

# Cultural Views of Breastfeeding Among High-School Female Students in Japan and the United States: A Survey\*

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**ABSTRACT** - This study compares the attitudes toward breastfeeding of high-school students in Japan and the United States. The study was conducted as a cross-sectional survey with a convenience sample (N=329). Data were collected in 1989 and 1990 at two private, girls-only high schools (Tokyo, Japan and Farmington, Michigan). Retrieval rates were 100 percent (Tokyo) and 78 percent (Michigan) respectively. Responses were compared by the chi-square ( $\chi^2$ ) test with Yate's correction and factor analyses.

Tokyo students perceived that their mothers talked positively about breastfeeding (54 percent), while only 17 percent of Michigan students reported that their mothers did so (<.001). Less than five percent of the Tokyo students felt that breastfeeding disturbs family life, whereas nearly 98 percent of the Michigan students felt so (p<.001). Tokyo students scored significantly higher on the 'family' factor, while the Michigan students scored significantly higher on the 'self' factor.

Overall, this study indicates that high school students in Japan have more positive attitudes toward breastfeeding than students in the United States; however, teenagers in the United States are more interested than their Japanese age-mates in gaining information about breastfeeding. **KEY-WORDS:** breastfeeding, cultural view, high school students, Japan, survey. *JHL* 10:25-30, 1994.

## INTRODUCTION

Efforts to promote breastfeeding by health care providers in the United States have not resulted in a substantial increase in the numbers of infants being breastfed.<sup>1</sup> The biomedical and psychological superiority of breastfeeding does not seem to have a strong enough impact to lead mothers to choose breastfeeding.

The purpose of this study was to compare attitudes towards breastfeeding of two cultures. Culture is defined as the integrated pattern of human knowledge, belief, and behavior that depends upon human capacity for learning and transmitting knowledge to succeeding generations.<sup>2</sup> Culture is also often referred to as the customary beliefs, social forms, and material traits of a racial, religious, or social group. By looking at another culture, especially one that has a high incidence of breastfeeding, we have sought to increase our understanding of possible bases for the differences in attitudes toward breastfeeding in the two cultures and to obtain a clearer picture of ways in which initiation

and duration of breastfeeding in the United States might be improved.

In Japan, more than 90 percent of mothers breastfeed their babies daily at least through the first month after birth,<sup>10</sup> while only 58 percent of American mothers breastfeed their babies at least once.<sup>3</sup>

One way we sought to tap societal attitudes about breastfeeding was to ask high school students about their attitudes. As late adolescents, their cultural views of society have been influenced by the views of a limited number of persons, such as those of parents and teachers, and they are only beginning to actively choose their own views based on their experiences.

Another reason convinced us to choose this particular population. Teenage pregnancy is increasing in both countries. The incidence of teenage pregnancy in Japan has increased markedly, although the rate per se is much smaller than that of the United States.

## METHODS

A cross-sectional descriptive study design was applied to a convenience sample (n=329). Data were collected in 1989 and 1990 from 16- and 17-year-old students at two high schools, one in Tokyo, Japan, and the other in Farmington, Michigan, using a questionnaire developed by Berger.<sup>4</sup>

*Subjects.* The two schools selected were chosen for optimal control of socioeconomic and ethnic factors.

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Table 1. Comparison of "Yes" Responses (in percent) between Tokyo and Michigan High-School Students

Statements	Tokyo (N=242)	Michigan (N=87)
In original Knowledge of Breastfeeding cluster		
Breastfeeding (BF) is natural.	99	5*
BF is healthy for the infant.	96	59*
BF is a cheaper method of feeding.	84	9*
I am interested in hearing about BF in school.	59	100*
BF spoils the figure of the mother.	30	3*
I am familiar with body changes of lactation.	15	15
BF weakens the mother.	13	85*
BF leads to obesity in the mother.	10	56*
In original Belief in Breastfeeding cluster		
BF is good and desirable.	98	46*
I would like to BF my baby.	98	33*
A mother who BF has more emotional input.	80	100*
BF is not modern and, hence, not popular.	68	4*
I heard from a mother who BF that BF is good.^	54	17*
BF is more convenient.	53	8*
BF does not disturb the freedom of the mother.	51	79*
I intend not to breastfeed.	5	40*
BF disturbs family life.	5	98*
In original Experience of Breastfeeding cluster		
BF has many advantages for the infant.	99	84*
I was breastfed.	79	16*
I have seen my mother, relatives, friends breastfeed.	75	78
I heard from a mother who BF that BF is good.^	54	17*
I have spoken to friends about BF.	4	73*

Chi-square tests with Yate's correction were applied.

\*The "yes" response rates of the two groups were significantly different ( $p < .001$ ).

^appears in two clusters

Because in Tokyo schools, socioeconomic status and ethnicity are not variables, these factors were excluded in the study of American students. The high school in Michigan was chosen because most students (98 percent) were from English-speaking, white, native-born middle class families.

The study protocol was approved by the Human Subjects Committee at the University of Michigan School of Nursing. In addition, at the Tokyo high school, the questionnaire was approved by the local school board and the parent-teacher organization (PTO). At the Michigan high school, the protocol was approved by the principal and the parents.

At the Tokyo high school, data were collected during physical education classes. All second year students at the high school were asked to participate. A school nurse who taught physical education for the entire eleventh grade used class time for the data collection. At the Michigan high school, the questionnaire and parental consent form were sent to each student's home. After filling out the questionnaire at home and obtaining parental consent, the Michigan students

returned both forms to the school. This difference in administration was necessary as each school has its own policy regarding research.

*Design.* We used a comparative cross-sectional design to study the differences in the experience of, beliefs in, and knowledge about breastfeeding in the two cultures, Japanese and American. Based on the definitions of culture described previously, we chose to apply a questionnaire in which one asks for one's knowledge, belief, and experience in relation to breastfeeding.<sup>4</sup>

Potential confounding factors, such as age and gender, were controlled by limiting subjects to 16- or 17-year-old females. Socioeconomic class and ethnicity also were controlled, as described previously.

*Instrument.* The Berger instrument is a 21-item dichotomous-response questionnaire<sup>4</sup> that has been used with high school students in Israel and the United States. In order to test the reliability of the instrument, the reproducibility was tested with 13 students and then retested with the same students four weeks later. The test-retest reliability coefficient was .74 ( $p < .001$ ).

For application at the Tokyo high school, the original questionnaire was rigorously translated. A bilingual native Japanese translator, a Japanese scholar in maternal-child health, and a bilingual American scholar in a related field participated. The questionnaire was translated into Japanese, reviewed, and retranslated into English three times until the translation and the original contained similar sentences that were clearly understandable to teenagers.

Despite this rigorous process, no translation is exact. Caution must be used in interpreting the results drawn from a questionnaire written in two different languages. This complexity of languages and the cultural differences are the reasons we chose a survey questionnaire, which asks relatively concrete ideas. The questionnaire contains the 21 items in which ten items are related to the belief in, seven items are related to the knowledge of, and four items are related to the experience of, breastfeeding (see Table 1.)

## RESULTS

The Tokyo students responded favorably to breastfeeding in 15 items, whereas Michigan students did so in only 8 items. Table 1 shows the "Yes" response rate for each item in the Tokyo and Michigan samples. In order to examine the pattern or cluster of responses in the two sample groups, factor analysis was performed. Three underlying concepts emerged from the factor analysis: family, self, and negative self image. The items to which more than 50 percent of positive responses were observed show differences in the two cultural groups. Both groups showed positive responses in the items related to healthfulness, advantages for the infant, family life, "emotional input", hearing more about breastfeeding in school, and having observed somebody breastfeed.

Differences were observed in other items. For example, 73 percent of the Michigan sample responded "yes" to the item, "I have spoken to friends about breastfeeding," while only four percent of the Tokyo sample did so. On the other hand, the Tokyo sample favorably responded to the following items: 1) "Breastfeeding is natural;" 2) "I think breastfeeding is good and desirable;" 3) "Breastfeeding is a cheaper method than artificial feeding;" 4) "I was breastfed;" 5) "Breastfeeding is not modern and hence not popular;" 6) "I would like to breastfeed;" 7) "Breastfeeding does not disturb the freedom of the mother;" and, 8) "I have heard from a mother who breastfed that breastfeeding is good."

Table 1 summarizes the comparison of "yes" responses by the Tokyo and Michigan samples. All of the responses but two—"I am familiar with body changes of lactation" and "I have seen my mother, relative, friends

breastfeed"—show significant differences between the Tokyo and Michigan samples ( $p < .001$  for the entire group of statements). Out of 21 items, answers on 19 items showed significant differences in the two cultural groups (see Table 1). These findings are similar to those found in previous studies.<sup>4,5</sup> In the study conducted by Pascoe and Berger, Israeli girls answered 13 items positively more frequently than US girls, while American girls responded positively more frequently than Israeli girls for only two items.

Of the Tokyo subjects, 79 percent answered that they were breastfed, as compared with only 16 percent of the Michigan subjects ( $p < .001$ ). However, both groups responded with a similarly high incidence to the statement, "I have seen my mother, relatives, or friends breastfeed" (75 percent and 78 percent, respectively). Not measured was a potential difference in the frequencies of being exposed to someone breastfeeding. One student may have seen somebody breastfeeding only once, while another student may have seen someone breastfeeding more often or for a longer period.

Compared to the Tokyo sample, far more respondents in the Michigan sample indicated that they had spoken to friends about breastfeeding (73 percent vs. 4 percent;  $p < .001$ ). Both groups believed that a mother who breastfed had more emotional input into interactions with her infant (80 percent and 100 percent, respectively).

The largest difference in the percentage of group members replying "yes" is the students' report of exposure to breastfeeding via their own mothers. More than half of the Tokyo respondents' mothers told their daughters, at least once, that breastfeeding was good (54 percent) and, in fact, the majority of the Tokyo students reported that they were breastfed (79 percent), while only 17 percent of the Michigan mothers were reported to have talked about breastfeeding positively ( $p < .001$ ) and only 16 percent of the daughters reported having been breastfed.

Overall, Michigan respondents have fewer positive ideas about breastfeeding than Tokyo students. For example, while almost all of the Tokyo students thought that breastfeeding was healthful for infants, only 59 percent of the Michigan students agreed with this statement ( $p < .001$ ). In response to the statement that breastfeeding had many advantages for the infant, the discrepancy was smaller, yet still statistically significant (99 percent for Michigan students and 84 percent for Tokyo students;  $p < .001$ ).

Particularly with regard to a mother's and family's quality of life, the Michigan respondents tended to view breastfeeding more negatively than the Tokyo

students. While 51 percent of the Tokyo sample thought that breastfeeding interferes with the freedom of the mother, 79 percent of the Michigan students agreed with that statement ( $p < .001$ ). Approximately half of the Tokyo students thought that breastfeeding was more convenient than bottle-feeding (53 percent), compared with only eight percent of the Michigan students ( $p < .001$ ). Only ten percent of the Tokyo sample believed that breastfeeding leads to obesity in the mother, whereas 56 percent of the Michigan students believed this. Thirteen percent of the Tokyo sample responded that breastfeeding weakened the mother, compared with a majority of the Michigan sample (85 percent). The only statement to which the Michigan group responded more positively than the Tokyo group was that breastfeeding spoiled the figure of the mother (three percent in Michigan; vs. 30 percent in Tokyo).

Perhaps the most prominent discrepancy between the two samples observed concerns responses to the statement regarding family-life interference. Only five percent of the Tokyo sample felt that breastfeeding disturbed family life, whereas 98 percent of the Michigan students responded accordingly.

A relatively small portion of the Michigan sample perceived that breastfeeding was natural (five percent), or good and desirable (46 percent), whereas almost all of the Tokyo respondents strongly affirmed both statements (99 percent and 98 percent, respectively). In addition, only four percent of the Michigan sample agreed that breastfeeding was modern and popular, compared with 68 percent of the Tokyo group.

Respondents were asked two questions concerning their future preference in feeding their infants. The first statement, "I would like to breastfeed," simply asks for a preference. The second statement, "I intend not to breastfeed my baby," indicates a strong intention not to breastfeed. The Tokyo students' congruence was apparent, as 99 percent reported that they would like to breastfeed their babies; only five percent reported that they intended not to breastfeed. The Michigan responses indicate greater diversity. Thirty-three percent affirmed the first statement, but 40 percent said they did not intend to breastfeed. Overall, 83 percent of the Michigan sample did not seem willing to commit

either way. This uncertainty may have led all Michigan respondents (100 percent), despite considerable lack of preference toward breastfeeding, to be interested in hearing more about breastfeeding in school, while only 59 percent of the Tokyo sample showed this interest. It is possible that Tokyo students may receive more information about breastfeeding from family members and thus not need to hear it in school, or they may not consider school an appropriate place to teach health practices.

*Factor Analysis.* Factor analysis was performed 1) to test whether the questionnaire responses could be categorized into three subgroups (i.e., belief, experience, knowledge); and if not, to determine whether some underlying concepts could emerge from the data.

Originally, we thought that the questions could be clustered into three categories: belief in, knowledge about, and experience of, breastfeeding. Table 1 denoted our original conceptualization. If these assumptions were valid, factor analysis should have clustered accordingly. However, the items originally thought to support belief in breastfeeding spread through all three factors; therefore, our original assumptions were not confirmed. Instead, what emerged through this process were other underlying clusters; that is, concept of family, concept of self, and negative self-image.

The first factor emerges as a positive perception of breastfeeding in conjunction with positive perceptions of the value of family. The components of the second factor indicate concerns or interests regarding self rather than an abstract notion of family or values. The second factor suggests the direct impact of breastfeeding on the individual, and the direct experiences associated with breastfeeding. In other words, the center of the question is "self." The third factor, which accounts for only six percent of the total variance, indicates negative self image of breastfeeding.

Finally, the factor scores of the Japanese and the US samples were compared. Table 2 shows the results of this comparison, which reveal that the Tokyo sample has a significantly higher score on the Family factor, while the Michigan sample has a significantly higher score on the Self factor. There was no difference between the groups for the third factor, Negative Self-Image.

#### LIMITATIONS OF THE STUDY

There are three limitations of this study: 1) the different methods used to administer the questionnaire; 2) the convenience sample; and, 3) linguistic differences. The response rates in the two high schools were 100 percent and 78 percent in Tokyo and Farmington,

Factor	Tokyo (n=242)	Michigan (n=87)	p<
Family	.4007±.809	-1.1332±.488	.0001
Self	-.3802±.837	1.0749±.533	.0001
Negative Self-Image	-.0509±1.006	.1438±.974	n.s.

Table 2. Factor Scores (t-test comparison) for Tokyo and Michigan Teenage Students.

respectively, because of the method of administration. This difference in number of responses may bias the results. The different response rate may bias the results in favor of the Michigan responses, since those who did not respond may have negative views of breastfeeding, or may not be as interested in breastfeeding as those who did respond. Female-only private schools were chosen in order to control socioeconomic, ethnic, and geographic factors. Students in one-sex schools may feel differently toward breastfeeding than students in coeducational schools. Lastly, intrinsic differences between English and Japanese may impose bias on the interpretation of the results when comparing the responses.

## DISCUSSION

This study delineates significant differences in the attitudes toward breastfeeding between high school students in the United States and Japan. These differences may be attributed to the different societal perceptions of breastfeeding, the role of women in the family, the cultural values of the family, health care providers' efforts to promote breastfeeding, or the health care systems in the two societies.

The answers from the Japanese students indicate agreement with the notion that breastfeeding is healthy, natural, good, desirable, and advantageous for the baby. Correspondingly, these students agree with the statement that they would like to breastfeed their babies. Nonetheless, uncertainties are observed in regard to the presumed impacts of breastfeeding on their lives and bodies. This overall strong agreement, despite the uncertainties, may be interpreted as a cultural characteristic associated with a particular concept of the family and the role of women.

American students appear to be uncertain about the value of breastfeeding; they are concerned about the negative impacts of breastfeeding on their bodies and their lives. They discuss breastfeeding with their friends and are curious to know more about it. Breastfeeding incidence in the US is relatively high among women who are white, older in age, college-educated, and living in an urban setting.<sup>1</sup> Given the socio-demographic characteristics of the Michigan study sample, these students may be more likely to choose breastfeeding when they become mothers than their responses as teenagers indicated, although less than one-third of the Michigan sample affirmed that they would breastfeed their baby. It is possible that limitations of sample size or other methodological problems have contributed to this incongruence. There may also be a need for interventions in women's decision-making about infant feeding through effective programs that promote breastfeeding.

The different responses to each item between the United States and Japanese students also may be understood by the ethnographic differences that exist between the two societies. In Japan, the existence of children tends to dominate the wife-husband relationship. A woman is thought to become a whole person when she has healthy children.<sup>9</sup> A few decades ago, in some rural areas, marriage was considered temporary until the first child was born. In Japan, as part of a well-accepted social image of family life, a wife takes care of the children and waits for her husband to come home, sitting at the kitchen table after the children have gone to sleep while her husband drinks alcohol with his colleagues at a bar. This picture is perceived by most Japanese as typical, if not ideal, of a healthy, stable family life style. In such a society, a teenager may view pregnancy and subsequent child rearing as main functions of family life. In such a society, a teenager may take breastfeeding for granted in order to fit in a "good life," or, as one way of assuring that her healthy newborn stays healthy. Indeed, she may consider breastfeeding as a premise for seeking a "good life" in her future. If the strong orientation to breastfeed as indicated in this study is due, in part, to this heteronomous society, the United States, where autonomy of the individual is highly valued, may not support such a high breastfeeding rate.

The principal author was born and reared in Japan and later came to the United States. She spent ten years as a childbearing-age adult, first in Japan, then in the United States. This unique circumstance gave her an opportunity to observe two societies first-hand. Her observations of mainstream, white, middle-class American culture suggest that a wife's relationship to her husband appears to be direct and central to the family structure. It is well accepted that a couple takes an evening out and leaves the children with a baby sitter; that the couple shows affection in front of the children; that the wedding anniversary is a major event in the family; and, that the couple leaves a newborn infant in an isolated room alone during the night. In such an environment, it may be difficult for a teenager to perceive breastfeeding as easy and desirable.

These study results have implications for nursing practice in the United States and Japan. Students in the US indicated an interest in learning about breastfeeding. Therefore, it is important to provide them with information in a variety of settings which might include schools, and community and religious groups, as well as prenatal clinics. While students in this study represented a homogeneous population, the US is a multicultural society with differing economic, family, and societal values. It is important for nurses working with individuals representing diverse populations to identify culturally specific views toward breastfeeding.

There may be fewer implications for nursing practice in Japan as there is a uniform strong cultural value toward breastfeeding. However, because Japan has been experiencing rapid internalization, western cultural influences which encourage individualism may, in the future, result in a changing incidence in the breastfeeding rate. Nurses in communities, schools, and hospitals need to consider how to maintain the high incidence of young females' acceptance of breastfeeding.

Further research is indicated in order to examine factors related to different aspects of culture and the reasons for the large discrepancies in the attitudes toward breastfeeding in Japan and the United States. It is important to examine the role of mothers in influencing their daughters' decision making. It may be necessary to investigate, through further research, when, in the developmental process, education toward the promotion of breastfeeding will be most effectively initiated.

astly, it will be important to recognize that girls and young women of Japanese heritage immigrating to the United States may change their attitudes toward, and belief in the importance of, breastfeeding. This information will help nurses in both countries to provide more culturally oriented care to persons of diverse backgrounds.

## REFERENCES

1. Ryan AS, Pratt WF, Wysong JL, Lewandowski G, McNally JW, Krieger FW: A comparison of breastfeeding data from the national surveys of family growth and the Ross Laboratories Mothers' Survey. *Am J Public Health* 1991; 81:1049-52
2. Webster's Ninth New Collegiate Dictionary, Private Library Edition. Springfield, Illinois: Merriam-Webster, Inc., 1988; p. 314
3. Jacobson SW, Jacobson JL, Frye KF: Incidence and correlates of breast-feeding in socioeconomically disadvantaged women. *Pediatrics* 1991; 88:728-36
4. Berger A, Winter S: Attitudes and knowledge of secondary school girls concerning breast-feeding. *Clin Pediatr* 1980; 19:825-26
5. Pascoe J, Berger A: Attitudes of high school girls in Israel and the United States toward breast-feeding. *J Adoles Health Care* 1985; 2:202-4
6. Yoos L: Developmental issues and the choice of feeding method of adolescent mothers. *JOGN Nurs* 1985; 14:68-72
7. Pilchuk SL, Corbett MA: Reducing low birth weight among socioeconomically high-risk adolescent pregnancies: successful interventions with certified nurse-midwife-managed care and a multidisciplinary team. *J NurseMidwif* 1985; 30:88-98
8. Daniels MB, Manning D: A clinic for pregnant teens. *Am J Nurs* 1983; 83:68-71
9. Engel N: An American experience of pregnancy and childbirth in Japan. *Birth* 1989; 16:81-86
10. Health and Welfare Statistics Association: Kosei no Shihyo, Kokumin Eisei no Doko. 1991; 38:101-78