaries should want their wives not to work.	___	___	___	___
18. Women who breast-feed generally get a lot of pleasure from it.	___	___	___	___
19. Breast-feeding can lead to health problems for the mother.	___	___	___	___
20. Women who can afford it should bottle feed their babies.	___	___	___	___
21. Women should have the exclusive say about whether they breast-feed or not.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
22.	Breast-feeding disrupts relationships between a man and a woman.	___	___	___	___
23.	Women who breast-feed are no better than cows.	___	___	___	___
24.	Seeing his wife breast-feed makes a husband feel closer to the family.	___	___	___	___
25.	Breast-feeding increases a woman's physical attractiveness.	___	___	___	___
26.	Women who breast-feed tend to give their husbands less attention.	___	___	___	___
27.	Breast-feeding develops a healthy bond of intimacy between baby and mother.	___	___	___	___
28.	People in modern society should be open about their sexual feelings.	___	___	___	___
29.	Taking care of babies and children is clearly a woman's job.	___	___	___	___
30.	In our modern society, people should not have large families.	___	___	___	___
31.	Women breast-feed because it is the thing to do today.	___	___	___	___
32.	Breast-feeding is a nuisance for everyone involved.	___	___	___	___
33.	Breast-feeding, like other body functions, should be done in private.	___	___	___	___
34.	Women who breast-feed get to look dowdy and matronly.	___	___	___	___
35.	Women who breast-feed tend to exclude their husbands from the family.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
36.	Natural body odors are repulsive.	___	___	___	___
37.	Breast-feeding is crude behavior.	___	___	___	___
38.	Breast-feeding is easier than preparing bottles and formulas.	___	___	___	___
39.	Breast-feeding in public is obscene.	___	___	___	___
40.	A woman can get more satisfaction out of helping her husband become very successful than by having a career herself.	___	___	___	___
41.	Women use breast-feeding as a way of getting out of doing other things.	___	___	___	___
42.	Virtually all women are able to breast-feed if they want to.	___	___	___	___
43.	There is too much tolerance for sexually suggestive materials in magazines, TV, and other ways everyone is exposed to.	___	___	___	___
44.	If population problems become serious, people should be willing to control the number of children they have, according to rules set by the democratic process of government.	___	___	___	___
45.	Fathers feel excluded when their wives breast-feed.	___	___	___	___
46.	Breast-feeding is hard on a woman.	___	___	___	___
47.	Women who breast-feed in public have no modesty.	___	___	___	___
48.	Women breast-feed to show love for their babies.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
49.	Women breast-feed in part because they get sexual pleasure from it.	___	___	___	___
50.	Breast-feeding places too much demand on a woman's time.	___	___	___	___
51.	Men are better than women in most things.	___	___	___	___
52.	Women who breast-feed are more feminine.	___	___	___	___
53.	Breast-feeding keeps a woman in a worn-down condition.	___	___	___	___
54.	Breast-feeding should never be done in public.	___	___	___	___
55.	Breast-fed babies grow up to be more emotionally healthy.	___	___	___	___
56.	Children should not see each other nude.	___	___	___	___
57.	Men should make most of the important decisions in families because they are generally more intelligent and rational than women.	___	___	___	___
58.	A woman should not breast-feed if her husband objects.	___	___	___	___
59.	American women are too high-strung to breast-feed successfully.	___	___	___	___
60.	Breast-feeding is an abuse of a woman's body.	___	___	___	___
61.	Even if population problems become extremely serious, the government should not interfere in any way with the right of people to have or not have children.	___	___	___	___
62.	Breast-feeding develops a relationship between mother and baby that is too close, too intimate.	___	___	___	___

		Definitely Disagree	Probably Disagree	Probably Agree	Definitely Agree
63.	Women who breast-feed lose their youthful appearance.	___	___	___	___
64.	Breast-feeding is messy for a woman.	___	___	___	___
65.	Women breast-feed to get status.	___	___	___	___
66.	A woman who is a good housewife and mother should be getting more than enough satisfaction out of her life.	___	___	___	___
67.	There is too much open and explicit discussion about sex these days.	___	___	___	___
68.	Bottle feeding is a subtle form of rejection of the baby.	___	___	___	___
69.	Women breast-feed to get physical satisfaction.	___	___	___	___
70.	During the months women breast-feed, they are more sexually attractive.	___	___	___	___
71.	Breast-feeding restricts the other activities of parents too much.	___	___	___	___
72.	Breast-feeding disrupts a woman's work patterns to her disadvantage.	___	___	___	___
73.	People should have as many children as they like, as it is only their own business what they do.	___	___	___	___
74.	Women enjoy sexual intercourse as much as men do.	___	___	___	___

Will you also please answer a few questions about yourself for purposes of our statistical analysis?

1. What is your age?

Under 18	___	26-30	___
18-20	___	31-40	___
21-25	___	41 or over	___

2. What is your sex?

Female ___ Male ___

3. What is your marital status?

Single ___ Married ___ Divorced ___
Widowed ___ Separated ___

4. What is your religion?

Jewish ___
Catholic ___
Protestant ___
Other (please specify) ___

5. What was your father's job while you were growing up?

Professional ___
Technical ___
Managerial ___
Sales worker ___
Clerical ___
Craftsman or foreman ___
Skilled worker ___
Unskilled worker ___
Farm worker ___
Service worker ___

Pretest Form I

Opinion and Information Form
INFANT FEEDING: Breast and Bottle Feeding

The following statements involve opinions and facts about the feeding of infants. There are two basic approaches to infant feeding, breast-feeding and bottle feeding, and sometimes they are used in combination. On the basis of your experience and knowledge, we would like to know whether you think the following statements are true or not true. Since you may have doubts about some of these statements, if you are not sure, indicate whether you think the statements are probably true or probably not true.

	Definitely Not True	Probably Not True	Probably True	Definitely True
1. A baby's sucking response is strongest in the hours right after being born, assuming the baby is not affected by drugs or anesthetics given to the mother.	___	___	___	___
2. Allowing a baby to nurse right after birth is good both for the baby and the mother.	___	___	___	___

		Definitely Not True	Probably Not True	Probably True	Definitely True
3.	From the point of view of preventing disease and infection, it probably makes no difference whether a baby is breast-fed or fed by bottle.	___	___	___	___
4.	A mother does not produce regular milk until 2 to 4 days after the baby is born.	___	___	___	___
5.	The amount of breast-feeding a baby does, the amount of sucking and emptying of the breasts, will not affect the amount of milk a mother makes.	___	___	___	___
6.	Anxiety, embarrassment, fear, stress, and other such factors may affect the actual milk flow or supply.	___	___	___	___
7.	A woman will more or less continue to produce milk as long as her child continues to nurse, even if it is several years.	___	___	___	___
8.	Giving babies who are normally breast-fed additional milk using a bottle will slow down the production of milk in the nursing mother.	___	___	___	___
9.	Under conditions of malnutrition, a mother is usually not able to breast-feed her baby.	___	___	___	___
10.	If a mother breast-feeds her baby when she herself is not getting a good diet, it is the mother rather than the baby who may suffer physical problems.	___	___	___	___

		Definitely Not True	Probably Not True	Probably True	Definitely True
11.	After the first few days, mother's milk is about the same as bottle milk from the point of view of providing things infants need for protection from infections.	___	___	___	___
12.	There is a lower rate of sickness and death among babies that are breast-fed than those who are bottle fed.	___	___	___	___
13.	Breast-fed babies are less likely to suffer from eczema skin problems than bottle-fed babies.	___	___	___	___
14.	The best way to feed premature babies and newborn babies that are sick is to get a correctly prepared formula for bottle feeding.	___	___	___	___
15.	After a baby is born, a nonnursing mother's womb returns to normal size more quickly than that of a nursing mother.	___	___	___	___
16.	When a mother breast-feeds her baby, it lowers the chances she will get pregnant.	___	___	___	___
17.	Women with small breasts usually make less milk than women with large breasts.	___	___	___	___
18.	Breast-feeding may lead to iron-deficiency anemia in infants.	___	___	___	___

Pretest Form II

Opinion and Information Form
INFANT FEEDING: Breast and Bottle Feeding

The following statements involve opinions and facts about the feeding of infants. There are two basic approaches to infant feeding, breast-feeding and bottle feeding, and sometimes they are used in combination. On the basis of your experience and knowledge, we would like to know whether you think the following statements are true or not true. Since you may have doubts about some of these statements, if you are not sure, indicate whether you think the statements are probably true or probably not true.

		Definitely Not True	Probably Not True	Probably True	Definitely True
1.	Even assuming that an infant is not affected by drugs or anesthetics given to the mother during delivery, the newborn baby does not show a strong sucking response until some hours after birth.	___	___	___	___
2.	It is usually better for both baby and mother for the baby to wait 7 to 12 hours after the delivery before the mother begins breast-feeding.	___	___	___	___
3.	The "milk" first produced by a nursing mother is good for the baby since it contains things that protect it from disease and infection.	___	___	___	___
4.	A mother that breast-feeds will begin producing regular milk almost immediately after the baby first breast-feeds.	___	___	___	___
5.	The more a baby nurses, the more milk the mother will make.	___	___	___	___
6.	A relaxed, calm situation helps a nursing mother develop a good milk supply.	___	___	___	___

	Definitely Not True	Probably Not True	Probably True	Definitely True
7. Except under extraordinary circumstances, a nursing mother will automatically stop making milk after 6 to 12 months.	___	___	___	___
8. Since it gives the mother's body a rest, giving babies additional milk from a bottle actually helps the mother produce a good supply of milk.	___	___	___	___
9. If a mother is not getting a proper diet, it is the baby who may physically suffer rather than the nursing mother.	___	___	___	___
10. Except under extremely limiting circumstances, what a mother drinks and eats does not affect the quality and quantity of the mother's milk.	___	___	___	___
11. Mother's milk helps to protect the baby against stomach infections, allergies, overweight, polio, and some other serious infections.	___	___	___	___
12. As long as they get the same amount of milk, illness and death rates are the same for babies.	___	___	___	___
13. Breast-fed babies are more likely to suffer from eczema skin problems than bottle-fed babies.	___	___	___	___
14. Breast milk is the best food possible for premature babies and newborn babies that are sick.	___	___	___	___

		Definitely Not True	Probably Not True	Probably True	Definitely True
15.	After a baby is born, if the mother breast-feeds the baby, her womb returns to a normal size more quickly.	___	___	___	___
16.	Nursing mothers have an increased probability over nonnursing mothers of getting pregnant if they have intercourse.	___	___	___	___
17.	Women with small breasts make as much milk as women with large breasts.	___	___	___	___
18.	Formula feeding may lead to iron-deficiency anemia in infants.	___	___	___	___

APPENDIX 3

PROJECT ON INFANT FEEDING: TELEPHONE INTERVIEW SCHEDULE

Questionnaire Number _____
Name of Respondent _____
Date of Interview _____
Name of Hospital or Birth Center used _____

1. I recall you planned to _____ feed your baby. How did you actually start off feeding in the hospital?

   0 breast ___
   1 bottle ___

IF BOTTLE FEEDING

2. How are things working out?

   0 Fine, baby doing well on bottle ___
   1 Baby has trouble with feeding ___
   (what kind of trouble?) _____

3. If you had another baby, would you feed it the same way?

   0 yes ___
   1 no ___
   2 not sure, DNA ___

IF BREAST-FEEDING

4. How is the breast-feeding going?

   0 only lasted a few days ___
   1 lasted one week ___
   2 2-3 weeks ___
   3 4-5 weeks ___
   4 6-7 weeks ___
   5 8 weeks or more ___
   6 DNA

ASK QUESTIONS 5-7 ONLY IF ORIGINAL PLANS CHANGED

5. If you planned to breast-feed and did not, what were the reasons?

   0 Dr. advised against it ___
   1 medical complications ___
   2 not enough milk ___
   3 baby wouldn't nurse ___
   4 had caesarian ___
   5 other ___
   6 DNA

6. If you planned to bottle feed and breast-fed instead, why did you change your mind?

0 literature ___
1 Dr.'s advice ___
2 friend's advice ___
3 nurse's advice ___
4 childbirth class ___
5 other ___
6 DNA ___

7. If you breast-fed for a short time, then changed to the bottle, what were the reasons?

0 not enough milk ___
1 didn't agree with the baby ___
2 had to work ___
3 didn't enjoy it ___
4 too much trouble ___
5 Dr.'s advice ___
6 other ___
7 DNA ___

ASK QUESTIONS 8-20 ONLY IF BREAST-FEEDING

8. Did you have trouble with breast-feeding in the hospital?

0 no difficulties ___
1 yes ___
2 DNA ___

(If yes, please explain _____)

9. If you had trouble, who gave you help?

0 no one ___
1 nurses ___
2 doctors ___
3 midwife ___
4 other ___
5 DNA ___

10. How soon after delivery were you allowed to nurse the baby?

0 immediately ___
1 1-3 hours ___
2 4-8 hours ___
3 9-12 hours ___
4 13 or more ___
5 DNA ___

11. Did you have "rooming-in"?

0 no ___
1 yes ___
2 DNA ___

12. If you did not have "rooming-in", how often were you able to feed the baby?

0 on a four-hour schedule ___
1 other schedule ___
2 on demand ___
3 DNA ___

13. How long was the baby left with you at each feeding time?

0 20 minutes or less ___
1 20-30 minutes ___
2 31-60 minutes ___
3 as long as desired ___
4 DNA ___

14. Was the baby given anything in the nursery between feedings?

0 no ___
1 yes, sugar water ___
2 yes, formula ___
3 don't know ___

15. What advice was given about care of your nipples?

0 no advice
1 normal showering sufficient ___
2 sterile water before feedings ___
3 soap water before feedings ___
4 alcohol before feedings ___
5 other ___

16. Have you had difficulties with the nursing since you've been home?

0 no difficulties ___
1 yes ___
2 DNA ___
(if yes, please explain _____)

17. Who gave you help with your problems?

0 no one ___
1 LLLI member ___
2 friends (women) ___
3 women relatives ___
4 other ___

18. Are you giving the baby supplements of formula?

0 no ___
1 formula given infrequently to allow mother freedom ___
2 formula given regularly to supplement milk supply ___
3 DNA ___

18A. Have you had anyone to help you with your responsibilities so that you can relax and rest?

0 no one ___
1 mother ___
2 housekeeper ___
3 other relative ___
4 baby's father ___

19. How does this person feel about breast-feeding?

0 negative or neutral ___
1 positive and supporting ___
2 DNA ___

20. If you had another baby, would you breast-feed it?

0 no ___
1 yes ___
(comments? _____)

ASK: "MAY I ASK A FEW QUESTIONS ABOUT YOUR LABOR AND DELIVERY?"

21. Did you have a normal birth?

0 normal vaginal delivery ___
1 caesarian ___
2 complication ___
(If complication, please explain _____)

22. How long were you in labor altogether?

0 less than 4 hours ___
1 5-8 hours ___
2 9-14 hours ___
3 15 or more ___

23. Did you have medication during labor?

0 no ___
1 yes, to relieve pain ___
2 yes, to speed contractions ___
3 DNA ___

24. Did you have anesthetic for the birth?

0 no ___
1 yes, general anesthetic ___
2 yes, "numb but awake" (epidural, spinal, etc.) ___
3 other ___

25. Was a fetal heart monitor used during labor?

0 no ___
1 yes, but only part of the time ___
2 yes, all during labor ___
(How do you feel about this? _____)

26. Had you had childbirth instruction?

0 none ___
1 yes, La Maze Instruction ___
2 only the classes at the hospital ___
3 other instruction ___
(if other, what kind? _____)

27. When were you first allowed to hold the baby?

0 right after birth ___
1 2 hours later ___
2 3 to 6 hours later ___
3 7 hours later or more ___

28. Who actually attended the birth?

0 own Dr. ___
1 clinic Dr. ___
2 midwife ___

29. How would you describe your childbirth experience?

Terrible 1 - 2 - 3 - 4 - 5 extremely happy

REFERENCES

American Academy of Pediatrics, Committee on Nutrition.
1976 "Commentary on breast-feeding and infant formulas, including proposed standards for formulas." Pediatrics 57:278-85.

American Academy of Pediatrics, Committee on Nutrition, and the Nutrition Committee of the Canadian Pediatric Society.
1978 "Breast-feeding: a commentary in celebration of the International year of the child, 1979." Pediatrics 62:591-601.

Applebaum, P. M.
1975 "The obstetrician's approach to the breast and breast-feeding." Journal of Reproductive Medicine 14:98-116.

Arena, J. (ed.)
1969 Davison's Compleat Pediatrician, 9th ed. Philadelphia: Lea and Febiger.

Arms, Suzanne
1975 Immaculate Deception: A New Look at Women and Childbirth in America. New York: Houghton Mifflin.

Auerbach, Kathleen G.
1976 "To breast-feed or not to breast-feed." Keeping Abreast Journal (October-December):316-23.

1975 "The ecological, clinical and sociological aspects of worldwide lactation failure." Pp. 415-18 in Fourth International Congress of Psychosomatic Obstetrics and Gynecology, Tel Aviv, 1974. Karger Basel.

1978 Relactation: Unpublished report on research.

Bain, K.
1948 "The incidence of breast-feeding in hospitals in the United States." Pediatrics 2:313.

Beauvoir, Simone de
1953 The Second Sex. New York: Knopf.

Berg, Alan
1977 "The crisis in infant feeding practices." Nutrition Today (January-February):18-23.

1973 The Nutrition Factor. Washington DC. The Brookings Institute.

Bernard, Jessie
1975 Women, Wives and Mothers. Chicago: Aldine.

Blau, Peter
1971 "Justice in Social Exchange." Pp. 56-68 in Herman Turk and Richard L. Simpson (eds.), Institutions and Social Exchange. New York: Bobbs Merrill.

Blumberg, Rae Lesser
1978 Stratification: Socioeconomic and Sexual Inequality. Dubugue IA: William C. Brown.

Brack, Datha Clapper
1975 "Social forces, feminism and breast-feeding." Nursing Outlook 23:556-61.

1976 "Displaced: the midwife by the male physician." Women and Health 1,6:18-24.

Bracken, Felisa J.
1953 "Infant feeding in the American colonies." Journal American Dietary Association 29:349.

Breckenridge, Mary
1952 Wide Neighborhoods: A Story of Frontier Nursing Service. New York: Harper and Brothers.

Bronfenbrenner, Uri
1958 "Socialization and social class through time and space." Pp. 400-425 in Eleanor Maccoby, T. Newcomb and E. Hartley (eds.), Readings in Social Psychology. New York: Henry Holt and Co.

Brown, F., J. Lieberman, T. Winston and N. Pleschette
1960 "Infant feeding by primiparas." Psychosomatic Medicine 22: 423-29.

Brown, Marie Scott
1976 "Drugs, contaminants and nutrients in human milk." Keeping Abreast Journal 1,1:34-36.

Brown, Roy E.
1973 "Breast-feeding in modern times." American Journal of Clinical Nutrition 26:556-62.

Campbell, Margaret
1973 Why Would A Girl Go Into Medicine? Medical Education In The United States. Old Westbury NY: Feminist Press.

Campbell, Ruth
1976 "Characteristics and attitudes of mothers who choose to breast-feed their babies." Midwives Chronicle and Nursing Notes (April):82-84.

Chamberlain, Edwin R.
1976 "Some personality differences between breast and bottle feeding mothers." Birth and the Family Journal 3:31-34.

Chung, Arthur
1977 "Breast-feeding in a developing country: The People's Republic of China." Lactation Review: special issue reporting on International Conference on Lactation, New York City, March 1977 2,2:7.

Consumer's Guide
1977 "Is breast-feeding good for babies?" (March):152-57.

Davidoff, Lina
1976 Introduction to Psychology. New York: McGraw Hill.

Davis, Allison and Robert Havighurst
1946 "Social class and color differences in child rearing." American Sociological Review 11:698-710.

Dewhurst, C. J. (ed.)
1972 Integrated Obstetrics and Gynecology for Post-graduates. Oxford: Blackwell Scientific Publications.

Doering, Susan G. and Doris R. Entwisle
1975 "Preparation during pregnancy and ability to cope with labor and delivery." American Journal Ortho-psychiatry 45:5.

Dwyer, J. T.
1975 "The demise of breast-feeding: sales, sloth or society?" Pp. 331-72 in W. J. Mayer (ed.), Priorities in Child Nutrition in Developing Countries. United States Economic and Social Council E/ICEF/L:1328,2.

Education for Nurse Midwifery
1967 New York: The Maternity Center Association.

Egli, G. E., N. S. Egli and M. Newton
1961 "Influence of number of breast-feedings on milk production." Pediatrics 27:314.

Esterly, N. B., G. Arak, N. Furley, M. Ginsburg, S. E. Howell, B. Kirschner, M. Miller and J. Zurbrugg.
1975 "The obstetrician and breast-feeding: some views of women physicians." Journal Reproductive Medicine 14: 89-97.

Ehrenreich, Barbara and Dierdre English
1972 Witches, Midwives and Nurses. Old Westbury NY: Feminist Press.

1973 Complaints and Disorders: The Sexual Politics of Sickness. Old Westbury NY: Feminist Press.

Eiger, Marvin S. and Sally Wendkos Olds
1972 The Complete Book of Breast-feeding. New York: Workman.

Eisenstadt, S. N.
1971 "Societal goals, systemic needs, social interaction and individual behavior." Pp. 36-55 in Herman Turk and Richard Simpson, Institutions and Social Exchange. New York: Bobbs Merrill.

Emslie, Margaret M. B.
1931 Breast-feeding. London: Oxford University Press, Humphrey Milford.

Epstein, Cynthia
1971 Woman's Place: Options and Limits in Professional Careers. Berkeley: University of California Press.

Ettner, Fredrick M.
1977 "Hospital technology breeds pathology." Women and Health (September-October):17-23.

Foman, S. J.
1974 Infant Nutrition, 2nd edition. Philadelphia: W.B. Saunder.

Freedman
1953 "The Detroit Area Study: a training and research laboratory in the community." American Journal of Sociology 59:30-33.

Freidson, Eliott
1970a Professional Dominance. New York: Atherton.

1970b Profession of Medicine. New York: Dodd Mead.

Friedan, Betty
1964 The Feminine Mystique. New York: Dell.

Gillman, Charlotte Perkins
[1898] 1966 Women and Economics. New York: Harper Torchbooks.

Goode, William J.
1964 The Family. Englewood Cliffs NJ: Prentice-Hall.

Gordon, Michael
1968 "Infant care revisited." Journal of Marriage and the Family (November):579-83.

Greiner, Ted
1975 The Promotion of Bottle Feeding by Multinational Corporations: How Advertising and Health Professionals Have Contributed. Ithaca NY: Cornell International Nutrition Monograph Series No. 2.

1977 Regulation and Education: Strategies for Solving the Bottle Feeding Problem. Ithaca NY: Cornell International Nutrition Monograph Series No. 4.

Gruelle, C. G., H. N. Sanford and P. M. Herron
1943 "Breast and artifical feeding." Journal American Medical Association 103:735-48.

Guyton, A. C.
1971 Textbook of Medical Physiology. Philadelphia: W. B. Saunde.

Gyorgy, P. G.
1970 "Biochemical aspects." In Symposium on the uniqueness of human milk. American Journal Clinical Nutrition 24:970-75.

Harie, Doris and John Haire
1968 Implementing Family Centered Maternity Care. Bellevue, Washington: International Childbirth Education Association.

Haire, Doris
1972 The Cultural Warping of Childbirth. Milwaukee: The International Childbirth Education Association.

1977 "The Cultural Unwarping of Childbirth: How can it be accomplished?" Pp. 567-85 in David Stewart and Lee Steward (eds.), 21st Century Obstetrics Now! Chapel Hill NC: NAPSACK Publications.

Hamilton, Persis M.
1974 Basic Pediatric Nursing. St. Louis MO: Mosby.

Hanson, L. A. and J. Winberg
1972 "Breast milk and defense against infection in the newborn." Arch. Dis. Child 47:845-47.

Harris, Ann Sutherland
1970 Testimony before the Special House Subcommittee on Education with respect to section 805 of HR 19098. Unpublished manuscript.

Harris, Stephanie and Joseph Highland
1977 Birthright Denied: The Risks and Benefits of Breast-feeding. Washington DC: The Environmental Defense Fund.

Hoffman, Martin L. and Lois W. Hoffman (eds.)
1964 Review of Child Development Research. New York: Russell Sage Foundation.

Hollen, Barbara K.
1976 "Attitudes and practices of physicians concerning breast-feeding and its management." Environmental Child Health (December):268-93.

Hollingsworth, Dorothy and Margaret Russell
1973 Nutrition Problems in a Changing World: Proceedings of the British Nutritional Research Conference. New York and Toronto: Wiley.

Holt, Luther Emmett
1898 The Care and Feeding of Children: A Catechism for the Use of Mothers and Children's Nurses. New York: Appleton, 2nd edition.

1924 The Care and Feeding of Children, 24th edition. New York: Appleton.

1901 "The general principles of infant feeding, with a simple method of home modification of cow's milk." New York Medical Journal (January).

1910 "Infant mortality and its reduction, especially in New York City." Journal American Medical Association LIV:682-90.

Horner, Matina
1972 "The motive to avoid success and changing aspirations in college women." Pp. 62-67 in Judith M. Bardwick (ed.), Readings on the Psychology of Women. New York: Harper and Row.

Hutton, Addy
1977 "Change from breast-feeding to bottle feeding in West Africa." Pp. 78-85 in Michael Latham and S. Westley, Nutritional Planning and Policy for African Countries. Ithaca NY: Cornell Nutritional Monograph Series No. 5.

Illich, Ivan
1976 Medical Nemesis: The Expropriation of Health. Random House.

Infact Notes
1978 INFANT Formula Action Coalition. Minneapolis MN: (December).

Infant Care
1914 United States Department of Labor, Children's Bureau. Bureau Publication No. 8. Revisions: 1921, 1929, 1933, 1938, 1940, 1942, 1945, 1951, 1955, 1961, 1963. Washington DC, U.S. Government Printing Office.

Jelliffe, Derrick B.
1968 "Breast milk and the world protein gap." Clinical Pediatrics 7:96-99.

1975 "Unique properties of human milk." Journal Reproductive Medicine 1414:133-37.

Jelliffe, Derick B. and E. F. Patrice Jelliffe
1975a "Duration of breast-feeding." Lancet 7909:752-53 (March).

1975b "Human milk, nutrition and the world resource crisis." Science 188:557-60.

1970 "Overview in symposium on the uniqueness of human milk." American Journal of Clinical Nutrition 24: 1012.

Keeping Abreast Journal
1976 Volume 1, Number 1. Denver CO (January-March).

Kippley, Sheila
1974 Breast-feeding and Natural Child Spacing.

Klaus, Marshall H. and John H. Kennell
1976 Maternal-Infant Bonding. St. Louis: C. V. Mosby.

Knael, Kathleen
1974 "Conflicting perspectives on breast-feeding." American Journal Nursing (October):1848-51.

Knodel, John
1977 "Breast-feeding and population growth." Science 198: 111-15.

Lactation Review
1976 Sturge's Highway, Westport CT. Volume 1, Number 1.

La Leche League International
1978 "Environmental contaminants in mother's milk." Information sheet reprinted in Women and Health 3,1: 24-28.

Lang, Dorothea
1976 "Professional midwife on the perinatal team." Paper presented at the 8th World Congress of Gynecology and Obstetrics. Mexico City: (October 17-23).

1970 The Midwife Returns, Modern Style. Pamphlet; The Parent's Institute, New York NY.

Latham, Michael C.
1977a "Introduction." Pp. i-xiv in Ted Greiner, Regulation and Education: Strategies for Solving the Bottle Feeding Problem. Ithaca NY: Cornell International Nutrition Monogarph Series No. 4.

Latham, Michael C. and Sidney B. Westley (eds.)
1977b Nutritional Planning and Policy for African Countries. Ithaca NY: Cornell International Nutrition Monograph Series No. 5.

Lerch, Constance
1974 Maternity Nursing. St. Louis: C. V. Mosby.

Lipkin, Gladys B.
1974 Psychosocial Aspects of Maternal-Child Nursing. St. Louis: C. V. Mosby.

Lorber, Judith
1978 "Lysistrata revisited: the politics of reproduction." Keynote address to Sociologists for Women in Society Conference on Women and Health. New York NY: April 8. Unpublished.

Maternity Care in the World: International Survey of Midwifery Practice and Training
1966 Report of a Joint Study Group, International Federation of Gynaecology and Obstetrics and the International Confederation of Midwives. Oxford, London, New York: Pergamon.

Mauksch, Hans O.
1973 "Nursing: charging for a change." Pp. 206-30 in Howard Freeman, Sol Levine and Leo G. Reeder, Handbook of Medical Sociology, 2nd edition. Englewood Cliffs NJ: Prentice-Hall.

Mead, Margaret and Niles Newton
1967 "Cultural patterning of perinatal behavior." Pp. 142-244 in Stephen A. Richardson and Alan F. Guttmacher (eds.), Childbearing: Its Social and Psychological Aspects. Baltimore: Williams and Wilkins.

Mellius Foods for Infants and Invalids: Advice to Mothers on the Care and Feeding of Infants (Together with Useful Information for Nursing Mothers and Invalids)
1894 Mellius Foods 9th edition. Boston: Doliber Goodale.

Meyer, Herman F.
1968 "Breast-feeding in the United States: report of a 1966 national survey with comparable 1946 and 1956 data." Clinical Pediatrics (December):708-15.

Miller, Daniel and Guy E. Swanson
1958 The Changing American Parent. New York: Wiley and Sons.

Montague, Ashley
1977 "Social impacts of unnecessary intervention and unnatural surroundings in childbirth." Pp. 589-610 in David Stewart and Lee Steward (eds.), 21st Century Obstetrics Now! Chapel Hill NC: NAPSACK Publications.

Nelson, Waldo E., Victor C. Vaughan and R. James McKay
1969 Textbook of Pediatrics, 9th edition. Philadelphia: W. B. Saunders.

Newson, John and Elizabeth Newson
1963 Infant Care in an Urban Community. New York: International University Press.

1962 "Breast-feeding in decline." British Medical Journal (December 29):1744-45.

Newton, Michael
1971 "Mammary effects." American Journal Clinical Nutrition 24:987-90.

Newton, Michael and Niles Newton
1948 "The let-down reflex in human lactation." Journal of Pediatrics 33:698-704.

1967 "Psychological aspects of lactation." New England Journal of Medicine 227:1179-88.

1972 "Lactation: its psychological components." Pp. 385-410 in John G. Howells (ed.), Modern Perspectives in Psycho-Obstetrics. New York: Brunner/Mazel.

Newton, Niles
1973 "Interrelationships between sexual responsiveness, birth and breast-feeding." Pp. 77-98 in Joseph Zubin and John Money, Contemporary Sexual Behavior: Critical Issues in the 1970s. Baltimore: Johns Hopkins University Press.

New York Daily News
1977 "Is breast milk dangerous to the baby?" (June 20): c-10.

New York Times
1971 "Mother's milk or other milk?" Magazine (June 6).

1975 "Macho about pocketbooks." Magazine (July 27):34.

1977 "Mother's milk found to contain pesticides." (April 30).

Oseid, B. J.
1975 "Breast-feeding and infant health." Clinical Obstetrics and Gynecology 18:149-73.

Peterson, Gail H. and Lewis E. Mehl
1977 "Parental-child psychology: delivery alternatives." Women and Health (September/October):3-17.

Population Reports: Breast-feeding--Aid to Infant Health and Fertility Control
1975 Department of Medical and Public Affairs Series J, No. 4. The George Washington University Department of Medical and Public Affairs. Washington DC.

Prescott, James W.
1975 "Body pleasure and the origins of violence." The Futurist (April):64-74.

Rall, David
1977 "Secretion of foreign substances in breast milk." Lactation Review 2;2:7.

Raphael, Dana
1976 The Tender Gift: Breast-feeding. New York: Schocken.

Reid, W., Ryan and Benirschke
1972 Principles and Management of Human Reproduction. Philadelphia: W. B. Saunders

Rivera, Joseph
1971 "The frequency of use of various kinds of milk during infancy in middle- and lower-income families." Journal of Public Health 61:277-79.

Rosengren, William R. and Spencer De Vault
1963 "The sociology of time and space in an obstetrical hospital." Pp. 266-91 in Eliot Freidson (ed.), The Hospital in Modern Society. New York: Free Press.

Rossi, Alice S.
1973 "Maternalism, sexuality and the new feminism." Pp. 145-73 in Joseph Zubin and John Money (eds.), Contemporary Sexual Behavior: Critical Issues in the 1970s. Baltimore: Johns Hopkins University Press.

1977 "A biosocial perspective on parenting." Daedalus:1-31.

Rothman, Barbara Katz
1978 Aspects of Childbirth: Breast-feeding. Unpublished paper.

Sacks, S. H., Brada, M. and A. M. Hill
1976 "To breast-feed or not to breast-feed." The Practitioner 216:183-91.

Schmitt, Madeline H.
1970 "Superiority of breast-feeding: fact or fancy?" American Journal of Nursing 70:1488-93.

Scully, Diana and Pauline Bart
1973 "Women in gynecology textbooks." Pp. 283-88 in Joan Huber (ed.), Changing Women in a Changing Society. Chicago: The University of Chicago Press.

Seamon, Barbara
1972 Free and Female. Greenwich CT: Fawcett.

Sears, R. R., E. Maccoby and H. Levin
1957 Patterns of Child Rearing. White Plains NY: Row.

Sedgwick, J. P., and E. C. Fleischner
1921 "Breast-feeding in the reduction of infant mortality." American Journal of Public Health 11:153.

Seiden, Anne
1975 "The sense of mastery in the childbirth experience." Paper presented at 3rd annual Conference on Psychosomatic Obstetrics and Gynecology. (February), Philadelphia: Temple University.

Shaw, Nancy Stoller
1975 Forced Labor: Maternity Care in the United States. New York: Quality.

Simmel, Georg
1955 The Web of Group Affiliations. Trans. Reinhard Bendix. Glencoe IL.

Sloper, K., L. McKean and J. D. Balm
1975 "Factors influencing breast-feeding." Archives of Disease in Childhood 50:165-70.

Spock, Benjamin
1946 The Commonsense Book of Child Care. New York: Pocketbooks.

1957 Baby and Child Care, revised completely. New York: Pocketbooks.

1968 Baby and Child Care, 3rd edition, revised. New York: Meredith.

Stewart, David and Lee Stewart (eds.)
1976 Safe Alternatives in Childbirth. Chapel Hill NC: NAPSACK, INC.

1977 21st Century Obstetrics Now! Chapel Hill NC: NAPSACK, INC.

Sullerot, Evelyn
1971 Women, Society and Change. Trans. Margaret Scotford Archer. New York: McGraw Hill, World University Library.

Thrupp, Sylvia
1948 The Merchant Class of Medieval London. Ann Arbor MI: University of Michigan Press.

Twenty-Seventh World Health Assembly, Part I: Infant Nutrition and Breast Feeding. Official records of the World Health Organization, No. 217:20.

Twenty Years of Midwifery: 1933-1953
1966 Pamphlet. New York: The Maternity Center Association.

U.S. Department of Health, Education and Welfare
1968 Vital Statistics of the United States. Volume I--Natality. Washington DC: Government Printing Office.

U.S. Department of Labor, Children's Bureau
1913-1915 Report on Save the Baby Campaigns. Bureau publications No. 2-9, Washington: Government Printing Office.

1914-1937 Infant Mortality series. Bureau Publications No. 2-243. Washington: Government Printing Office.

Veblen, Thorstein
1899 The Theory of the Leisure Class. New York: Macmillan.

Welter, Barbara
1978 "The cult of true womanhood: 1820-1860." Pp. 313-33 in Michael Gordon (ed.), The American Family in Social-historical Perspective, 2nd edition. New York: St. Martin's.

Winkelstein, Jerry A. (ed.)
1972 The Harriet Lane Handbook: A Manual for Pediatric House Officers, 6th edition. Chicago: Yearbook Medical Publishers.

Wikes, I. G.
1953 "A history of infant feeding." Archives of Disease in Childhood 28:
I Primitive peoples: ancient works: renaissance. Pp. 151-58.
II Seventeenth and 18th centuries. Pp. 232-40.
III Eighteenth and 19th centuries. Pp. 332-40.
IV Nineteenth century continued. Pp. 416-22.
V Nineteenth century concluded and 20th century. Pp. 495-502.

Wilson, Robert N. and Samuel Bloom
1973 "Patient-practitioner relationships." Pp. 315-39 in Howard Freeman, Sol Levine and Leo G. Reeder, Handbook of Medical Sociology, 2nd edition. Englewood Cliffs NJ: Prentice-Hall.

Womanly Art of Breast-feeding, The
1958 Franklin Park IL: La Leche League International.