

Maternal and infant behaviors were compared for 30 American and 52 Japanese mother-infant dyads from middle-class homes in Japan and America. The major differences in caretaker behavior were (1) the Japanese mother spent more time being with or in the presence of her baby than the American mother, and (2) the American mother was more active in positioning the body of the infant. Infant behaviors between the two cultures were strikingly similar. Significant differences were found in sucking behavior, with the American babies displaying more than the Japanese babies. Across cultures male babies were awake more and received more rocking. Several culture-by-sex interactions were found. Japanese males displayed significantly higher unhappy vocal and total vocal behavior than Japanese females, but the American males displayed significantly lower total vocal behavior than the American females. Comparisons were made with findings from a study conducted in 1969. The findings highlight the importance of cultural context in investigating early behaviors.

MATERNAL AND INFANT BEHAVIOR IN JAPAN AND AMERICA A Partial Replication

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Almost two decades have passed since Caudill and Weinstein (1969) compared the behavior of mothers and 3- to 4-month-old infants in middle-class homes in Japan and America. The

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data for their study were collected during 1961-1964. They found that American mothers did more positioning of the infant's body, lively chatting to their babies, and had a generally higher level of vocalization. American mothers responded with a greater amount of happy vocalization and gross motor activity than the Japanese mothers. On the other hand, the Japanese mothers did more vocal lulling, carrying, and rocking of their babies, and as a result the Japanese babies were more physically passive. Caudill and Weinstein concluded that because of the different styles of caretaking in the two countries, it appears that by 3 to 4 months of age the infants have already learned (or have been conditioned) to behave in culturally distinctive ways, and that this has happened out of awareness and well before the development of language. Freedman and his colleagues (1979), through investigations of newborns from several ethnic groups including Japanese and Americans, found striking differences in behavior as early as birth. Freedman suggests that these differences are biocultural.

Many changes have taken place in Japan and the United States, particularly since the 1960s. In Japan, enormous economic growth has occurred. Japan is the only major industrialized country that is not of Western cultural background. Contacts between the United States and Japan have increased in number and significance. Japan is one of America's most important partners in international trade. Reischauer (1978) reports that the United States is the country most frequently visited by Japanese, and Americans are the most frequent visitors to Japan. Both countries have experienced rapid economic development, inflation, overpopulation in urban areas, a decrease in number of children per family, and an increase in women working outside the home (U.S. Bureau of the Census, 1979; Japanese Ministry of Health and Welfare, 1979). Wagatsuma (1977) identifies four factors as having a significant impact on Japanese families: postwar changes in

values, the increase in the number of nuclear families, crowded housing conditions, and the increasing influence of the media as a source of information. Logically, changes in patterns of interactions between mothers and their infants could be expected. For years, the mother-infant relationship in Japan has been described as being especially close (Beardsley, Hall, & Ward, 1959; Lebra, 1976; Lebra & Lebra, 1974; Nakane, 1970; Vogel, 1967; Vogel & Vogel, 1961). In the United States in recent years, the central theme in infancy has focused on attachment and parent-infant bonding with a massive amount of research (Ainsworth, 1979; Klaus & Kennell, 1982). Hence, greater similarity might be expected between the behavior of American and Japanese mothers and their infants. Additionally, it would be plausible to expect greater similarity between the two groups as the Japanese mother is exposed to and influenced by Western societies (Caudill & Frost, 1975; Smith & Schooler, 1978) and as more emphasis is given to the importance to bonding in America. The purpose of this study is to replicate in part the earlier work of Caudill and Weinstein utilizing the same procedures and similar populations drawn from Japan and America. The data for this study were collected during 1981-1982.

METHOD

SUBJECTS

The subjects in the study were 30 Caucasian and 52 Japanese 3- to 4-month-old, healthy, first-born infants and their mothers. The subjects were recruited primarily through pediatricians in Tokyo, Japan, and a large southwestern city in Texas. Of the families contacted, 5 (3 in Japan and 2 in America) were unable to serve as subjects due to family circumstances (i.e., plans to move out of town). The infants were about equally divided by sex and living in urban, intact families. All children came from middle-class homes based on occupation and education of the

father and education of the mother. Japanese fathers were mainly employees of industrial companies; American fathers were in primarily professional or managerial positions. In the Japanese sample, 6 mothers and, in the American sample, 7 mothers were employed outside of the home. Of the 52 Japanese fathers and mothers 50 had completed high school, and 27 fathers and 18 mothers had completed college. In the American sample all had completed high school, and 20 fathers and 20 mothers had completed college.

All but 5 of the Japanese families and all but 3 of the American families were composed of mother, father, and infant. Of the Japanese families, one had a grandfather, a grandmother, and an uncle living with them, 2 families each had both a grandmother and a grandfather in the home, and 2 families had one grandparent living with them. One of the American families had a grandmother and an aunt living with them, and 2 had one other relative living in the home.

In the Caudill and Weinstein (1969) study, the 30 Japanese and 30 American subjects were from large cities in Japan and America (Tokyo, Kyoto, and Washington, D.C.) living in intact families. As in the present study, all children came from middle-class homes based on occupation and education of the father and education of the mother. Specifically, 12 of the Japanese fathers were in professional and managerial positions, and 18 were in white-collar or highly skilled trade jobs; 14 of the American fathers were in professional or managerial positions, and 16 were in white-collar or highly skilled trade jobs.

MEASURES

Naturalistic observations were made in the homes using a time-sampling technique with the same categories used by Caudill and Weinstein (1969), which had been adapted from that originally developed by Rheingold (1960). As was the case in the Caudill and Weinstein study, observations were made when the infants were between the third and fourth month of

age. The observations were made in each home on two consecutive days. After a brief period of getting acquainted, the mother was asked to go about her normal daily routine while the observer observed the baby and caretaker behavior. In general, on the first day the observations were made in the morning, and on the next day during the afternoon, lasting about three to four hours each day. Observations were not made on days when the mother or baby was ill. Observations were made every 15 seconds over a 10-minute period in terms of a predetermined set of categories concerning the behavior of the infant and the behavior of the mother (Table 1 gives the items), resulting in a sheet containing 40 equally spaced observations. Five-minute breaks were made between observation periods, and 10 observation sheets were completed on each of the two days, giving a total of 800 observations for each case.

Before beginning the collection of data, the senior author, a native Japanese, came to America and was trained along with an American observer in the observational method used in the study. After pilot work, and after reliability was established, the American and Japanese observers both made the observations independently at the same time in each of the American homes. Following the collection of data in America, the Japanese observer returned to Japan and trained two Japanese observers in the observational method to assist in the collection of data on the Japanese families. To check the reliability of the observations, the amount of observer agreement for each item was calculated. A percentage of agreement was obtained by dividing the number of agreements by the combined number of agreements and disagreements. An agreement was a tally identical in both records; that is, both observers agreed not only in *identifying* the item but also in the *timing* of the item. Agreement on the absence of an activity was *not* counted as an agreement. Interobserver reliability between the American and Japanese observers prior to the observations ranged from .72 to .98 ($M = .89$). Reliability was checked daily when the data were collected in America, and at midpoint of the investigation

TABLE 1
Means of Infant and Caretaker Behaviors
by Culture and Sex of Infant

Variable	<u>American</u>			<u>Japanese</u>		
	Males n = 15	Females n = 15	Total n = 30	Males n = 33	Females n = 19	Total n = 52
<u>Age of infants</u>						
in days	111	113	112	115	113	114
<u>Caretaker Behaviors</u>						
Caretaker Present	458	523	491	650	639	646 C
Feeds	73	92	82	65	61	64
Diapers	14	25	20	21	17	20 CxMF
Dresses	11	7	9	9	10	10
Positions	24	31	25	11	8	9 C, CxMF
Pats or Touches	79	78	79	74	52	66
Other care	16	18	17	23	22	23
Plays with	35	35	35	34	29	32
Kisses/Affections	5	8	6	4	2	3
Looks at	266	305	286	316	276	301
Talks to	194	185	190	170	127	154
Chats	186	170	178	167	120	150
Lulls	8	14	11	7	8	8
In arms	197	230	213	184	153	173
Rocks	70	45	57	56	34	48
<u>Infant Behaviors</u>						
Awake	514	491	502	556	467	523
Breast or Bottle	62	88	75	67	54	62 CxMF
All food	75	84	80	70	60	66
Finger or Pacifier	94	164	129	104	73	93 C, CxMF
Total Vocal	82	104	93	127	86	112 CxMF
Unhappy Vocal	53	65	59	75	42	63 CxMF
Happy Vocal	34	40	37	52	45	49
Active	276	270	273	322	255	297
Baby Plays	121	158	139	155	134	148

(continued)

TABLE 1 Continued

Variable	American			Japanese		
	Males	Females	Total	Males	Females	Total
	n = 15	n = 15	n = 30	n = 33	n = 19	n = 52
Toy	55	58	56	51	44	48
Hand	20	33	27	34	27	31
Other Object	46	66	57	79	74	77

NOTE: Letters in parentheses indicate statistically significant ($p > .05$, two-tailed tests) differences between cultures (C), males and females (MF), and different patterns of means between cultures for the separate sexes (C \times MF) based on univariate analysis of variance.

observer reliability ranged from .83 to .98 ($M = .91$). When the data were collected in Japan, interobserver agreement ranged from .76 to .96 ($M = .85$). The senior author was the "constant" observer in the reliability check, being paired with the American observer in the United States and the Japanese observers in Japan.

RESULTS

The data were analyzed in two general ways. First, 2 (culture) \times 2 (sex of child) multivariate and univariate analyses of variance were computed using the caretaker and infant behavior measures as dependent measures. These analyses provide comparisons between cultures for the present study only. The second class of analyses compared the results of the present study with those of the original Caudill and Weinstein (1969) study. The Caudill and Weinstein paper presented only main effect means of caretaker and infant behavior by culture and by sex of infant. Although significance levels were reported, variance measures were not included, thus making formal meta-analyses impossible. Nevertheless, in order to provide direct comparisons between the two studies, differences between means were tested using a priori contrasts based on the mean-square error terms from the present study. In short,

variance estimates were assumed to be comparable across the two studies.

The means of the infant and the caretaker behaviors within each culture and sex for the present study are presented in Table 1. All scale scores range from 0 to 800. The overall 2 (culture) \times 2 (sex of child) multivariate analysis of variance (SPSS MANOVA from Nie & Hull, 1981) revealed a main effect for culture, $F(29,50) = 5.18, p < .001$, and a culture by sex interaction, $F(29,50) = 1.98, p < .02$. A comparison of means across the two studies, collapsing across sex of infant, can be seen in Table 2. The results from univariate tests, based on least-squares analyses of variance, relevant to both tables are discussed below.

CULTURAL AND SEX DIFFERENCES

CARETAKER BEHAVIORS

As depicted in Table 1, the Japanese caretakers were present significantly more often ($M = 646$) than their American counterparts ($M = 491$), $F(1,78) = 20.0, p < .001$. The means presented in Table 2 suggest that this effect is quite robust, given that a comparable pattern of means was reported by Caudill and Weinstein (1969).

A culture by sex interaction was seen on caretaker's changing diapers, $F(1,78) = 7.8, p < .007$; American female infants had their diapers changed significantly more often than American male infants, but the Japanese babies did not differ significantly by sex. No main effects on diaper activity were seen by culture. No significant differences were seen on caretakers dressing the infant as a function of culture.

Positioning the baby was significantly different by culture, $F(1,78) = 53.56, p < .001$. The American caretaker was vastly more active in positioning the infant than the Japanese. Note that this effect was also found by Caudill and Weinstein (1969). The culture by sex interaction was significant in that, although

TABLE 2
Comparison of Means of Infant and Caretaker Behaviors
by Culture for Present Study and Caudill and Weinstein (1969)

<u>Variable</u>	<u>Present Study</u>		<u>Caudill and Weinstein</u>	
	<u>American</u> n = 30	<u>Japanese</u> n = 52	<u>American</u> n = 30	<u>Japanese</u> n = 30
<u>Age of infants</u>				
in days	112	114	109	103
<u>Caretaker Behaviors</u>				
Caretaker Present	491 *	646 (C)	421 *	541
Feeds	82	64	71	74
Diapers	20	20	17	23
Dresses	9	10	13	12
Positions	25 *	9 (C)	19 *	8
Pats or Touches	79	66 (S)	47	34
Other care	17	23	23	17
Plays with	35	32	24	39
Kisses/Affections	6	3	9	7
Looks at	286	301	299 *	242
Talks to	190	154 (C,S)	123	101
Chats	178	150 (C,S)	120 *	79
Lulls	11	8	3 *	22
In arms	213	173 (CxS)	139 *	197
Rocks	57	48 (CxS)	20 *	46
<u>Infant Behaviors</u>				
Awake	502	523	493	494
Breast or Bottle	75	62	55	66
All food	80	66	74	63
Finger or Pacifier	129 *	93 (C)	172 *	69
Total Vocal	93	112	116	94
Unhappy Vocal	59	63	45	66
Happy Vocal	37	49	59 *	30

(continued)

TABLE 2 Continued

Variable	Present Study		Caudill and Weinstein	
	American n = 30	Japanese n = 52	American n = 30	Japanese n = 30
Active	273	297	(S)	95 * 51
Baby Plays	139	148		170 * 83
Toy	56	48		82 48
Hand	27	31		27 14
Other Object	57	77	(CxS)	57 * 22

NOTE: Asterisks denote a significant difference ($p > .05$, two-tailed test) between cultures within each study. Letters in parentheses indicate significant overall differences between cultures (C) for both studies, overall differences between studies (S), and different patterns of means between cultures for the separate studies (C X S). Comparisons between studies are based on estimated mean-square error terms from the present study correcting for degrees of freedom.

Japanese infants were not differentially attended to by sex (females: $M = 7.53$; males: $M = 10.55$), American girl infants received much more positioning ($M = 31.2$) than American boys ($M = 23.73$), $F(1,78) = 4.43$, $p = .041$.

Interestingly, no significant differences were seen as a function of either culture or culture by sex on the measures of (1) caretaker patting-touching, (2) "other care," (3) playing with infant, (4) kissing, (5) looking at, (6) chatting with, (7) lulling, or (8) talking to the infant.

A borderline difference was found in having the infant in the caretaker's arms, $F(1,78) = 3.57$, $p < .063$. The American caretaker had a higher incidence of this behavior than the Japanese.

As can be seen in Table 2, the overall rates of occurrence of the various behaviors were remarkably similar for the two studies. The three study main effects indicated that Caudill and Weinstein observed fewer instances of patting or touching and talking/chatting to the infant by the caretaker. Among the caretaker behaviors in the present study, four were consistent with the findings of Caudill and Weinstein, whereas two were

not. Both studies found that American parents spent more time talking to, chatting with, and positioning their infants than did Japanese parents. These effects obtained even though the Americans were present less of the time. Unlike the Caudill and Weinstein study, however, there was no evidence to suggest that Japanese parents held their infants in their arms more, lulled them more, rocked them more, or looked at them less. Indeed, the present study obtained trends in the opposite direction for each of these behaviors.

INFANT BEHAVIORS

Although there was no significant main effect for culture on frequency of baby with breast or bottle, there was a significant culture by sex interaction, $F(1, 78) = 4.23, p < .043$ (see Table 1). The female infants did show a significant culture difference, with the American girls showing a significantly higher incidence of the behavior than the Japanese girls. The boys, however, were not significantly different.

Sucking behavior was significantly different for the two cultures, $F(1,78) = 5.40, p < .023$, with the American babies displaying more of the behavior than the Japanese infants. However, a significant culture by sex interaction, $F(1,78) = 5.40, p < .005$, indicated that the female babies accounted for the differences, with the American girls being significantly higher than the Japanese girls. The boys did not differ significantly from each other.

Although there was no significant culture main effect on baby's unhappy vocal behavior, there was a significant culture by sex interaction, $F(1,78) = 9.20, p < .003$, indicating that among Japanese infants only, a sex difference was seen with boys being higher than girls on unhappy vocal; American boys, however, did not differ significantly from American girls.

No significant differences were seen, however, for happy vocal behavior, although when the two behaviors (unhappy and happy vocal) were combined to give total vocal behavior, a similar pattern resulted as that for unhappy vocal, giving a

significant culture by sex interaction, $F(1,78) = 12.70$, $p < .001$. The Japanese boys were significantly higher than the Japanese girls, but the American boys were significantly lower than the American girls.

No significant differences were seen on (1) infant activity, (2) infant playing with toys, (3) infant playing with hand, (4) infant playing with other object, or (5) the totaled playing behavior as a composite variable.

As with the caretaker behaviors, the overall pattern of means for infant behaviors in the present study was extremely similar to that found by Caudill and Weinstein. As can be seen in Table 2, both studies found strong effects indicating that American infants spent far more time with their fingers or pacifiers in their mouths. The observers in the present study rated infants as more active than did Caudill and Weinstein's observers. Only two discrepancies between the two studies in the patterns of means emerged. Whereas Caudill and Weinstein found American infants to play more than Japanese, a slight trend in the opposite direction has emerged. These effects were due, in part, to the fact that the amount of time Japanese infants spent playing with objects other than toys or their own hands increased from the Caudill and Weinstein study to the present (relative to the American infants).

DISCUSSION

Caudill and Weinstein (1969) stressed the significance of cultural differences in understanding human behavior. In replicating this often quoted study, likewise, it was assumed that cultural variations, which are manifest in behavior, can help in understanding differences in maternal and infant behavior.

Comparison of maternal and infant behavior in 1969 and 1985 revealed striking similarities between the two cultures in regard to most of the caretaker behaviors. No differences were found in caring for the infant's biological needs for nutrition,

elimination, and physical comfort. Thus, there were no significant cultural differences in the ways in which mothers feed, diaper, dress, pat, or touch their babies.

In the present study, there were no significant differences in the amount of playing with the infant, kissing, looking at, chatting with, lulling, or talking with the infant. These findings replicated those of Caudill and Weinstein (1969), except for chatting and lulling. They found that American mothers did significantly more chatting with their babies than the Japanese mothers, and that the Japanese mothers did significantly more holding of their babies in arms, rocking, and lulling than the American mothers. It should be noted that the means in the present study for chatting are in the same direction as those found by Caudill and Weinstein. Even though the means for holding in arms, rocking, and lulling in the present study are not significant, they are in the opposite direction from those found by Caudill and Weinstein, meaning that the Japanese mothers did less holding of their babies in arms, rocking, and lulling than the American mothers. This finding can be cautiously assumed to represent differences across time, in that the cultures have tended to converge on this behavior. Perhaps some of this convergence may be explained by noting that among some middle-class Japanese mothers there is a trend to adopt practices used by American mothers. Also, the fact that in the present study there were more Japanese nuclear families than in Caudill and Weinstein's (1969) study could be one possible explanation. Additionally, the popularity of Dr. Benjamin Spock's book, Japanese translation, on childcare attests to Japanese mothers seeking information concerning American childcare practices. Also, in Japan increasingly television programs portray American customs. Itoh and Taylor (1981) investigated childrearing expectations among Japanese and American parents of 9- and 10-year-old children and found that the parents from both countries were generally in agreement on the value they placed on the expectations of their children.

Although of borderline significance, American babies are being held in the arms of mother more than was the case in 1969. This may be due, in part, to the increased interest in early parent/infant relationships.

The differences with regard to two caretaker behaviors—being with or in the presence of the baby and positioning the body of the infant—replicated the findings of Caudill and Weinstein (1969). Today, as in 1969, the Japanese mothers spend more time in the presence of their babies than the American mothers, and the American mothers are more active in positioning their babies. These findings may be due, in part, to the size of the Japanese home. In general, the Japanese home is much smaller than the American home, and the arrangement of the space within the home in Japan contributes to their being together. In Japan, rarely does the infant have a separate room.

Among the infant behaviors, the degree of similarity between the two cultures was evident. No differences were found between cultures in the time of being awake, frequency of breast or bottle, unhappy vocal behavior, happy vocal behavior, looking at the mother, activity, and playing behavior. Caudill and Weinstein (1969) found significantly more playing and happy vocal behavior among the American infants than among the Japanese infants. These differences in the present study are not significant, and the Japanese play behavior and happy vocal are slightly higher than the American play behavior, although not significantly. Hence, what differences did exist seem to have disappeared. This finding might be interpreted as being related to the increased chatting by Japanese mothers. Significant differences were found in sucking behavior, with the American babies displaying more of the behavior. This replicates the Caudill and Weinstein (1969) results.

American female infants were given the breast or bottle more and did more sucking than American males. The Japanese males were higher on unhappy vocal and total vocal behavior than the Japanese females, whereas in America the female infants were higher on total vocal behavior than the

male infants. These differences in infant behaviors are in line with the later expectations for behavior in the two cultures. Traditionally, the Japanese family wants a male baby, and thus may value behavior in the male (i.e., vocalization) that contributes to his strong role in Japanese society. The current finding with the American infants is consistent with other studies (Goldberg & Lewis, 1969; Lewis & Freedle, 1973), which found that female American infants vocalized more to their mothers than American male infants. In the present study the greater vocalization of the American female infants could have been due, in part, to the greater amount of physical contact in diapering and in positioning of the baby's body. The infants' total vocal behavior suggests that the caretakers differentially reinforce verbal behavior on the basis of the infants' sex.

Although the analyses of frequencies of infant and caretaker activities suggest that cultural differences are dissipating, the patterning of responses suggests that Japanese and American infant-caretaker interactions retain a distinctive character. For instance, several recent studies show that self-assertiveness is less appreciated by Japanese mothers than by American mothers (Azuma, Kashiwagi, & Hess, 1981; Hess, Kashiwagi, Azuma, Price, & Dickson, 1980; Weisz, Rothbaum, & Blackburn, 1984). In Japan the elementary school-age child who is patient, persistent, accuracy-oriented, and receptive to assigned tasks has a greater likelihood of doing well in school; in contrast, in the United States curiosity, explorativeness, and self-assertion are better predictors of successful performance in school (Hess, Azuma, Holloway, Kashiwagi, Wengrat, & Miyake, 1983; Kashiwagi, Azuma, & Miyake, 1982).

Considering that the observers spent only two half-days in the homes, the findings from the present study should be viewed as tentative. Also, the presence of an observer in the home may have influenced the mothers' behaviors. Additionally, the presence of a Japanese observer along with the American observer in the American homes could have influenced the American mothers. On the other hand, a strength of

the study is that the data were collected by native observers through direct observation in the home. The possibility of a differential observer effect is an issue in cross-cultural research. Zaslow and Rogoff (1981) stated criteria to diminish the impact of observer presence: (1) spending a sustained period of time establishing rapport before carrying out observations, and (2) training native observers, whose presence will be less discrepant (although still not unobtrusive). The present study meets these criteria, thus minimizing observer influence. The findings highlight the need for more investigations using subcultural groups within each nation and cross-cultural research with respect to the infant's early interactions with mother, father, siblings, grandparents, and significant others.

REFERENCES

- Ainsworth, M.D.S. (1979). *Attachment: Retrospect and prospect*. Paper presented at the biennial meeting of the Society for Research in Child Development, San Francisco.
- Azuma, H., Kashiwagi, K., & Hess, R. D. (1981). *Hahaoya no taido-kodo to Kodomo no chileki hattatsu (Child's cognitive development and mother's attitude and behavior: A Japan-U.S. comparison)*. Tokyo: University of Tokyo Press.
- Beardsley, R. K., Hall, J. W., & Ward, R. E. (1959). *Village Japan*. Chicago: University of Chicago Press.
- Caudill, W. A., & Frost, L. (1975). A comparison of maternal care and infant behavior in Japanese-American, American, and Japanese families. In U. Bronfenbrenner & M. A. Mahoney (Eds.), *Influences on human development* (pp. 139-150). Hinsdale, IL: Dryden Press.
- Caudill, W. A., & Weinstein, H. (1969). Maternal care and infant behavior in Japan and America. *Psychiatry* 32, 12-43.
- Freedman, D. G. (1979). *Human sociobiology*. New York: Free Press.
- Goldberg, S., & Lewis, M. (1969). Play behavior in the year-old infant: Early sex differences. *Child Development*, 40, 21-31.
- Hess, R. D., Azuma, H., Holloway, S., Kashiwagi, K., Wengrat, A., & Miyake, K. (1983). *Contrasts between U.S. and Japan in family influences on school achievement*. Unpublished manuscript.
- Hess, R. D., Kashiwagi, K., Azuma, H., Price, G. G., & Dickson, W. P. (1980). Maternal expectations for mastery of developmental tasks in Japan and the United States. *International Journal of Psychology*, 15, 259-271.

- Itoh, F., & Taylor, C. M. (1981). A comparison of child-rearing expectations of parents in Japan and the United States. *Journal of Comparative Family Studies, 12*, 449-460.
- Japanese Ministry of Health and Welfare. (1979). *The white paper of health and welfare*. Tokyo: Author.
- Kashiwagi, K., Azuma, H., & Miyake, K. (1982). Early maternal influence upon later cognitive development among Japanese children: A follow-up study. *Japanese Psychological Review, 24*, 90-100.
- Klaus, M. K., & Kennell, J. H. (1982). *Parent-infant bonding*. St. Louis: Mosby.
- Lebra, T. S. (1976). *Japanese patterns of behavior*. Honolulu: University of Hawaii Press.
- Lebra, T. S., & Lebra, W. P. (Eds.). (1974). *Japanese culture and behavior*. Honolulu: University of Hawaii Press.
- Lewis, M., & Freedle, R. (1973). Mother-infant dyad: The cradle of meaning. In P. Pliner, L. Krames, & T. Alloway (Eds.), *Communication and affect, language and thought*. New York: Academic Press.
- Nakane, C. (1970). *Japanese society*. Berkeley: University of California Press.
- Nie, N. H., & Hull, C. H. (Eds.) (1981). *SPSS update 7-9: New procedures and facilities for releases 7-9*. New York: McGraw-Hill.
- Reingold, H. L. (1960). The measurement of maternal care. *Child Development, 31*, 565-575.
- Reischauer, E. O. (1978). *The Japanese*. Cambridge, MA: Harvard University Press.
- Smith, K. C., & Schooler, C. (1978). Women as mothers in Japan: The effects of social structure and culture on values and behavior. *Journal of Marriage and the Family, 40*, 613-620.
- U.S. Bureau of the Census. (1979). *Statistical abstract of the United States: 1979*. Washington, DC: Government Printing Office.
- Vogel, E. (1967). *Japan's new middle class: The salaryman and his family in a Tokyo suburb*. Berkeley: University of California Press.
- Vogel, E., & Vogel, S. (1961). Family and security, personal immaturity, and emotional health in a Japanese sample. *Marriage and Family Living, 23*, 161-166.
- Wagatsuma, H. (1977). Some aspects of the contemporary Japanese family: Once Confucian, now fatherless? *Daedalus, 106*, 181-210.
- Weisz, J. R., Rothbaum, F. M., & Blackburn, T. C. (1984). Standing out and standing in: The psychology of control in America and Japan. *American Psychologist, 39*, 955-969.
- Zaslow, M., & Rogoff, B. (1981). The cross-cultural study of early interaction: Implications from research on culture and cognition. In T. M. Fields, A. M. Sostek, P. Vietze, & P. H. Leiderman (Eds.), *Culture and early interactions*. Hillsdale, NJ: Erlbaum.

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