

USING Q-METHODOLOGY TO DETERMINE CONTENT OF
A BROCHURE ON LACTATION CONSULTANTS
(IN A SELECTED AREA)

By

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PREFACE

The Q-technique was utilized to determine content of a brochure on lactation consultants. The Q-sort which consisted of 40 cards was administered to 20 respondents--10 of who had breastfeeding experience and 10 of who did not have breastfeeding experience. The data collected and analyzed was used to determine the kind of information potential Stillwater, Oklahoma female clients of lactation consultants thought was important enough to be included in a brochure on lactation consultants.

I wish to express my sincere gratitude and appreciation to the various individuals who assisted me with this project.

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CHAPTER I

INTRODUCTION

One of the fascinating things on the subject of breastfeeding is its lack of media history. I always associate breastfeeding with bricking up the fireplace. After World War II, many people bricked up their fireplaces because why in the world would you want to have a fireplace in your living room anymore with all the new technology? Who would want to see an old-fashioned thing burning? Now we are rediscovering that it is a good thing.¹

Recently, more women appear to be rediscovering the 'good' in breastfeeding. Between 1978 and 1983, breastfeeding increased from 47 percent to 61 percent with substantial variation among socio-demographic groups across the United States.²

The renewed interest in breastfeeding has resulted in a closer understanding of its advantages and disadvantages. Support groups for nursing mothers have formed in almost every city. More mothers are deciding to breastfeed for the first time--and for longer periods.³ A new generation is choosing to nurse its infants. However, it is a generation without role models for successful lactation and frequently, health professionals are unprepared to meet mothers' needs.⁴

To answer the growing needs and questions of an increasing number of nursing mothers, a new professional--the lactation consultant--has emerged. Competency standards for lactation consultants have been set by the International Board of Lactation Consultant Examiners (IBLCE). The IBLCE is an independent corporation whose sole purpose is to

assess lactation consultant competency through a certification examination and recertification program. Approximately 500 lactation consultants worldwide have completed the certification process.

International Board Certified Lactation Consultants are health care providers "qualified to provide education and consultation for routine and special circumstance lactation."⁵ They emphasize preventive health care. Board certified lactation consultants work closely with clients to encourage self-care and parental decision-making in individual and group settings before and after childbirth. They also provide information and suggestions concerning lactation and breastfeeding.

International Board Certified Lactation Consultants are qualified to make referrals and to work with other health care providers to ensure adequate health care is provided for their clients. Lactation consultants work closely with community support groups to provide breastfeeding families with assistance and information.

The lactation consultant is slowly gaining recognition as a professional. Although there are medical personnel who do not recognize IBLCE certification (because of the absence of educational requirements for certification), lactation consultants are found in hospitals, clinics, physicians' offices and private practice. New York State has mandated that each hospital receiving state funding identify someone with expertise in the field of human lactation. This individual would be responsible for providing postpartum care for mothers and newborns. Liability insurance is now available for practicing lactation consultants. An international professional organization for practicing lactation consultants has been established. This organization, the

International Lactation Consultant Association (ILCA) started with 196 members in 1985. One year later, its membership roster recorded 550 members from 15 different countries.⁶

The International Lactation Consultant Association's 1986-1987 Board of Directors decided on goals that reflect a need to promote lactation consultants and lactation consultancy. It wishes to:⁷

1. Establish standards of practice for the profession of lactation consultancy.
2. Establish an outline of an ideal curriculum for the education of lactation consultants and compare existing programs to such an ideal.
3. Publish a brochure describing the role of the lactation consultant.
4. Establish liaison with other professional organizations.
5. Increase public awareness of the importance of breast-feeding.
6. Increase public awareness of the importance of breast-feeding.
7. Establish effective systems for the education of other medical professionals in the field of lactation.

At least one of these goals is reaching fulfillment. ILCA is in the process of preparing a brochure describing the role of the lactation consultant.

Publication of the brochure will also help ILCA achieve at least two of its other goals. The brochure may help establish liaison with other professional organizations. It may also increase public awareness of the lactation consultant role in the health care system. In

other words, a brochure describing the role of the lactation consultant can help facilitate public and professional awareness of lactation consultants and their role in health care.

What information should be included in the proposed brochure?

A review of literature was conducted for the following reasons:

1. To familiarize the researcher with lactation consultancy and the services provided by lactation consultants.
2. To determine whether other studies concerning the promotion of lactation consultancy using published brochures exist.
3. To determine the nature of information provided by brochures in general.
4. For theoretical bases of the research method used (Q-methodology).

A review of literature was conducted using ERIC, MEDLINE and CINAHL data base searches. ERIC provided no studies concerning lactation consultants or lactation consultancy. CINAHL identified two studies: one evaluating the effect of a breastfeeding consultant on the duration of breastfeeding and the other concerning "The Lactation Consultant: A New Profession." MEDLINE had on file several studies concerning breastfeeding. Of the articles about lactation consultants that it listed, none were studies about the role a brochure could play in promoting lactation consultants and lactation consultancy.

Articles about lactation consultancy and lactation consultants were found in medical and health journals. The Journal of Human Lactation offers a comprehensive view of human lactation as well as information for lactation consultants.

The Report and Follow-up Report of the Surgeon General's Workshop on Breastfeeding and Human Lactation outlined ways of promoting breastfeeding. The follow-up report included a section on public education which cited ways mass media have been used to promote breastfeeding.

As the review of literature was being conducted, the lack of newspaper coverage of lactation consultants and the services they provide was evident.

Three articles concerning breastfeeding were found after a search through the 1980-1986 issues of the Los Angeles Times, the Washington Post, and the New York Times. Of these three articles, one reported that a federal survey by the National Centers for Disease Control showed a sharp increase in the incidence of breastfeeding.⁸

Another article quoted the Surgeon General at a news conference on the first day of a workshop on breastfeeding sponsored by his office. He was quoted as advocating the nursing of infants.⁹

The third article discussed the problems of breastfeeding and encouraged mothers to seek support groups. It was written by a freelance writer and mentioned La Leche League. La Leche League is a worldwide network of volunteers dedicated to educating, guiding, and facilitating lactation and breastfeeding.¹⁰

All three articles were written in 1984. Two were found in separate issues of the New York Times. The third was a Washington Post health feature article.

There are at present 404 International Board Certified Lactation Consultants in the United States. Their concern, as is the concern of ILCA, is increasing their visibility--both to the general public and

to the medical profession. They are aware that resistance to lactation consultants has been noted in some areas.

There are some physicians or nurses that perceive the lactation consultant position as a threat to their roles. Others fear lactation consultants might overstep their area of expertise to make medical diagnoses or prescribe medical treatment. Still others worry that not all lactation consultants are adequately trained. Some simply resist the change represented by the lactation consultancy role.¹¹

The International Lactation Consultants Association realizes that these reactions are probably due to lack of information about the services a lactation consultant provides. This lack of information can be partly solved by the use of a brochure to provide the public and medical profession with information about lactation consultants and their services.

The emotional, physiological, immunological, social, and economic advantages of breastfeeding are many. Unfortunately, problems encountered by nursing mothers may cause them to stop breastfeeding their infants. Lactation consultants are prepared to help solve those problems.

Unless more people are made aware of how lactation consultants can answer questions and needs associated with lactation and breastfeeding, only a limited number of families will benefit from lactation consultant expertise. While a brochure on lactation consultants will not solve all of lactation consultancy's promotional problems, it will help in increasing awareness about lactation consultants. Thus, it is important that the information included in the brochure address the needs of the women who will read it.

Problem

The Follow-up Report of the Surgeon General's Workshop on Breast-feeding and Human Lactation cites examples of varied efforts to increase American awareness of breastfeeding.

Since January, 1984, several professional organizations have included articles on breastfeeding and reports of the workshop in their journals. Some of these organizations are:¹²

The American Dietetic Association

American Academy of Pediatrics

Nurses Association of the American College of Obstetrics and Gynecology

The popular press has also provided information about breastfeeding to the public:¹³

Good Housekeeping, April 1985

Clothed with the Sun, Vol. 4, No. 3, Autumn 1984

Awareness events have been held as well. These include:¹⁴

Second Annual Conference of the National Association of of Women, Infants, and Children Directors (with a presentation at the plenary session and two workshops on the promotion of breastfeeding)

1984 annual meeting of the American Public Health Association

American Medical Women's Association (three speakers presented a two-hour panel on "Breastfeeding: Who Does, Who Doesn't and Why?")

National Perinatal Association (a session on breastfeeding)

La Leche League--a three-day national conference on breastfeeding

As a backup to these national efforts to promote breastfeeding and lactation consultancy, ILCA has decided to publish and distribute a brochure designed to increase public awareness of lactation consultants and lactation consultancy.

The primary objective of this study was to answer the following question: What information should be included in a brochure designed to increase public awareness of lactation consultants and lactation consultancy?

To answer the question, 20 women in Stillwater, Oklahoma were asked to sort 40 Q-cards containing information that could be used in the proposed brochure. Each woman was asked to sort the Q-cards according to the information she considered most important.

From the analysis of the information the women considered most important, brochure writers might be able to decide on the content of the brochure that would be most suitable to prospective lactation consultant clients.

Publication and distribution of the brochure are aimed at increasing public awareness of lactation consultants and lactation consultancy. How better to decide on brochure content than to ask the women who might read it what they think should be included in the brochure?

It was not the researcher's intention to determine women's opinions of lactation consultants. Nor was it the researcher's intention to determine women's approval or disapproval of lactation consultancy. Rather, it was hoped that the results of the study could pinpoint the information women reading the brochure would find most useful to them.

Design of the research was specifically drawn to answer three questions. These questions are:

1. What information do women (potential lactation consultant clients) think should be included in a brochure on lactation consultants?

2. Is there a difference in the kind of information women with breastfeeding experience and women without breastfeeding experience think should be included in a brochure on lactation consultants?
3. Based on the results of the study, what recommendations can be made regarding information to be included in a brochure designed to increase public awareness of lactation consultants and lactation consultancy?

Assumptions of the Study

These assumptions were made by the researcher in conducting the study:

1. That the responses provided by the respondents were true reflections of their opinions.
2. That major conclusions drawn would lend themselves to valid recommendations for an ILCA brochure.
3. That major conclusions drawn would lend themselves to valid recommendations for further study.

Scope of the Study

The scope of this study included:

1. Information that could be included in a brochure about lactation consultants.
2. Women with and without breastfeeding experience.
3. Information about lactation consultants that potential female clients think should be included in a brochure about lactation consultants.

4. Women respondents who were residents of Stillwater, Oklahoma at the time of study.

Limitations of the Study

Although lactation consultants encourage the involvement of the whole family in the experience of breastfeeding, this study only considered the opinions of women.

The methodology used was not well suited to testing hypotheses over large numbers of individuals. Thus, the findings of this study should not be generalized to include the opinions of all women in the United States. Rather, results reflect the opinions and perception of Stillwater, Oklahoma women respondents concerning the kind of information a brochure on lactation consultants should contain.

ENDNOTES

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²Gilbert A. Martinez, "Trends in Breastfeeding in the United States," Report of the Surgeon General's Workshop on Breastfeeding and Human Lactation (1984), p. 18.

³Margot Edwards, "The Lactation Consultant: A New Profession," BIRTH (Fall 1985), p. 11.

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⁵Faith Bedford, "Farewell from Faith," Journal of Human Lactation (1986), p. 58.

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⁷Candace Woessner, "Presidential Keynote Address," Journal of Human Lactation (1986), p. 61.

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⁹_____, "Nursing of Infants Advocated," New York Times (June 13, 1984), p. c12.

¹⁰Elaine Blume, "Breastfeeding's Problems," Washington Post (December 26, 1984), p. B6.

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¹²Follow-up Report of the Surgeon General's Workshop on Breastfeeding and Human Lactation (1984), p. 32.

¹³Ibid., p. 33.

¹⁴Ibid.

CHAPTER II

REVIEW OF LITERATURE

The Surgeon General's Workshop on Breastfeeding and Human Lactation was held in 1984. Among other things, the workshop provided an opportunity to review the progress of public and private sectors to promote breastfeeding.¹ Participants discussed the benefits of breastfeeding and the need to promote breastfeeding over cultural, economic, and social boundaries. It was agreed that health care professionals needed to develop skills in patient education and the management of breastfeeding.²

The workshop was directed toward the achievement of the 1990 national health objective of increasing the number of women who breastfeed their infants and the duration of breastfeeding. After the workshop, the following recommendations were presented to the Surgeon General:³

1. Improve professional education in human lactation and breastfeeding.
2. Develop public education and promotional efforts.
3. Strengthen the support for breastfeeding in the health care system.
4. Develop a broad range of support services in the community.

5. Initiate a national breastfeeding promotion effort directed to women in the world of work.

6. Expand research on human lactation and breastfeeding.

Lactation consultants, health care providers who are prepared to help manage normal and special circumstance lactation, have attempted to help follow through with the workshop recommendations. However, they have faced problems of their own. For instance, resistance to lactation consultants has been noted in some areas. Promotion of lactation consultant services has also been a problem.⁴

In her presidential address to the International Lactation Consultants Association (ILCA), Candace Woessner mentioned the need to promote lactation consultants and the services they provide. She discussed the ILCA Board of Directors' goal to publish a brochure on lactation consultants. The brochure would help promote lactation consultants and the services they provide.⁵

This study was designed to research what information Stillwater, Oklahoma women (potential lactation consultant clients) believe the brochure should contain. A review of literature in three areas will include: efforts to promote lactation consultants, brochure preparation, and Q-methodology.

Promotion of Lactation Consultants

"The most challenging aspect of this project (lactation consultancy) has been marketing the service,"⁶ This appeared to be the case, at least in terms of publications concerning the promotion of lactation consultants.

No studies or articles on the promotion of lactation consultants were discovered while the review of literature was undertaken. Several articles on the promotion of breastfeeding were found although no mention of lactation consultants were made in these articles. However, there were indications of efforts among lactation consultants to promote themselves and their services through:⁷

1. Improving relationships with medical professionals in a community.
2. Acting in a "professional" manner and following accepted business practices and medical procedures.
3. Establishing credibility through the careful use of accurate information.
4. Establishing working relationships with other medical professionals.
5. Building a good reputation for lactation consultants in communities.

A series of articles in the Journal of the American Dietetic Association dealt with marketing the services of health care professionals. Although the concept was a broad one, it applied to lactation consultants who are considered health care providers. Many do not consider lactation consultants as professionals because no consistent, specific educational preparation standards have been set.⁸ However, for the purposes of this project, they will be referred to as professionals--taking into consideration the certification process certified lactation consultants must go through.

Parks and Moody pointed out that marketing is an essential tool needed to enhance a health care profession because consumers want to

make decisions for themselves and to be provided with options.⁹ They argued that marketing need not involve a marketing of the professional but rather a promotion of the services the professional offers.¹⁰

In another article, Parks and Moody recommended the use of research to determine consumer lifestyles and needs before attempting promotion of professional services.¹¹ They pointed out that "changes in the health care consumer environment imply a need to develop new professional skills--the most critical and pressing of which is marketing."¹²

Moody looked at marketing as a way to reach clientele as well as a way of determining how best to serve clients. He said, "Marketing represents a way of thinking that helps practitioners respond to potential opportunities in the health care field, ranging from efficiently serving patients to more systematically developing cost-cutting procedures."¹³

Brochures

No studies concerning the use of brochures in promoting lactation consultants were found in the review of literature.

MacCarthy did mention brochures that described course content and instructor qualifications (for a course in lactation consultancy). These brochures were mailed out with cover letters to obstetricians, pediatricians, family doctors, childbirth educators, and others involved in prenatal and parenting education. She noted that to make an impact, repeated mailings were necessary.¹⁴

Other booklets and brochures have been designed to help hospital staffs and mothers initiate and maintain breastfeeding. They contain

drawings and simply stated messages that explain breastfeeding.¹⁵

However, as mentioned earlier, no specific mention of brochures used in promoting lactation consultancy was found.

General information about brochures was more readily available. Hausman and Benoit recommended that brochures be designed to compete visually with other printed materials. They also recommended that if a brochure is to be displayed in a rack, the designer must take into consideration the fact that only the top third of the brochure might show.¹⁶ Furthermore, they pointed out that brochure designs must be attention grabbers.

Other recommendations made by Hausman and Benoit were:¹⁷

1. Brochure size is a major consideration. If the brochure is to be mailed out, then it must be small enough to fit the type of envelope it will be mailed out in.
2. Paperstock must be carefully picked. Paper must be thick enough so that ink does not show through.
3. Catchy headlines that relate directly to copy should be employed. These headlines need to be convincing enough to attract reader interest.
4. Brochures are short pieces of literature that must be concerned with one topic.
5. Brochures should be designed using short blocks of copy broken up by headlines and subheadlines. A brochure overflowing with copy detracts from the design.

Ross explained that booklets and leaflets are excellent ways to communicate with groups of people.¹⁸ He enumerated the methods of

distribution of printed literature like booklets at exhibits and displays, businesses, offices, over-counters and by direct mails.¹⁹

Ross recommended that booklets, leaflets and related material should be easy reading to facilitate comprehension of the message.²⁰

Brown classified brochures as selling literature. Included in this classification were folders, booklets, sales letters, direct-mail literature, special literature with emphasis on selling the message, and advertisements.²¹ He recommended that every piece of selling print should:²²

1. Give information about a product or service.
2. Present persuasive arguments in favor of the message.
3. Show the character of the company or organization issuing it.

Furthermore, Brown stated that there is no need to "indulge in glamorized or emotional persuasion" when designing a brochure or other kinds of selling literature. He recommended that the literature publisher should supply information which he hopes will be useful to the reader.²³

Bogart pointed out that attention is most likely to be attracted to a visual field which can be apprehended with a minimum expenditure of energy. Thus, he recommended adequate framing, good design and layout and sharp contrasts of black and white for brochures.²⁴

Block and Roering explained that two-sided messages enhance credibility in the eyes of the consumer.²⁵ Furthermore, they determined that consumer receptiveness to messages can be increased by:²⁶

1. Timing the message to reach the market when it is most likely to have significant impact.

2. Selecting the media that the target audience is most likely to be using.
3. Formulating the message itself with care.

Block and Roering also recommended the use of credible communicators or message sources. Consumers have shown greater confidence in trustworthy sources of information even if the message transmitted was substantially discrepant from the consumer's own position.²⁷ Thus, a brochure prepared by an organization concerned with lactation consultants could instill confidence in lactation consultancy.

Block and Roering also recommended that color be used in a brochure. They mentioned that color in publications results in much higher readership.²⁸

Most of the reviewed literature on brochures agreed that brochures serve any communication need that requires the wide distribution of an explicitly worded message.²⁹ The suggestions distilled from the literature apply to promoting lactation consultancy (a service) to potential clients (or consumers of the services lactation consultants offer).

Q-methodology

Q-methodology was invented and advanced primarily by William Stephenson in 1953.³⁰ It involves a set of procedures in which a sample of objects is placed in a significant order with respect to a single person.³¹ These objects are usually statements of opinion (Q-sample). They are rank-ordered by a respondent according to instructions given to him by the researcher.³² The items so arrayed

are called the Q-sort. It is the Q-sorts which are later correlated and statistically factor-arrayed.³³

Brown, who was a student of Stephenson, wrote that "there is no right or wrong way to do a Q-sort."³⁴ The individual works with the Q-sample to provide a model of his viewpoint about the subject matter under consideration.³⁵

Kerlinger gave four convenient analytic advantages of Q-methodology:³⁶

1. The scales of individuals are easily correlated and analyzed.
2. Composite rank orders of groups of individuals are easily correlated.
3. Scale values of a set of stimuli can be calculated using one of the rank-order methods of scaling.
4. It partially escapes response set and the tendency of the respondent to agree with socially desirable items.

Kerlinger pointed out that ranks are ipsative measures. In other words, they are systematically affected by other measures and are referred to for interpretation to the same mean. Because of the nature of Q-methodology, each respondent's set of measures has the same mean and standard deviation. Thus, no matter who ranked the items, the sum and mean of the ranks are always the same. It also follows that standard deviation between items is always the same.³⁷

According to Kerlinger, Q-methodology centers on sorting out decks of cards or Q-sorts and then finding correlations among the responses of different individuals to the Q-sorts. Q-methodology, he

reasoned, is a "sophisticated way of rank-ordering objects and then assigning numerals to subsets of the objects for statistical purposes."³⁸

Kerlinger recommended the use of 60 to 120 cards in a deck. Thus, although the number of cards used is determined largely by convenience and statistical demands, he recommended a deck of not less than 40 and not more than 140 with an acceptable number ranging from 60 to 90 cards. However, he did get significant results using a deck of 40 cards.³⁹

Kerlinger also noted that while the use of arbitrary Q-distributions is acceptable, normal or quasi-normal forced distribution of Q-sorts have statistical advantages.⁴⁰

Other methods of measuring opinion were considered. Mail surveys are economical and provide complete anonymity to the respondent. They offer no chance for the interviewer to inject personal bias or lead the respondent to making certain responses. However, they have a low rate of return. The answers may not be representative of the public surveyed and the researcher has no assurance that the person chosen to answer the questionnaire actually does so. If the questions are not easy to understand and answer, the results may be biased by intelligence or lack of intelligence of the respondent.⁴¹

The personal interview was also considered. The personal interview is advantageous in that more information can be obtained from this kind of method than any other. Longer questionnaires are used. Thus more information may be obtained. Since the interviewer is present at the time of the interview, questions can be explained if the respondent does not understand. Because the interviewer has control

of who is being interviewed, it is possible to make a sample truly representative of the study population. However, personal interviews are expensive, the interviewer can bias the answers by unconsciously leading the respondents to the desired response. Some interviewers may do the job superficially. Others completely falsify questionnaires. The personal interview takes time and the interviewers require special selection, training, and supervision.⁴²

Telephone surveys are inexpensive, fast and easy to use when a random sample is desired. However, they do not allow for long complicated questionnaires. It is not advised for use in rural areas because of high costs, poor transmission, party lines. Furthermore, telephone installments are not universal--which makes calls a problem. Some homes have no phones. Also, a telephone survey does not lend itself to scaling questionnaires and the ranking of more than three or four factors.⁴³ A telephone survey was attempted for this project. However, during the pretest conducted for the telephone survey, a 100 percent refusal rate was observed from 50 randomly selected Stillwater respondents.

Group surveys are quick and inexpensive. The interviewer assembles the respondents, explains the questionnaire and permits on-the-spot completion. However, a tendency to inaccurate answers has been noticed. In spite of assurances of anonymity, respondents have subconscious feelings that their individual answers will be identifiable. They are expensive, samples drawn are often biased, and some potential respondents are too timid to go to a business or office for the questionnaire. Thus, the interviewer is often obliged to meet respondents in other locations.⁴⁴

Thus, considering all the advantages and disadvantages of other measurement instruments and the strengths and weaknesses of the Q-methodology, and purpose of this weaknesses of the Q-methodology, and purpose of this study, the Q-methodology was selected.

ENDNOTES

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²Report of the Surgeon General's Workshop on Breastfeeding and Human Lactation (1984), p. 67.

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¹¹Parks and Moody, "A marketing model: Applications for dietetic professionals," Journal of the American Dietetic Association (January, 1986), 86:1, p. 29.

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- 34 Ibid.
- 35 Ibid.
- 36 Fred N. Kerlinger, Foundations of Behavioral Research (2nd Ed., New York, 1973), p. 505.
- 37 Ibid.
- 38 Ibid., p. 508.
- 39 Ibid., p. 582.

⁴⁰Ibid., p. 585.

⁴¹Nolte, p. 296.

⁴²Ibid., p. 297.

⁴³Ibid., p. 298.

⁴⁴Ibid.

CHAPTER III

METHODS AND PROCEDURES

In this section a general description of Q-sort technique is presented, followed by a description by which the present form of this instrument was developed.

Design of the Study

The steps involved in designing this study were:

1. Define the problem and conduct an extensive review of literature in the field of lactation consultancy and efforts to promote lactation consultants.
2. State the purpose of this study.
3. Determine the population and sample size that would be used to gather unbiased data that would answer the questions posed by the study at a .95 confidence interval.
4. Choose the situation under which the study was to be administered.
5. Select the methodology to gather and analyze data so that conclusions and recommendations could be made.

Q-methodology was used as the measurement tool for this study.

Frank Kerlinger described Q-methodology as a technique, "a

sophisticated way of rank-ordering objects (items, stimuli, etc.) and the assigning of numerals to subsets of the objects for statistical purposes."¹

In Q-methodology, a respondent is asked to sort a deck of cards, called a Q-sort into piles. In social science research, Q-sort cards often have attitudinal statements typed on them. The words, phrases or statements on the cards deals with either political or sociological issues. Respondents usually are asked to sort the cards along a continuum of approval to disapproval of the statements on them.²

In education, Q-sorts have been constructed to study the relationship between student attitude and academic success or failure.³ They have also been utilized to evaluate teacher behaviours which facilitate student learning and which of these behaviours teachers perceive as important to be rewarded.⁴

Books have been written on the use of Q-methodology in personality assessment and psychiatric research⁵ as well as political science.⁶

Q-methodology has been used in mass communication research as well. One study involved the use of Q-sort cards with pictures to be evaluated by newspaper editors who rated them in terms of most probable use in their respective newspapers.⁷ Other Q-sorts have been used to determine editors' news values by the way they ranked stories.⁸

Recently, Q-methodology was used in an analysis of Q-sorts measuring announcer skill usefulness as perceived by managers of radio stations.⁹

As mentioned earlier, Q-methodology is a rank-order method. It has an advantage over other rank-order methods because it requires a relatively short amount of time to rank a fairly large number of

items. This is achieved by putting several cards in each pile. For statistical purposes, the respondent is asked to place varying numbers of cards in 9 to 11 (or more) piles (the number of piles used depends upon the number of cards used in the study) with the whole distribution simulating a normal distribution curve.¹⁰

For the study, the researcher used a Q-sort of 40 cards containing statements with information that could be used for a brochure about lactation consultants. The 40 statements were subdivided into four categories with 10 statements in each category.

The number of piles was set at nine piles to be arranged on a desk or table from left to right. Pile nine contained the "most important" information and pile one contained the "least important" information, as perceived by the respondent. Figure 1 shows the arrangement of cards in the nine piles.

Most Important Pile 9	8	7	6	5	4	3	2	Least Important Pile 1
2	3	5	6	8	6	5	3	2 cards

Figure 1. Distribution of Q-sort Cards

The rank-order continuum ranged from "most important" to "least important" with varying degrees of perceived importance between the extremes. In Figure 1 above, the numbers on the top row were the values assigned to each card that the respondent placed in that particular pile. Thus, the two statements the respondent perceived as most important were placed in Pile 9.

In scoring, in Pile 9 (most important), each of those statements received a value of nine. Three statements were then selected as next most useful and placed in Pile 8. This scoring procedure would continue for each pile, with the least useful statements receiving a value of one. The distribution of cards simulated a normal statistical curve, with the largest number of cards in Pile 5 (eight cards).

Construction of the Q-sort

Each respondent was asked to rank the statements in order of importance to be included in a brochure on lactation consultants. The statements containing information considered most important for inclusion in a brochure on lactation consultants were placed first, with lower priority given to the statements the respondent considered less important for inclusion in the brochure.

To determine whether the attitudes of women with breastfeeding experience differed significantly from the attitudes of women without breastfeeding experience in terms of their perceptions of statements that should be included in a brochure on lactation consultants, each card was coded on the back for use in data analysis. Four codes were used. Each code represented a different category of statements. Ten coded cards were included in each category.

In selecting statements and information representative of statements that could be included in a brochure on lactation consultants, the researcher drew upon journal articles, reports, books, and brochures on lactation consultancy and human lactation.

Statement categories were decided upon after informal discussions with women with breastfeeding experience and women without breastfeeding

experience. The categories were those most often mentioned when they were asked what they thought should be included in a brochure on lactation consultants. Statement categories were approved of by Debi Bocar, RN, M.S., M.Ed., IBCLC, ILCA Publicity Committee member and medical/technical advisor for this study.

The statement categories and codes were (1) Advantages of Breastfeeding, coded ADV; (2) Need for Lactation Consultants, coded NEED; (3) Professionalism of Lactation Consultants, coded PROF; and (4) Role of Lactation Consultants/Services Provided, coded ROLE.

"Advantages of Breastfeeding" referred to statements containing information about the benefits of breastfeeding to mother and infant.

"Need for Lactation Consultants" referred to the conditions and problems of breastfeeding that could be helped or solved by lactation consultants.

"Role of Lactation Consultants" referred to the various roles and responsibilities of lactation consultants in facilitating human lactation and breastfeeding.

"Professionalism of Lactation Consultants" defined the processes by which lactation consultants are certified and are considered credible authorities in their chosen field.

"Need for Lactation Consultants" and "Role of Lactation Consultants" appear similar. However, "Need for Lactation Consultants" sets the stage for and gives the reasons for the services of lactation consultants included in "Role of Lactation Consultants."

"Advantages of Breastfeeding" defined the reasons lactation consultants advocate breastfeeding; and give an indication for the existence of lactation consultants as health professionals.

"Professionalism of Lactation Consultants" defined the certification process certified lactation consultants go through and support lactation consultancy as a field practitioners must prepare for.

Each statement included in the four categories was chosen from frequency of mention in publications on lactation consultancy and human lactation. They contained specific pieces of information regarding lactation consultancy and human lactation. An effort was made not to duplicate information present on the cards. Each statement was taken from a publication on breastfeeding and/or human lactation.

The 40 statements are listed by category in Appendix A. Thus, the measuring instrument was comprised of: a Q-sort of 40 cards with 10 items in each category.

Respondent Choice

The researcher's local base was Stillwater, Oklahoma. Acquaintances and references to other respondents were used to locate women with breastfeeding experience. Meetings were arranged by telephone. The telephone calls also served to reveal facts about the respondents' views on breastfeeding.

Sample size for Q-methodology is dependent on researcher discretion. According to Brown (1980), five or six persons load significantly on a factor are sufficient to produce reliable scores. His research also showed that no more than 40 respondents are required in a Q-study.

A sample of 20 women was selected to enhance the probability of extracting more than one respondent type.¹¹ This sample included 10 women with breastfeeding experience and 10 women with no breastfeeding experience. Women comprised the sample because the planned brochure

would be aimed primarily at two types of women: (1) those who had breastfed and had problems and/or questions about the process of breastfeeding; and (2) those who had never breastfed. Both types of women could be considered potential clients of lactation consultants.

The respondents varied in age from 12 to 38. The two 12-year-old respondents (with no breastfeeding experience) were in fifth grade at a Stillwater, Oklahoma elementary school. The oldest respondent was 38 and had no breastfeeding experience and no children.

Of the respondents with breastfeeding experience, two had one child, two had three, one had six, three had two children, and two had four. Most were married although three were single parents. All but three were either part-time students or part-time workers employed at Oklahoma State University. Three were full-time homemakers.

The respondents with no breastfeeding experience were students at Oklahoma State University (except the two 12-year-olds). Four were graduate students and four were undergraduates.

Out of the 20 respondents, four were married, three were divorced.

Data Processing and Analysis

Analysis of variance and factor analysis are employed in Q-sort data analysis. A Type I analysis of variance or significant differences between: (1) the two types of women; and (2) the four different statement categories.

Pearson product-moment correlation coefficients were computed for each possible pair of respondents. The intercorrelations were depicted on an R-matrix and McQuitty's Elementary Linkage and Factor Analysis was used to extract types or clusters of women who shared similar

perceptual patterns. For each cluster, reciprocal pairs and typical representatives were determined. Then, factor loadings were weighted. From the weighted mean scores, a 40-item array was computed for each cluster of respondents.¹²

In a Type I Analysis of Variance, measures are repeated on one variable. For this study, the repeated measures were the statements on the 40 Q-sort cards--they were repeated for each of the 20 respondents. The other factor variable involved in this design was the bi-level independent variable: the responses of women with breastfeeding experience compared to the responses of women with no breastfeeding experience.

	ADV	ROLE	NEED	PROF
Women with Breastfeeding Experience				
Women with no Breastfeeding Experience				

Figure 2. Paradigm: Analysis of Variance Table

Figure 2 is a paradigm of the Type I Analysis of Variance used. It shows a two-factor (or two variable) mixed design with repeated measures on one factor or variable.

The Analysis of Variance determined the total variance in each breastfeeding group's perceptions of statement/information importance. It also indicated the amount of interaction between the type of respondent and statement category. F-ratios which are measures of

observed variance pitted against error variance were used to determine statistical significance at the .05 level.¹³

Factor Analysis

As mentioned earlier, an analysis of variance is an index of differences. On the other hand, factor analysis is an index of similarities.

In factor analysis, a correlation matrix (an R-matrix) is used to show the strength of the relationship between two variables.

Pearson product-moment correlation coefficients were computed for each possible pair of responses. Each correlation coefficient was rounded off to the third decimal place. Rounding off to the third decimal place permitted the researcher to distinguish differences between correlations that were so numerically close that the third decimal place was necessary to pinpoint those differences.

The correlations were arranged in a 20-by-20 matrix (number of respondents in study), the highest correlation coefficient in each matrix column was highlighted. Then, the highest correlation coefficient in the entire matrix determined the correlation of the reciprocal pair. The two respondents whose choice of statement importance was most similar were considered a reciprocal pair. The rows for each respondent involved in a reciprocal pair were checked for possible linkages. In other words, respondents whose perceptions correlated highest with the pair leader were noted. These linkages pointed out two types (or factors or clusters) of respondents.¹⁴

After types of respondents were identified, an intercorrelation matrix was constructed for each type. The columns in each matrix were

totalled and the column with the highest total was considered the representative column for all in that type. The woman represented by that column became reference respondent for that particular type. Factor loadings were then computed to create a correlation coefficient for each woman with the representative or reference respondent.

Finally, a follow-up to the linkage and factor analysis was performed. The different types of women were described in terms of their responses to the Q-items.

For the purposes of this study, it was considered inadequate to simply arrange the items from highest to lowest for each type of woman. Some of the women were more closely correlated to the representative of that type than others were. Responses of that type had to be weighted more heavily. Thus, a weighting procedure was established to determine the relative weights of raw scores. The weighted mean totals for each type were then converted to the original factor array, the quasi-normal distribution illustrated by Figure 3.

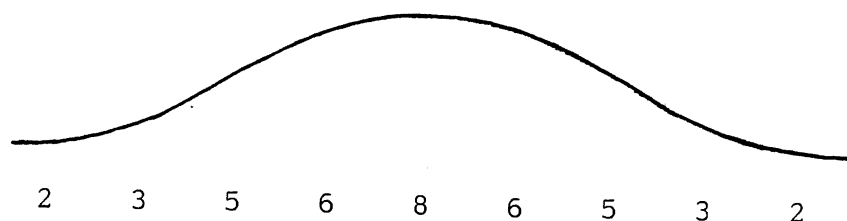


Figure 3. Quasi-Normal Distribution Curve Used in Q-sort Analysis

This procedure resulted in the clearest picture of how each type of potential lactation consultant clients ranked the statements on the Q-cards in terms of importance for inclusion in a brochure on lactation consultants.

The analytical procedures outlined in this chapter permitted the researcher to statistically answer the research questions of this study. Analysis of variance was used to identify interaction between type of respondent and perception patterns.

Results of this analysis are discussed in Chapter IV.

ENDNOTES

¹Fred Kerlinger, Foundations of Behavioral Research (2nd Ed., New York, 1973), p. 583.

²Ibid., p. 583.

³Everette Duane Erb, "A Q-sort Study of Attitudes and Achievement" (unpub. Ed.D. dissertation, Oklahoma State University, 1960).

⁴L. Sue Hoevelman, "A Q-study of Three Teacher Perceptions: Self, Effective Teachers and Merit-Pay Recipients" (unpub. Ed.D. dissertation, Oklahoma State University, 1984).

⁵See Jack Block, "The Q-sort Method in Personality Assessment and Psychiatric Research" (Illinois, 1961).

⁶See Steven R. Brown, "Political Subjectivity: Applications of Q-methodology in Political Science" (Massachusetts, 1980).

⁷Barbara A. W. Smith, "The Nature of News Photographs in Four Dimensions: Dynamism, Prominence, Complexity, Universality" (unpub. Master's thesis, Oklahoma State University, 1977).

⁸Walter J. Ward, "News Values, News Situations and News Selections: An Intensive Study of Ten City Editors" (unpub. Ph.D. dissertation, University of Iowa, 1967) cited by Michael Belk Doyle in "An Analysis of Q-sorts Measuring Announcer Skill Usefulness as Perceived by Managers of Live and Automated Radio Stations" (unpub. Master's thesis, Oklahoma State University, 1985).

⁹Michael Belk Doyle, "An Analysis of Q-sorts Measuring Announcer Skill Usefulness as Perceived by Managers of Live and Automated Radio Stations" (unpub. Master's thesis, Oklahoma State University, 1985).

¹⁰Kerlinger, p. 583.

¹¹Michael Belk Doyle used a 20 station sample in "An Analysis of Q-sorts Measuring Announcer Skill Usefulness as Perceived by Managers of Live or Automated Radio Stations" (unpub. Master's thesis, Oklahoma State University, 1985) upon recommendation by Dr. Walter J. Ward, former Director of the Bureau of Media Research at Oklahoma State University. Ward recommended the sample size of 20 to enhance the possibility of extracting more than one manager type.

¹²See especially L. McQuitty, "Elementary Linkage Analysis for Isolating Orthogonal and Oblique Types and Typal Relevancies," Educational and Psychological Measurement, 17 (1959), pp. 207-229. See also, William Stephenson, The Study of Behavior: Q-Technique and Its Methodology (Chicago, 1953), pp. 174-178.

¹³Richard P. Runyon and Audrey Haber, Fundamentals of Behavior (Reading, Massachusetts, 1967), pp. 133-135.

¹⁴McQuitty.

CHAPTER IV

RESULTS AND DISCUSSION

Three basic analyses of data comprised the base for interpretation of 20 women's perceptions of the relative importance of certain elements for inclusion in a brochure on lactation consultants. The 40 statements were divided into four categories of ten items each: Advantages of Breastfeeding, Role of Lactation Consultants, Need for Lactation Consultants, and Professionalism of Lactation Consultants.

The first analysis was composed of two factors: Statement Categories and Breastfeeding Experience. A two-factor analysis of variance with repeated measures on one factor (Breastfeeding Experience) was used to determine any interactive effects of Breastfeeding Experience and relative importance given to Statement Categories. In other words, this particular analysis was used to answer this specific question: Were some categories of skills considered significantly more important than others? If so, was the greater importance dependent upon Breastfeeding Experience of the respondents?

In the second analysis, the author intercorrelated the 20 women's Q-sorts of the statements and factor analyzed the intercorrelation matrix using the McQuitty Elementary Linkage and Factory Analysis. Two factors of types of women were extracted: 11 in Type I and 9 in Type II. These types were then used to replace the With Breastfeeding Experience and Without Breastfeeding Experience measures as the

repeatable measure factor in the first analysis. An analysis of variance with repeated measures on one factor (in this case Type Number) was then performed.

A third analysis was performed. It was similar to the second except that the statements were weighted in terms of relative importance for each of the Breastfeeding Experience types. Thus, the more a woman agreed with the other women who fell into her type (which was previously determined through factor analysis) the more weight her decisions carried.

After the women's statement choices were weighted, analysis was carried out as in the first and second analyses: this time, using the initial arrays of statements.

Analysis I: Statement Categories and Breastfeeding Experience

A two factor analysis of variance with repeated measures on one factor was used to determine any interactive effects of Statement Category and Breastfeeding Experience. This first analysis tried to answer the following question: Were some statement categories considered significantly more important than others? If so, did the greater importance given to certain categories depend on the type of breastfeeding experience of the respondent involved?

Table I shows the mean scores of the two types of respondents: those with breastfeeding experience and those without breastfeeding experience.

Mean scores seem to indicate that respondents, in general, view statements concerning the advantages of breastfeeding to be most

TABLE I
 MEAN IMPORTANCE OF FOUR CATEGORIES OF STATEMENTS AS PERCEIVED
 BY RESPONDENTS WITH BREASTFEEDING EXPERIENCE AND
 RESPONDENTS WITHOUT BREASTFEEDING EXPERIENCE
 (UNWEIGHTED SCORES)

BREASTFEEDING EXPERIENCE	STATEMENT CATEGORY				MEAN TOTALS
	Advantages of Breastfeeding	Role of Lactation Consultants	Professionalism of Lactation Consultants	Need for Lactation Consultants	
With	5.92	5.23	3.02	5.62	4.95
With	5.80	5.50	3.23	5.50	5.01
MEAN TOTALS	5.86	5.37	3.13	5.56	4.98

important for use in a brochure on lactation consultants. Statements on the need for lactation consultants seemed to be considered next most important. These were followed by statements concerning the role of lactation consultants in facilitating lactation. The statements about the professionalism of lactation consultants were rated as least important for inclusion in a brochure on lactation consultants.

An analysis of variance table for this specific analysis reflects several things, as shown in Table II.

The F-ratio of 3.5 for Between Experience Types was not statistically significant at the 95 percent significance level ($df=1/18$, $F\text{-value}=4.42$). In other words, the F-ratio indicates that the variations in opinion expressed through the Q-sort by the respondents with breastfeeding experience and those respondents without breastfeeding experience would not occur by chance in five out of 100 similar instances using the same Q-sort. Thus, the mean scores computed from the raw data show that there were no statistically significant difference in the choice of statement categories by respondent types. In other words, choices of statements were made regardless of breastfeeding experience.

On the other hand, the F-ratio of 26.55 for Between Statement Categories ($df=3/58$, $F\text{-value}=2.78$) was significant at the 95 percent significance level. In other words, variations in opinion/agreement among the respondents as expressed by the Q-sorts would occur by chance in less than five out of 100 similar situations using the same Q-sort.

A difference as large as that observed among the statements could occur by chance less than five times in 100--a difference too large to

TABLE II
ANALYSIS OF VARIANCE SCORES
(UNWEIGHTED SCORES)

Source	DF	SS	MS	F	p
Total Variance	79	158.59	2.01	100.5	***
Between Subjects Variance	19	.27	.01	.5	***
Between Experience Variance	1	.07	.07	3.5	.05
Between Subjects Error	18	.27	.02	---	
Within Subjects Variance	60	158.32	2.64	2.24	***
Between Statement Categories	3	93.99	31.33	26.55	.05
Interaction: Statement Categories x Experience Types	3	.66	.22	.19	.05
Within Subjects Error	54	63.67	1.8	---	

be credited to chance alone. Thus, differences in mean importance of statements could have been due largely to differences in individual respondent opinion as to which statement categories were most important.

The interaction F-ratio of 0.19 (df=3/54, F-value=2.78) seemed to indicate that there was no statistically significant interaction between statement categories and breastfeeding experience types.

Table III shows the unweighted scores of the respondents with Breastfeeding Experience versus the unweighted scores of the respondents Without Breastfeeding Experience.

A cursory look at the data seemed to indicate that in general, the respondents chose statements concerning the Advantages of Breastfeeding as most important for inclusion in a brochure on lactation consultants. Statements concerning the Need for Lactation Consultants were considered next most important followed by statements concerning the Role of Lactation Consultants. Respondents seemed to think that the statements concerning the Professionalism of Lactation Consultants were least important for inclusion in a brochure on lactation consultants.

On the average, more women with Breastfeeding Experience considered the statements on the Advantages of Breastfeeding and the Need for Lactation Consultants more important than did women Without Breastfeeding Experience. On the other hand, more women Without Breastfeeding Experience considered the Role of Lactation Consultants and the Professionalism of Lactation Consultants as more important than did their counterparts.

TABLE III
 ANALYSIS OF VARIANCE TABLE: TYPE I AND TYPE II
 STATISTICAL RESPONDENT TYPES
 (UNWEIGHTED SCORES)

Source	df	ss	ms	F	p
Total Variance	79	175.96	2.23	2.56	***
Between Subjects Variance	39	128.76	3.30	3.79	.05
Between Statements Categories	1	95.57	95.57	105.85	.05
Between Subjects Error	38	33.19	.87	---	
Within Subject Variance	40	47.20	1.18	0.0	***
Between Types	1	.28	.28	0.0	.05
Interaction: Types x Statement Categories	1	35.52	35.52	0.0	.05
Within Subjects Error	58	11.40	0.0	---	

Gap tests (0.56 significant difference) were run on the statement categories. Results were as follows:

1. Advantages of Breastfeeding statements were not significantly different statistically from Role of Lactation Consultants statements.
2. Advantages of Breastfeeding statements were not significantly different statistically from Need for Lactation Consultants statements.
3. Role of Lactation Consultants statements were not significantly different statistically from Need for Lactation Consultants.
4. Advantages of Breastfeeding statements were significantly different statistically from Professionalism of Lactation Consultants statements.
5. Role of Lactation Consultants statements were significantly different statistically from Professionalism of Lactation Consultants.
6. Need for Lactation Consultants statements were significantly different statistically from Professionalism of Lactation Consultants.

Thus, in summary, using the raw data, statements on the Advantages of Breastfeeding and the Need for Lactation Consultants appeared to be considered more important than statements in the categories of Role of Lactation Consultants and Professionalism of Lactation Consultants.

Gap tests indicated that the only significant differences lay in the choice of statements on Professionalism of Lactation Consultants

as less important than statements on the Advantages of Breastfeeding, the Need for Lactation Consultants, and the role of Lactation Consultants.

However, the importance given to certain categories was not dependent on breastfeeding experience.

Thus, although there appeared to be differences in importance of statement categories, the only significant difference in importance lay in the choice of statements on Professionalism of Lactation Consultants as less important than statements on the Advantages of Breastfeeding, the Need for Lactation Consultants, and the Role of Lactation Consultants.

Analysis II: Statistical Respondent Types

Analyzed (Unweighted Scores)

The researcher intercorrelated the 20 respondents' Q-sorts of statement importance and factor analyzed the intercorrelation matrix using the McQuitty Elementary Linkage and Factor Analysis. Two types of respondents were extracted: 11 in Type I and 9 in Type II. These types were then used as the repeated measure factors in an analysis of variance. They replaced the two types of respondent breastfeeding experience.

The results of the analysis of variance appear in Table III.

The between subjects F-ratio of 3.79 ($df=1/38$, $F\text{-value}=4.10$) was not statistically significant at the 95 percent significance level. In other words, there was no statistically significant difference in the choices of statements by subjects.

The between categories F-ratio of 105.85, however, was statistically significant at the 95 percent significance level ($df=1/38$, $F\text{-value}=4.10$). In other words, the differences among the categories (according to how the categories were ranked in terms of importance) could not have happened by chance. Thus, the differences in mean opinions could have been due largely to differences in individual respondent opinion given as to statement importance.

No difference in choice of statements by respondents--regardless of statistical category (Type I or Type II) was observed.

Also, no significant interaction of respondent type or statement category can be accounted for.

Table IV shows that on the average, Type I respondents scored lower than their Type II counterparts--except for the degree of importance they placed on the statements belonging to the category Advantages of Breastfeeding.

On the average, the category Advantages of Breastfeeding was ranked highest followed by Role Lactation Consultants and Need for Lactation Consultants (same mean) with Professionalism of Lactation Consultants last.

When gap tests were run on mean totals (0.06 significant difference), significant differences among categories were present between all categories except Role of Lactation Consultants and Need for Lactation Consultants (which had equivalent means).

Type I respondents ranked Advantages of Breastfeeding highest. Need for Lactation Consultants statements came next with Professionalism of Lactation Consultants statements ranked least important.

TABLE IV
 MEAN IMPORTANCE OF FOUR CATEGORIES OF STATEMENTS AS PERCEIVED
 BY RESPONDENTS ACCORDING TO STATISTICAL TYPE
 (AS DETERMINED BY MCQUITTY'S ELEMENTARY
 LINKAGE AND FACTOR ANALYSIS)

BREASTFEEDING EXPERIENCES	Need for Lactation Consultants	Advantages of Breastfeeding	Role of Lactation Consultants	Professionalism of Lactation Consultants	MEAN TOTALS
Type I	5.5	7.7	4.5	2.2	5.0
Type II	6.0	4.5	7.0	2.5	5.0
MEAN TOTALS	5.75	6.1	5.75	2.35	5.0

On the other hand, Type II respondents rated Role of Lactation Consultants as most important, followed by Need for Lactation Consultants. Statements on the Advantages of Lactation Consultants came next followed by Professionalism of Lactation Consultants. Both types agreed only on rating Professionalism of Lactation Consultants as least important.

Type I's typical representative (one most like the others in her type) was a respondent with breastfeeding experience. Likewise, Type II's typical representative was a respondent with breastfeeding experience.

Table V shows the perceptual relationships of Type I and Type II respondents to their typical representatives.

Type I had more respondents with breastfeeding experience than respondents without breastfeeding experience. Type II had more respondents without breastfeeding experience than with breastfeeding experience.

The respondent that correlated most closely (statement choice most similar) to the typical representative of Type I was Respondent E. Like the typical representative, Respondent E had breastfeeding experience.

For Type II respondents, the respondent most closely correlated to their typical representative was Respondent O with no breastfeeding experience. In both types, respondents that correlated least with the typical representatives were respondents without breastfeeding experience.

In summary, on the average, Type I and Type II respondents rated Advantages of Breastfeeding statements as most important, followed by Role of Lactation Consultants and Need for Lactation Consultants

TABLE V
 PERCEPTUAL RELATIONSHIPS OF TYPE I AND TYPE II RESPONDENTS TO
 THEIR RESPECTIVE TYPAL REPRESENTATIVES

Type I			Type II		
Respondent	Typal Rep: E	Breastfeeding Experience	Respondent	Typal Rep: E	Breastfeeding Experience
E	1.000	With	H	1.000	With
I	.859	With	O	.782	Without
F	.806	With	B	.651	With
Q	.671	Without	L	.647	Without
S	.630	Without	M	.618	Without
R	.629	Without	C	.594	With
A	.601	With	K	.465	Without
N	.588	Without	G	.430	With
J	.559	With	P	.430	With
D	.453	With			
T	.247	Without			

(equivalent means). Professionalism of Lactation Consultants statements were rated as least important. However, Type I respondents rated Advantages of Breastfeeding as most important followed by Need for Lactation Consultants, with Professionalism of Lactation Consultants least. Type II respondents had Role of Lactation Consultants as most important, Advantages of Breastfeeding next most important, Need for Lactation Consultants next and Professionalism of Lactation Consultants last.

Type I's typical representative (one most like the others in her type) was a respondent with breastfeeding experience. Likewise, Type II's typical representative was a respondent with breastfeeding experience.

Analysis III: Statements Weighted in Terms of
Relative Importance for Each of Two
Statistical Respondent Types

In this particular analysis, factor arrays were weighed to determine how much weight a respondent's choices carried when compared with those of the other respondents in her type. Thus, the more a respondent agreed with other respondents who fell in her type (this was determined through factor analysis), the more weight her choices of statements carried.

After the respondents' choices were weighted, a two factor analysis of variance was carried out using the initial arrays of statements.

Since the typical representatives are representative of the type they belong to (they are the most closely related to others in their types) they are used to represent their types in terms of weighted scores.

Table VI shows Type I and Type II weighted scores compared. In both cases, typical representatives did not possess the most heavily weighted scores. In Type I, Respondent I had the most heavily weighted scores. She was a respondent with breastfeeding experience. In Type II, Respondent O (without breastfeeding experience) had the most heavily weighted scores.

The analysis of variance table (Table VII) is one that shows the sources of variance for Type I and Type II weighted scores.

Between Categories F-ratio of 132.77 ($df=1/38$, $F\text{-value}=4.0$) indicated statistically significant differences between categories. It also indicated that a difference as large as that between categories could not happen by chance. Thus, it indicated a need to determine what caused so large a difference.

The F-ratio of zero for Between Types indicated no difference between weighed responses of Types I and II.

However, Interaction of types and Categories was statistically significant with an F-ratio of 59.08 ($df=1/58$, $F\text{-value}=4.0$). Therefore, interaction could be responsible for a great amount of variance in the study results.

To summarize, weighted scores determine which respondent choices in each type carried the most weight. In Type I, a respondent with breastfeeding experience carried the most weight. In Type II, a respondent without breastfeeding experience carried the most weight.

TABLE VI
TYPE I AND TYPE II WEIGHTED SCORES COMPARED

Type I			Type I		
Respondent	Typal Rep: E	Weighted Score	Respondent	Typal Rep: H	Weighted Score
A	.601	3.570	B	.651	2.189
D	.453	2.168	C	.594	1.777
E	1.000	4.049	G	.430	1.020
F	.806	8.701	H	1.000	2.358
I	.859	12.415	K	.465	1.148
J	.559	3.088	L	.647	2.146
N	.588	3.407	M	.618	1.935
Q	.671	4.632	O	.782	3.885
R	.629	3.966	P	.424	1.000
S	.630	6.505			
T	.627	1.000			

TABLE VII
 ANALYSIS OF VARIANCE: TYPE I AND TYPE II
 (WEIGHTED SCORES)

Source	df	ss	ms	F	p
Total Variance	79	400	5.06	3.69	***
Between Subjects	39	234	6.00	4.38	***
Between Categories	1	181.9	181.9	132.77	.05
Between Subject Error	40	52.1	1.37	---	
Within Subject Variance	40	16.6	4.15	2.92	***
Between Types	1	0.0	0.0	0.0	.05
Interaction: Types x Categories	58	82.1	1.42	---	

For both Type I and Type II, the typical representatives did not have the most heavily weighted scores. Also, the respondents whose scores weighed the least for both types were respondents without breastfeeding experience.

Other Trends in Data

Table VIII shows a comparison of Type I choices for ten most important statements with the ten most important statement choices of Type II.

Table IX shows a comparison of Type I and Type II choices for ten least important statements as perceived by the respondents in each type. Importance was based on perceived importance for inclusion in a brochure on lactation consultants.

Type I respondents ranked the ten Advantages of Breastfeeding as most important. It is interesting to note that Type I respondents were predominantly women with breastfeeding experience.

Type II respondents ranked a combination of statements on Role of Lactation Consultants and Need for Lactation Consultants as being most important. Type I respondents had one statement on the Advantages of Breastfeeding. Type II respondents were predominantly women without breastfeeding experience.

Type I respondents rated the ten statements on the Professionalism of Lactation Consultants as least important. Type II respondents listed nine statements concerning the Professionalism of Lactation Consultants as least important. However, they also added one statement on the Advantages of Breastfeeding as relatively unimportant. Type II

TABLE VIII
 TYPE I AND TYPE II CHOICE OF TEN MOST IMPORTANT STATEMENTS

Statement	Type I	Category
Breastmilk is a complete food for the first months of an infant's life		Advantages of Breastfeeding
Breastmilk contains a large number of factors that prevent disease		Advantages of Breastfeeding
Psychological implications of breastfeeding versus bottle-feeding are extensive		Advantages of Breastfeeding
Breastfed infants are less likely to develop abnormal coronary arteries		Advantages of Breastfeeding
Breastfeeding protects the infant by reducing exposure to contaminated food		Advantages of Breastfeeding
Breastfeeding is cost effective		Advantages of Breastfeeding
Breastfeeding reduces fertility		Advantages of Breastfeeding
Breastfed infants have lower risk of crib death		Advantages of Breastfeeding
Breastfed infants are less likely to become allergic to cow's milk protein		Advantages of Breastfeeding

TABLE VIII (Continued)

Statement	Type II	Category
Lactation consultants are allied health care providers with skills and knowledge to facilitate breastfeeding		Role of Lactation Consultants
Their role is to give direct care to breastfeeding families		Role of Lactation Consultants
They help change misinformation, doubts, fears, mismanagement, and ignorance		Role of Lactation Consultants
Better education and social support are needed to promote breastfeeding to mothers and fathers		Need for Lactation Consultant
Breastfeeding is not a reflex; it is a learned process		Need for Lactation Consultant
Lactation consultants utilize a problems solving process to provide information in a variety of settings		Role of Lactation Consultants
Breastmilk is a complete food for the first several months of an infant's life		Advantages of Breastfeeding
Mothers need information about the advantages of breastfeeding		Need for Lactation Consultant
Consultants discuss the importance of lifestyle factors like diet, rest, siblings, and family relations and work		Role of Lactation Consultants
Lactation consultants give advice about care for mothers experiencing specific problems related to breastfeeding		Role of Lactation Consultants

TABLE IX
 TYPE I AND TYPE II CHOICE OF TEN LEAST IMPORTANT STATEMENTS

Statement	Type I	Category
Certification by IBLCE in effect for five years		Professionalism of LC
State health agencies work closely with institutions and agencies to provide continuing education in lactation		Professionalism of LC
First national qualifying exam held on July 23, 1985		Professionalism of LC
First national qualifying exam was part of Certified Lactation Consultant Program of La Leche League Int'l		Professionalism of LC
IBLCE program based on certification guidelines developed by the U.S. National Commission for Health Certifying Agencies		Professionalism of LC
IBLCE offers yearly certification exam		Professionalism of LC
IBLCE states minimum requirements for lactation consultant candidates		Professionalism of LC
ILCA recognized by number of professional organizations		Professionalism of LC
Certification process designed to improve health care and establish standards for lactation consultants		Professionalism of LC
Certification provides added credentials		Professionalism of LC

TABLE IX (Continued)

Statement	Type II	Category
Certification of lactation consultants provides an added credential for lactation consultants		Professionalism of LC
Certification process of lactation consultants is designed to improve health care and establish standards for lactation consultants		Professionalism of LC
IBLCE minimum requirements for lactation consultant candidates		Professionalism of LC
IBLCE in effect for five years		Professionalism of LC
Breastfeeding plays a role in reducing fertility		Professionalism of LC
IBLCE certification based on certification guidelines		Professionalism of LC
In some states, state health agencies work closely with education institutions to provide continuing education		Professionalism of LC
Exam offered annually		Professionalism of LC
First exam part of La Leche League program in 1985		Professionalism of LC
ILCA recognized by professional organizations		Professionalism of LC

listed the statement concerning breastfeeding playing a role in reducing fertility as relatively unimportant.

This particular statement raised questions from various respondents who had either heard that breastfeeding reduced fertility or that breastfeeding did not reduce fertility. It was observed that most respondents without breastfeeding experience considered it less important than did respondents with breastfeeding experience (some of whom had breastfed in the hopes that a gap between offspring would be lengthened--and conceived while breastfeeding).

What particular statements did the respondents consider as most important?

Among the statements concerning the Advantages of Breastfeeding, the respondents in general rated the following as most important (listed according to perceived importance:

1. Breastmilk is high in nutritive value.
2. Breastmilk aids in preventing disease.
3. The low cost of breastfeeding compared to formula feeding.
4. Mother-infant bonding.
5. Reduced exposure to contaminated food.

Type I respondents chose the following as most important (listed according to perceived importance):

1. Breastmilk is high in nutritive value.
2. Breastmilk aids in preventing disease.
3. Breastfed infants have lower risk of crib death.

4. Mother-infant bonding.

Reduced exposure to contaminated food.

5. Lesser tendency to develop abnormal coronary arteries.

Type II respondents chose the following as most important (listed according to perceived importance):

1. Breastmilk is high in nutritive value.

2. Breastmilk aids in preventing disease.

3. Mother-infant bonding.

4. Reduced exposure to contaminated food.

5. Breastfed infants have lower risk of crib death.

From the ten statements on the Advantages of Breastfeeding, the three most important (agreed upon by a majority of respondents) were:

1. Breastmilk's high nutritive value.

2. Breastmilk's immunological properties.

3. Mother-infant bonding and lower risk of crib death.

Of the statements concerning the Need for Lactation Consultants, the average respondent chose the following:

1. Breastfeeding success is influenced by what a new mother knows.

2. Premature infants have special needs.

3. Mothers need information concerning the advantages of breastfeeding.

Mothers need information on how to combine breastfeeding with paid or other activities.

4. Breastfeeding is a learned process.

5. Educational programs are needed even before pregnancy.

Type I respondents chose the following as most important (listed according to perceived importance):

1. Women have problems breastfeeding.
Educational programs for women are needed even before pregnancy.
2. Breastfeeding is a learned process.
Mothers need information concerning the advantages of breastfeeding.
3. Better education and social support are needed to promote breastfeeding to mothers and families.
4. Mothers need information on how to combine breastfeeding with paid or other activities.
5. Breastfeeding success is influenced by what a new mother knows.
Mothers need to know that other women in similar circumstances chose to breastfeed.

Type II respondents chose the following as most important (listed according to perceived importance):

1. Mothers need information concerning the advantages of breastfeeding.
2. Breastfeeding is a learned process.
Better education and social support are needed to promote breastfeeding to mothers and families.
3. Educational programs for women are needed even before pregnancy.
4. Women have problems breastfeeding.
5. Breastfeeding success is influenced by what a new mother knows.

In general, the respondents agreed that the following are important reasons why lactation consultants are needed:

1. Mothers need information concerning the advantages of breastfeeding.
2. Breastfeeding is a learned process.
3. Breastfeeding success is influenced by what a new mother knows.

What these choices reveal is that the respondents feel lactation consultants are needed sources of information.

Of the statements concerning the Role of Lactation Consultants, the following were rated as most important:

1. They facilitate the maintenance of breastfeeding relationships as solid foods are added to infants' diets.
2. They discuss the importance of lifestyle factors.
3. They facilitate breastfeeding through skills, knowledge, and attitudes.
4. They are powerful educational agents in breastfeeding and breastfeeding practices.
5. They encourage breastfeeding through information dissemination and dispell myths about it.

Type I respondents ranked the following as most important:

1. They are a consistent source of information for patients and professionals.
2. They provide direct care to breastfeeding families.
3. They discuss the importance of lifestyle factors.
They encourage breastfeeding through information dissemination and dispell myths about it.

4. They provide advice for breastfeeding problems.
5. They encourage prenatal and postnatal decision-making.

Type II respondents chose the following as most important:

1. They encourage breastfeeding through information dissemination and dispell myths about it.
2. They facilitate breastfeeding through skills, knowledge, and attitudes.
3. They provide direct care to breastfeeding families.
4. They provide advice for breastfeeding problems.
5. They are a consistent source of information for patients and professionals.

Statements on the Role of Lactation Consultants were rated differently by Type I and Type II respondents. They agreed that the following were most important for inclusion in a brochure on lactation consultants:

1. Lactation consultants encourage breastfeeding through the dissemination of information.
2. They provide direct care to breastfeeding families.
3. They provide advice for breastfeeding problems.

Statements on the Professionalism of Lactation Consultants were considered least important. However, of the ten statements, the majority of respondents rated the following as most important:

1. ILCA is recognized by other professional organizations.
2. IBLCE certification is in effect for five years with regular participation in its certification maintenance program.

Continuing education in lactation and breastfeeding is provided.

3. Certification is an added credential.
IBLCE sets requirements for certified lactation consultant candidates.
Certification is designed to improve health credentials and establish standards for lactation consultants.
4. The first national examination for certified lactation consultants was part of the certified lactation consultant program of La Leche League.
5. IBLCE certification program is based on certification guidelines developed by the U.S. National Commission for Health Certifying Agencies.

Type I respondents rated the following as most important:

1. Certification is designed to improve health care and establish standards for lactation consultants.
2. IBLCE sets requirements for certified lactation consultants.
Certification is an added credential.
3. IBLCE certification program is based on certification guidelines developed by the U.S. National Commission for Health Certifying Agencies.
4. IBLCE certification is in effect for five years with regular participation in its certification maintenance program.
5. Continuing education in lactation and breastfeeding is provided.

Type II respondents rated the following as most important:

1. ILCA is recognized by other professional organizations.

2. Certification is an added credential.
3. IBLCE sets requirements for certified lactation consultant candidates.
4. Certification is designed to improve health care and establish standards for certified lactation consultants.
5. IBLCE certification is in effect for five years with required participation in a certified maintenance program.

Most respondents agreed that the following were most important:

1. IBLCE certification is in effect for five years with required participation in its certification maintenance program.
2. Certification is designed to improve health care and establish standards for lactation consultants.
3. Certification is an added credential.

From these choices, it is apparent that the credibility of lactation consultants is important to potential clients. It appears that certification as an added credential and indication of improved health care was important to the respondents.

CHAPTER V

SUMMARY AND CONCLUSIONS

Recently, more women appear to be rediscovering breastfeeding. Between 1978 and 1983, breastfeeding increased from 47 percent to 61 percent with substantial variation among socio-demographic groups across the United States.

The renewed interest in breastfeeding has resulted in a closer understanding of its advantages and disadvantages. It has also uncovered a need for answers to the questions and problems faced by breastfeeding mothers.

To answer the growing needs and questions of an increasing number of nursing mothers, a new health provider--the lactation consultant has emerged. Lactation consultants have a certifying board (International Board of Lactation Consultant Examiners) that gives a certifying examination annually.

The certification holds for a five-year period but requires that the certified lactation consultant be on a program of continuing education concerning lactation and breastfeeding.

The lactation consultant is slowly gaining recognition as a professional. However, lactation consultancy is currently facing resistance from certain areas. Some health care professionals perceive lactation consultants as a threat. Others fear that a lactation

consultant might overstep her area of expertise to make medical diagnoses or prescribe medical treatment. Others worry that not all lactation consultants are adequately trained.

The International Lactation Consultant Association (the organization that represents the interest of lactation consultants) realizes that these reactions to lactation consultants are probably due to lack of information about the services a lactation consultant provides. This lack of information can be partly solved by a brochure about lactation consultants and their services.

To determine what kind of information should be included in the brochure, a Q-sort was administered to 20 women in Stillwater, Oklahoma; ten with breastfeeding experience and ten without breastfeeding experience. The Q-sort was composed of 40 statements concerning breastfeeding and lactation consultants. The 40 statements were divided into four categories of ten statements each. The four categories were: Advantages of Breastfeeding, Role of Lactation Consultants, Need for Lactation Consultants, and Professionalism of Lactation Consultants. Each statement contained information that could be used in a brochure on lactation consultants.

The respondents were asked to rank the 40 statements according to importance. They were asked to rank the statements according to how important they perceived a statement to be for inclusion in a brochure on lactation consultants. The statements were ranked according to a quasi-normal distribution curve.

Results showed that breastfeeding experience did not affect a respondent's choice of statement importance. However, respondents did distinguish among the statement categories.

An analysis of raw data indicated that on the average, regardless of breastfeeding experience, the respondents ranked statements concerning Advantages of Breastfeeding as most important, followed by statements concerning the Need for Lactation Consultants next, then statements concerning the Role of Lactation Consultants with Professionalism of Lactation Consultants last.

A McQuitty's Elementary Linkage and Factor Analysis was then performed on the data. Two statistical categories emerged: Type I with 11 respondents and Type II with nine respondents. Typical representatives of both types were respondents with breastfeeding experience.

On the average, both types rated Advantages of Breastfeeding statements as most important with Need for Lactation Consultants and Role of Lactation Consultants tied for next most important. Professionalism of Lactation Consultants was rated last. There were, however, differences in the choices made by Type I and Type II. Type I rated Advantages of Breastfeeding as most important, Need for Lactation Consultants was next, followed by Role of Lactation Consultants. Professionalism of Lactation Consultants was rated last.

Type II rated Role of Lactation Consultants as most important followed by Need for Lactation Consultants, Advantages of Breastfeeding, and Professionalism of Lactation Consultants.

When the scores of Type I and Type II respondents were weighted, it was determined that statistical type did not affect choice of statement importance. Thus, breastfeeding experience and statistical categories were not factors that affected the choice of statement importance.

Type I's choice of the ten most important statements was composed of all ten statements concerning the Advantages of Breastfeeding. Its choice of the ten least important statements was composed of the ten statements concerning Professionalism of Lactation Consultants.

Type II's choice of the ten most important statements was composed of six statements concerning the Role of Lactation Consultants, three statements concerning the Need for Lactation Consultants, and one statement dealing with the Advantages of Breastfeeding. Its choice of the ten least important statements was composed of nine statements belonging to the category Professionalism of Lactation consultants and one statement belonging to the category Advantages of Breastfeeding.

Conclusions

Based on the results of the Q-sort, the following conclusions were drawn:

1. Breastfeeding experience did not affect opinion of statement importance.
2. Respondents belonging to statistical Types I and II had similar opinions of statement importance.
3. On the average, statements dealing with the Advantages of Breastfeeding were considered most important for inclusion in a brochure on lactation consultants. Several respondents commented that including the advantages of breastfeeding in a brochure on lactation consultants would enable the brochure readers to decide in favor of someone who could help them partake of the advantages of breastfeeding.

4. Although respondents indicated that statements concerning the Role of Lactation Consultants and the Need for Lactation Consultants were important, they were second only to the Advantages of Breastfeeding.
5. The statements on Role of Lactation Consultants were considered more important for inclusion than statements on the Need for Lactation Consultants.
6. The statements on the Professionalism of Lactation Consultants were rated on the average as least important. Only one respondent with no breastfeeding experience rated a statement in this category as most important (with a rating of nine--most important). Two respondents with breastfeeding experience rated two statements from this category as most important (again with ratings of nine). This seems to indicate that while the majority of respondents considered this category least important, those that felt Professionalism was most important gave the statements the highest rating values possible.

Several respondents with breastfeeding experience were interested to know that there are certified and trained health professionals that can advise women and families on breastfeeding. They indicated that the professionalism and training of these professionals is important-- "So we know they know what they are talking about and the extent of their knowledge."

They indicated that knowing lactation consultants are trained and certified made them more credible sources of information.

7. A brochure on lactation consultants can make people aware of lactation consultants and the services they offer. Many of the researcher's respondents were fascinated by the idea that people are now trained to help solve breastfeeding problems that breastfeeding mothers face. One commented: "I wish they were around when I was having problems!" It is ironic that lactation consultants were around when she was having problems--she just did not know about them.
8. The respondents agreed that writing a brochure on lactation consultants should contain information that women who would read it consider important. Some specifically asked that copies of the brochure be sent to them.
9. Respondents with no breastfeeding experience did not consider a brochure on lactation consultants less important than did respondents with breastfeeding experience. In fact, respondents with no breastfeeding experience felt it was important that they too know about breastfeeding and lactation consultants even before they have the opportunity to breastfeed.
10. The respondents, as a whole, felt that breastfeeding and lactation consultant services affected them directly. Several however suggested that a male point of view be included in further studies.

11. While a brochure on lactation consultants will not solve all of lactation consultancy's problems, it may help solve some of the promotional problems of lactation consultants.
12. Results of the study are a reflection of the opinions and perceptions of respondents in Stillwater, Oklahoma.

CHAPTER VI

RECOMMENDATIONS

Based upon the conclusions drawn from the results of this study, several recommendations can be made.

It is recommended that a brochure about lactation consultancy be written for women in general. Brochures that deal with specific breastfeeding problems faced by women with breastfeeding problems and/or women without breastfeeding problems could also be written if a need for such specific brochures is ascertained.

It is also recommended that a brochure about lactation consultants include information about the advantages of breastfeeding and not just the services offered by lactation consultants.

It is recommended that a brochure on lactation consultants include information on certification of lactation consultants to establish the professionalism of lactation consultants. However, the brochure need not dwell too much on aspects of lactation consultants. While it is important that the brochure establish credibility of lactation consultants, it is important that other information like need for lactation consultants and advantages of breastfeeding be included.

While information to be included in a brochure is important it is recommended that placement of the information also be considered. For example, since the respondents in this study considered the

advantages of breastfeeding to be most important, then the brochure may start off with information concerning the advantages of breastfeeding to encourage reading of the brochure. Then, the brochure may lead into the need for lactation consultants and the services lactation consultants provide. The brochure could then mention that lactation consultants are board certified.

It is also recommended that similar studies be conducted that compare Q-sorts of women and men. Several respondents for this study wondered how their husbands would rank the cards according to importance. Results could then be used to support lactation consultant recommendations for involving entire families in breastfeeding experiences.

Then, it is recommended that the finished brochure be placed in places frequented by women like women's clinics and hospitals.

It is also recommended that brochures for distribution outside the United States contain information considered important by nationals of the other countries with certified lactation consultants. Respondents commented that the ranking was a cultural matter since different cultures look upon breastfeeding in different ways. It would be interesting to conduct a study comparing Q-sorts of respondents from different cultures.

Then, it is recommended that all information used in the brochure be backed with scientific evidence or be credited to a credible source. Respondents wanted to know if information contained in the sorted statements were true or false and from published sources. It appeared important to most respondents that what they read was fact or at least attributed to a credible source.

Finally, it is recommended that statements about the importance of breastmilk be included in the brochure. Information concerning its nutritive value, immunological properties and infant-mother bonding should be a priority in terms of mention in the brochure.

Concerning statements about the Role of Lactation Consultants, it is important that information concerning lactation consultants roles in facilitating the maintenance of the breastfeeding relationship as solid foods are added to the infant diet be included. It is also recommended that the brochure include information on the importance of a lactation consultant's consideration of lifestyle factors in the breastfeeding process.

It is recommended that information on the need for lactation consultants include the information dissemination role of lactation consultants as well as the fact that they provide direct care to breastfeeding families and advice concerning breastfeeding problems.

Other Q-sorts could be administered to respondents from different regional and geographic areas. Sample size could be varied to determine consistency of results.

Finally, it is recommended that the brochure mention or contain information on the IBLCE certification procedures certified lactation consultants must go through. It is recommended that the brochure include information on certification as an added credential and as a process by which standards are established for lactation consultants.

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APPENDICES

APPENDIX A

STATEMENTS FOR Q-SORT CARDS

Category: Advantages of Breastfeeding

1. Breast milk contains a large number of factors that help prevent disease.
2. Almost always of very high nutritive value, breast milk is a complete food for the first several months of an infant's life.
3. Breastfed infants avoid problems of milk over and under dilution which bottle-fed infants are commonly subject to because concentrations at which breast milk is fed is outside the mother's control.
4. Breastfed infants may be less likely to develop abnormal coronary arteries.
5. Breastfeeding protects the infant by reducing the exposure to contaminated food.
6. Breastfeeding provides its particular benefits at a low cost.
7. Breastfed infants are less likely to become allergic to cow's milk protein, the most common allergy in infancy.
8. The psychological implications of breastfeeding versus bottle-feeding are extensive, as recently demonstrated in the role of breastfeeding in mother-infant bonding.
9. Breastfed infants are less likely to die of cot (crib) death.
10. Breastfed infants are less likely to suffer from coronary arteries as adults.

***Note: Statements for all four categories were paraphrased in the chapter on Results and Discussion.

Category: Need for Lactation Consultants

1. Breastfeeding is not a reflex; it is a learned process. In our present culture, many women have never witnessed an infant at the breast.
2. If breastfeeding women lack good support, they are likely to stop breastfeeding and may feel quite disappointed.
3. Recent research findings suggest that mothers need information about the advantages of breastfeeding.
4. What a new mother knows about breastfeeding can influence her degree of breastfeeding success.
5. Recent studies suggest that mothers need to know that other women in similar circumstances have chosen to breastfed.
6. Recent studies suggest that mothers need information about how to combine breastfeeding with paid work or other activities.
7. Breastfeeding problems range from simple to severe--from sore nipples and worries about milk supply to how to continue breastfeeding during infant or maternal illness.
8. There is evidence that better education and social support is needed to promote breastfeeding to mothers and families.
9. Educational programs for women are needed before pregnancy, possible even during childhood and adolescence, in order to influence duration of breastfeeding and knowledge of lactation.
10. Premature infants have special needs.

Category: Professionalism of Lactation Consultants

1. The certification awarded by the International Board of Lactation Consultant Examiners (IBLCE) is in effect for a period of five years during which certified lactation consultants must participate in the IBLCE Certification Maintenance Program to continue their IBLCE status.
2. In some states, the state health agency works closely with educational institutins and various agencies to provide continuing education in lactation and breastfeeding.
3. The first national examination to qualify certified lactation consultants took place on July 23, 1985 in Washington, DC.
4. The first national examination to qualify certified lactation consultants took place in 1985 as part of the Certified Lactation Consultant program of La Leche League International.
5. The International Board of Lactation Consultant Examiners certification program is based on certification guidelines developed by the U.S. National Commission for Health Certifying Agencies.
6. The examination to certify lactation consultants is offered annually by the International Board of Lactation Consultant Examiners.
7. The International Board of Lactation Consultant Examiners recommends the following for lactation consultant candidates:
 - B.S. degree or equivalent
 - a minimum of 2500 total hours of lactation practice
 - a minimum of 30 hours of continuing education related to breastfeeding within the previous three years prior to taking the test
8. The International Lactation Consultant Association is recognized by a number of other professional organizations as the body that represents those health care providers who are trained and competent to educate, advise, and assist mothers who are breast-feeding their babies.
9. The certification process of lactation consultants is designed to improve health care and establish standards for lactation consultants.
10. Certification of lactation consultants provides an added credential for lactation consultants, validating their special knowledge and skills for employers, professionals, colleagues and consumers.

Category: Role of Lactation Consultants

1. With a focus on preventive health care, lactation consultants encourage self-care and parental decision making prenatally and postnatally.
2. Lactation consultants are allied health care providers who possess the necessary skills, knowledge, and attitudes to facilitate breastfeeding.
3. Lactation consultants give advice about care for mothers experiencing specific problems like sore nipples, engorgement, and mastitis.
4. In the later postpartum period, the lactation consultant can assist mothers in maintaining the breastfeeding relationship as they gradually, and in an appropriate and timely fashion, add solid foods to the infant's diet.
5. Millions of babies will never know the sweetness of their mother's milk because of misinformation, no information, doubts, fears, corporate intervention, mismanagement and ignorance. Lactation consultants can change that.
6. By serving as a consistent, easily identifiable resource for patients and professionals, the lactation consultant assures that breastfeeding information and support is provided to augment the information and support already offered by other health care professionals.
7. Lactation consultants utilize a problem solving process to provide appropriate information, suggestions, and referrals in a variety of settings including hospitals, clinics, and physicians' offices.
8. Lactation consultants may be powerful agents in continuing medical and nursing education and in discontinuing practices that are known to undermine breastfeeding.
9. Consultants discuss the importance of lifestyle factors like diet, rest, sibling and family relations, and work.
10. The role of the lactation consultant is first to give direct care to breastfeeding families.

APPENDIX B

SOURCES OF STATEMENTS FOR Q-SORT CARDS

1. The Economic Value of Breastfeeding by S. Almroth and T. Greiner.
2. "The Influence of Lactation Consultant Contact on Breastfeeding Duration in a Low-Income Population" by Kathleen G. Auerbach in the Nebraska Medical Journal.
3. "Farewell from Faith" by Faith Bedford in Journal of Human Lactation.
4. "Breastfeeding's Problems" by Elaine Blume in Washington Post (Dec. 26, 1984).
5. "The Lactation Consultant: A New Profession," by Margot Edwards in BIRTH (12:3, 1985).
6. The Economic Value of Breastfeeding by Ted Greiner et al.
7. "Human Lactation as a Physiologic Process," by Ruth Lawrence.
8. "Evaluating the Effect of a Breastfeeding Consultant on the Duration of Breastfeeding," by Sarah Lynch et al. in Canadian Journal of Public Health.
9. "Inhibitional attachment of Streptococcus Pneumoniae and Haemophilus Influenza by Human Milk," by Oscar Porras et al. in Human Lactation 2: Maternal and Environmental Factors.
10. "Presidential Keynote Address," by Candance Woessner in Journal of Human Lactation.
11. Surgeon General's Workshop on Human Lactation and Breastfeeding (1984).
12. Follow-up Report on the Surgeon General's Workshop on Human Lactation and Breastfeeding (1984).

***Note: Refer to Selected Bibliography for full reference citations.

VITA

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