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## FAMILY SOCIALIZATION IN A RURAL FARMING COMMUNITY : ANALYSIS OF PARENTAL BEHAVIOR AND INTERACTIONAL STYLES

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This report is based on the research project, "Ecological study of human development in a rural farming community". It is the sequel to a previous paper (Usui et al., 1978), concerning the case study of two families.

For the present study, we obtained a sample of 33 families (26 extended, 7 nuclear) which had five-year-old children attending the day care center in their community. Both parents were interviewed about their daily caretaking activities, and their interaction with their children was videotaped during a ten minute semi-structured situation. A ten minute grandmother-child interaction session was also videotaped. In addition, a measure of verbal competence and several measures of the child's cognitive ability were obtained.

The data provided the following findings : In brief, most of the parents sent their children to the day care center in order to gain social experience, as preparation for the group activities in elementary school. The interaction session results, when correlated with the parental data, showed that the father who daily spent time with his child tended to treat the child with more warm concern and tended to be non-directive. These fathers also were relaxed in the interaction situation. Verbally competent mothers showed this same pattern of interactive style. In addition, it was suggested that the grandmother played a significant caretaking role. Her interactive style with the child contrasted with that of both parents in that it included more acceptance and less direction or structuring of the child's behaviors.

Last, the father's and mother's attempts to provide cognitive stimulation for the child apparently served different functions with different effects on the child's cognitive development.

Key words : parent-child interaction, ecological study, cognitive socialization, urban-rural comparison.

For the past twenty years, urbanization has been rapidly spreading throughout Japan. At the same time, the development of mass media and transportation systems continuously puts pressure upon all homes to standardize their daily commodities, life styles and/or belief systems. Even homes in a rural community cannot be free from these overwhelming

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influences. However, there still are distinctively different life styles, family make-ups, human relations, etc. peculiar to the rural community. Consequently, the socialization processes themselves and the variety of variables involved may be also peculiar to the rural community. In an earlier report (Usui et al., 1978), we examined such rural vs. urban differences and found several factors related to children's socialization, and pertinent to socialization in both rural and urban environments.

These were factors such as :

(A) Extended families : Generally speaking, a large portion of families have grandparents and these grandparents take on a caretaking role to some extent. Thus more attention should be given to multiple mothering or alternative attachment objects. Because of the large number of extended families in rural communities, the caretaker/child relationship may be more complex in rural than in urban families.

(B) Working mothers : When the mother goes to work, children experience group day care. For rural families this occurs during the farming season.

(C) Relatively stable (less mobile) or "fixed" human relations : Since in rural areas daily contact is mainly with familiar persons who have similar experience, there may be less need to depend on verbal abilities (for explanation, etc.). Research has suggested that rural children are inferior to urban children in verbal abilities, although their non-verbal abilities are nearly equivalent (Fujino et al., 1955 ; Ohhira, 1962 ; Miyamoto et al., 1974, etc.).

Five years ago when we started this research project, we felt that the third factor (Fixed human relations) was especially interesting. In Usui et al. (1978), we investigated the natural remediation of early verbal retardation in a 2 year case study involving two children (from age four to age five). Both children were diagnosed as verbally retarded before three-years of age by a clinical psychologist at the child consultation center. Tentative findings and implications from the data were as follows :

i) The early verbal retardation symptoms seemed to be transitory. They thus apparently stemmed from lack of experience in verbalization, and were not the results of a basic cognitive incompetence.

ii) The role of the grandmother, as well as of both parents, must be studied.

iii) In addition, parents' expectations for their children seemed to be different depending on the child's birth order.

The aim of the present study is to test and generalize these findings, by collecting data from more subjects, and by elaborating the conceptualization of the ecological variables affecting the family socialization of children in a rural community.

## METHOD

### Setting

*Location* : The sample of children and their caregivers came from a rural farming community, named section No. 3, a part of a small village of Shin-Shinotsu (about 4,300 inhabitants). This village is located in the mid-southern part of Hokkaido, the most northern island of Japan, and it is about 60 km from Sapporo, the capital city of Hokkaido. This region is predominantly a plains and rice paddy area.

*Main products* : Almost all inhabitants live on farming. In the past decade, after the

national government began a policy of cutting-down on the cultivation of rice, they began to change toward other crops, for instance, onions, beans, beets, etc. However, rice is still the main crop there. The average standard of living is relatively high, and most families can afford to have more than one car.

*Residence :* Houses in the rural community are scattered and far apart. Because of this, dwellers usually cannot call on each other day by day. They live in relatively large homes. According to the data from another research project focussed on this village (Usui et al., 1981), the average number of mats (Tatami mat) per home is 62 (about 102 square meters), about two times the room space of the prior study's predominantly middle class urban sample.

*Family characteristics :* Compared with families in cities, the most notable characteristic of farming families is that they are often extended families. It seems that about 80% of rural homes have grandparents. Another interesting feature is the relatively stronger kinship relations between the head house and the branch house. Without exception, grandparents live with the head house family members. In this way, the power of the grandparent is still rather influential in the management of both homes : The grandfather has a decisive effect upon any critical decisions regarding business while the grandmother controls the finances. Lately, although many grandparents are beginning to hand over the business operations to their sons, they still have the final say.

*Lives throughout the year :* Rural life styles are cyclical, and vary with the seasons : From the middle of April, farmers are busy cultivating the land, sowing seeds, setting out rice plants, weeding and preventing crop disease until the harvest at about the end of October. During the farming season, mothers, even if they have babies only a few months old, usually go out to the fields. Thus the grandmother takes care of the baby during the day. In the case of the nuclear family, mothers return home at intervals of a few hours to feed and/or diaper, etc. . Because of this, infants are exposed to minimal exchanges with their primary caregivers during the farming season. In contrast, in the winter, the family spends their days together at home. But some fathers temporarily go out to work as, for example, truck drivers, road or building construction laborers. Some mothers also go out for work during this time.

*Human relations in the community :* There are various social groups in the community that correspond to various family roles : The Community Agricultural Cooperative Association, the Youth Club, Young Wives Club, Elders' Club, and so on. In addition to the family members' participation in these groups, all also look forward to and enjoy periodic events involving the whole community, such as the village festival, and athletic games. Also, rural community members sometimes help or cooperate with each other during very busy times. Therefore, human relations are relatively tight and intimate in nature in the rural community compared to the urban community.

*The Community Day Care Center :* The day care center is located in the middle of a rice field, in a renovated elementary school. It runs during the farming season, from April to early December, and enrolls about 30 children ranging from three to six years old, taught by two women teachers. Although it was founded by and is supported by the general public, the parents participate in some part of the administration through their managing committee.

## SUBJECTS

Subjects of our research were 33 children (19 boys and 14 girls) and their parents and/or grandmothers. The mean age of the children was 65.25 months, ranging from 43 to 76 months, at the time of the father interview. About half of the sample were followed for two or three years. However, in this report, we shall analyze the data collected when the children were about five years old, since the most complete data is available at this age. Of the total subjects, 25 fathers and 33 mothers agreed to be interviewed and to be videotaped with their children. The mean ages of the parents were 33.71 (SD=2.97) for the fathers and 30.94 (SD=2.75) for the mothers.

Data were also collected for 14 grandmother-child interaction pairs as well. The mean age of the grandmothers was 55.1. All of the adults who participated in this project did so voluntarily and were willing to cooperate with us.

## Measures & Procedures

Since many of the measures here were described earlier (Usui et al., 1978), we will only describe them briefly. Three types of measures were collected. They were as follows :

### (1) Parental measures

1-1 Father interview : This covered the following topics : a) amount of interaction with the child, b) frequency of teaching 3R's, c) self-perceived degree of understanding of his own child, d) evaluation of the mother-child relation in his home, f) frequency of reading books to the child, g) reasons for sending the child to the day care, h) expectations for the child's school achievement.

1-2 Mother interview : This focussed on matters such as : a) frequency of teaching 3R's, b) frequency of reading books to her child, c) total time devoted to reading books to the child and (d) to buying the child's books or magazines, e) reasons for sending the child to the day care, f) frequency of conversation with the child, g) expectations for the child's school achievement.

As most of the questions were in open-ended form, we coded the verbatim responses into a dichotomized or three to five-point scale using a coding manual prepared for this purpose.

1-3 Mother's TAT (Thematic Apperception Test) : In order to investigate the mother's verbal activity or competence, we administered three cards of the Japanese version of Murray's TAT (Togawa, 1953). Mothers were instructed to make stories for each card, as is the standard procedure for the TAT. All the verbal responses were tape recorded and then transcribed. From this transcription, the following behavioral ratings of their "coping behavior" were obtained : a) verbal fluency, b) logical consistency, c) time perspectives used in the stories (present, past, future), d) length of utterance (in words), e) clearness of the theme expressed. As all of these five rating scores were highly correlated with each other, we decided to use a composite of all the scores as a "logical consistency" measure. Verbal responses were also coded by the number of sentences and clauses used. As these two were also highly correlated, we used the latter as a measure of "verbal fluency".

## (2) Child's cognitive measures

We administered several cognitive measures, including the Takemasa Binet Intelligence Test (Takemasa et al., 1959), (the Japanese version of the Binet intelligence test), tasks that required the child to write his/her own name, read several words, and other tasks including the grammatical closure subtest from ITPA, the block design subtest from WPPSI, and a MFFT (Matching Familiar Figures Test) task (Kagan, 1965 ; Hatano & Inagaki, 1977).

## (3) Caregiver-child interaction measures

3-1 Father-child interaction

3-2 Mother-child interaction

3-3 Grandmother-child interaction

All of these interaction sessions were semi-structured face-to-face interaction situations, where caregivers and children were told to play with a toy. If they wished, they could make several patterns or buildings and so on. In order to prevent the children from being bored by playing with same toy in the three consecutive sessions, we used "Lego blocks" for the father-child pair ; "Dusyma" (a toy consisting of a board with 49 holes arranged in a square pattern with 63 pegs of different colors) for the mother-child pair ; and building blocks for the grandmother-child pair.

The three ten-minute interaction sessions were videotaped and behavioral ratings were made of the caregivers' variables including :

Press.....the caretaker tends to press the child to do the task well, perceiving the situation as an intellectual challenge

Praising.....the caretaker praises the child quite often

Control.....the caretaker strictly controls the child's behavior, leaving minimal freedom

Sensitivity.....the caretaker facilitates the child's activities taking his/her ability, motivation, and interest into account

Tension.....the caretaker behaves unnaturally and with undue tension

Immediately after viewing the videotapes, two trained raters coded both behaviors independently. Ratings were made using a seven-point scale, and the two coders were generally in close agreement in their ratings.

The interviews and interaction situations were carried out in one of the unoccupied rooms of the day care center during the relatively unbusy season.

**RESULTS****1. Father & Mother Interviews**

Table 1 shows the frequency and percentage of extended (with grandparents) families. About 80% of our sample were extended families. The individual family members' proportions of play with the child are shown in table 2. Since this table is based on the data from the mother interviews, mothers may have underestimated their own role. However, the relatively higher percentage of grandparents and siblings in this data forces us to consider the influence of these family members.

The reasons given by fathers' vs. mothers' for sending the child to the day care center were compared. The percentages for each type of reason given are shown in

table 3. A great majority of both mothers and fathers expected the day care center experience to help the child adjust to peer-group activities. Although for fathers the teaching of cognitive skills directly related to schooling was a second important reason, this explanation was nearly neglected by mothers. The only negative reason, the lack of caretakers, was relatively higher in the mother.

TABLES 1

Frequency & percentage of extended families in this sample

		number	Frequency %
Nuclear family		7	21.2
Extended family	with grandmother only	3	9.1
	with both grandparents	23	69.7
	total	26	78.8

TABLE 2

Family members' play with child

	N	Percent of total play with child	
		extended family	nuclear family
Mother	24	16%	40%
Father	8	10	0
Siblings	44	42	60
Grandparents	36	42	—

Note : Total percentages may exceed 100 %, since some subjects nominated two persons.

TABLE 3

Parents' reasons for sending their child to the day care center

	Father	Mother
To gain experience in group activities	92%	74%
Intellectual development	32	7
Lack of caregivers at home	28	39
Development of physical power	12	7

Note : Total percentages may exceed 100 %, due to multiple answers.

## 2. Relationship between Interview Variables and Rating Variables in the Interactive Situation : Fathers

Fathers who frequently interacted with their child tended to be more playful (ie., did not press for better performance), and were more warm, accepting and sensitive (see

table 4). In other words, fathers who were willing to converse and play with their children

TABLE 4

Correlations between interview variables and behavioral rating variables : Fathers

	Press	Praise	Control	Sensitivity	Tension
Amount of interactions	-39 <sup>+</sup>	36 <sup>-</sup>	-18	68**	-35 <sup>-</sup>
Teaching three R's	-01	-09	-66**	38 <sup>-</sup>	10
Understanding a child	-15	45*	-16	37 <sup>-</sup>	-21

Note : The following symbols indicate significance levels : +,  $p < .10$  ; \* ,  $p < .05$  ; \*\* ,  $p < .01$ . N=25

were, in general, inclined to exert less direction and show more warm concern. In addition, these fathers were relatively more relaxed than fathers who interacted less frequently with their children.

Teaching the 3R's was associated with less controlling behaviors. One interpretation of this finding is that the father who is willing to teach has an intelligent child, and he therefore does not need control because the child can function effectively and independently. But, this does not seem to be plausible, for the correlation between the father's teaching and the child's IQ at five years old was negligible ( $r = .13$ ). So an alternative explanation is necessary. This will be discussed later.

The father's self-reported degree of understanding of his child was significantly correlated with warm concern.

### 3. Relationships between Interview Variables and Rating Variables in the Interactive Situation : Mothers

The summary table of intercorrelations among the relevant variables for the mother is shown in table 5.

TABLE 5

Correlations between interview variables and behavioral rating variables : Mothers

	Press	Praise	Control	Sensitivity	Tension
Teaching three R's	30 <sup>-</sup>	07	11	26	-25
Frequency of reading	-25	20	-11	26	-29 <sup>-</sup>
Amount of time for reading	03	08	20	23	-25
Logical consistency (TAT)	-41	-08	-52 <sup>-</sup>	13	-28
Verbal fluency (TAT)	-22	47 <sup>-</sup>	-62*	60*	-81**
Frequency of conversations	14	-07	-02	07	-30 <sup>-</sup>

Note : The following symbols indicate significance levels : +,  $p < .10$  ; \* ,  $p < .05$  ; \*\* ,  $p < .01$ .

N=33 for all variables except Logical consistency and Verbal fluency, for which N=19.

First, generally speaking, interview variables were not significantly correlated with behavioral rating variables, with the exception that teaching the three R's was slightly as-

sociated with a "Press" attitude (this is in contrast with the results for the father). Secondly, verbal competence was associated with less directive behaviors and was correlated positively with warm concern. In particular, verbal fluency seemed to be the reflection of relaxation in the interaction situation.

There was a significant correlation ( $r=.43, p<.05$ ) between the mother's teaching of the three R's and the child's IQ. Such a correlation did not occur for the father's teaching of the three R's.

#### 4. Effects of the Presence of the Grandmother on Daily Caretaking Behaviors of both Parents

We compared two groups, differing in whether the grandparent was present or not, with the daily caretaking behaviors of both parents as derived from the interviews. In all cases where only one grandparent was present, it was the grandmother.

Contrary to our expectations, there were hardly any differences between the two groups (see table 6). We had expected that the number of interactions or caretaking ac-

TABLE 6

Mean scores of the daily contact variables from the parents' interview

	Father Interview					Mother Interview				
	Amount of interactions	Teaching 3R's	Understanding a child	Frequency of reading	Teaching 3R's	Frequency of reading	Amount of time for reading	Vocal stimulation	Frequency of physical contact	Frequency of conversation
Extended family	10.21 ( 3.57)	1.47 (0.77)	2.16 (0.84)	1.35 (1.66)	1.40 (0.82)	4.41 (2.36)	5.77 (3.28)	0.58 (0.50)	0.56 (0.51)	2.76 (0.90)
Nuclear family	10.80 ( 3.77)	0.75 (0.96)	1.80 (1.10)	2.00 (2.00)	1.33 (1.03)	3.80 (3.03)	6.67 (5.77)	0.80 (0.45)	0.67 (0.52)	2.40 (0.89)
t-value	-0.33	1.64	0.80	-0.74	0.17	0.50	-0.41	-0.89	-0.46	0.80

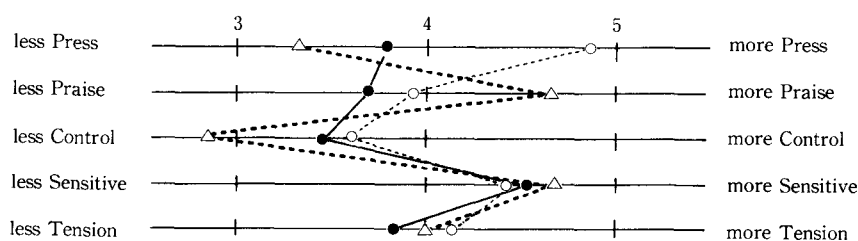
Note : Numericals in parentheses are standard deviations

tivities of both parents might be decreased by the presence of the grandmother. But this prediction was not at all true for this sample.

#### 5. Comparing Styles of Interaction Among Three Caretakers

An outline of the interaction styles of the three family members drawn from the behavioral ratings is provided in figure 1.

The profiles of both parents were very similar, with the exception of there being a tendency to press in mothers ( $t=2.99, p<.001, t$ -test). However, if the interaction styles of both parents are compared with that of the grandmothers, it is noted that grandmothers interacted with their grandchildren in a more accepting way than either parent (Praise :  $t=2.65, p<.05$ , with father ;  $t=2.21, p<.05$ , with mother), and in a less directive fashion than the mother (Press :  $t=4.04, p<.001$  ; Control :  $t=2.04, p<.05$ ). The different interaction styles of the three family members may be generalized to the home situation to a great extent.



Notes : a) Scores are the means of two raters at the seven-point scale  
 b) ●—● for the father, ○- - - -○ for the mother,  
 △- - - -△ for the grandmother, respectively.

FIGURE 1 Profiles of the interaction styles of the three caretakers

These differences should be interpreted cautiously, since some of the effects may be attributed to the differences in the toys played with in the three sessions.

## 6. Tentative Findings Regarding the Effects of Parents' Cognitive Stimulation on Child's Cognitive Performance

Finally, we would like to report tentative correlational data on the relations between the cognitive stimulation provided by the parents and the child's cognitive performance (see table 7).

TABLE 7

Correlations between parents' cognitive stimulation of the child and the child's cognitive performances

	Binet-IQ	writing name	reading words	block design	grammatical closure
Teaching the three R's	13 43*	- 12 -18	03 34+	-19 -08	12 -05
Frequency of reading	-22 35*	-25 27	-44* 09	-04 29+	-15 10
Amount of time for reading	-- 33+	-- 27	-- 06	-- 25	-- -06

Note : The following symbols indicate significance levels : +,  $p < .10$  ; \* ,  $p < .05$  ;

In each cell, the lower left number indicates the value for the mother ; the upper right number indicates the value for the father.

In general, most of the correlations involving the fathers' data were statistically significant, and the direction of the correlations was predominantly negative. In particular, the frequency of reading on the part of the father was negatively correlated with the score for reading words. But, for mothers, the results were the opposite: the mother variables of teaching the 3R's and the frequency of reading were significantly correlated with the child's IQ, and the total time of reading for the child correlated with the IQ at a nearly significant ( $p < .057$ ). In addition, the correlation of teaching with reading words approached

significance.

## DISCUSSION

### 1. On the Need for the Elaboration of the "Second-Order" Effect

Bronfenbrenner (1977) has pointed out that proper attention has not been paid within research on parent-child interaction to situations that involve three or more persons (ie., beyond the usual one parent-one child experimental situation). In addition, he has argued that the traditional approach tends to neglect bi-directional effect between parents and children. Recently, thanks to important theorizing by Bell and Harper (1977), and others, this latter criticism has begun to be overcome. In our research as well, the mutual interaction effects between a mother and a child have been examined by the use of cross-lagged panel correlational analysis for long-term longitudinal data (Miyake et al., 1978 a ; 1980 ; Tajima et al., 1979 ; Usui et al., 1980). In addition, we have tried to introduce three person (father-mother-child) interaction experiments (Miyake et al., 1978 b). But, our fundamental paradigm has been limited in that the analysis involved combinations of two- persons rather than inventing new models to accommodate the three person situation (Kojima, 1980).

As a first step toward an analysis of the three person situation we have tried to examine the effect on the parents' daily caretaking activities of whether or not a third caretaker, the grandmother, was present. However, it was found that the presence of the grandmother did not affect the parents' behaviors. It is possible that the factors of age and/or the condition of health of a grandmother rather than her simple presence are important.

But a still more critical factor may be how both parents perceive and evaluate the caretaking role of the grandmother. For example, the fathers who interacted with the children more, and those who reported themselves as understanding their children more, tended to evaluate the quality of the mother-child relation within their own homes slightly negatively ( $r = -.29, p < .10$ , and  $r = -.32, p < .08$ , respectively). It is possible that the father is trying to stimulate and understand his child, in an attempt to compensate for what he sees as a problematic mother-child relation. Unfortunately, our interview questions did not cover the mother's evaluation of the father-child or grandmother-child relations. We are now in the process of collecting more data on such second-order effects.

### 2. Styles of Interaction Among the Three Caretakers

During the ten minutes of playing with their child, fathers and mothers used similar interaction styles, (with the exception of greater press for better performance in mothers). The father who more frequently interacted with and understood his child well was more competent in playing with him/her, as was also true for the verbally competent mother. These results are akin to the findings by Mondell & Tyler (1981) who reported that psychosocially competent parents tend to treat the child as more capable and resourceful, and show generally warm and positive feelings. This suggests that we should consider various attributes or characteristics of the parents in studying interaction styles.

The interaction style of the grandmother contrasted with that of both parents to some extent, in that the grandmother treated the child with warm acceptance and was less directive. Some mothers complained that the grandmother was so overindulgent that the child was becoming less independent and less patient. As one mother said, "That's why I

send my child to the day care center. I'm worried about my child being spoiled" In Japan, there is a proverb, "The child who has grown up under the protection of the grandmother is devaluated 3 mon (unit of money)" that supports the social reality of that mother's statement.

On the other hand, it may be that grandmothers are afraid of intruding in the parents' upbringing of the child and thus tend to restrain themselves in interacting with the child. This attempt on the part of the grandmother would lead her to lessen her directiveness and to be more accepting of what the child does.

### 3. Effects of Parental Cognitive Stimulation on Child's Cognitive Ability

The data suggested that the cognitive stimulation provided by the mother and the father have different functions for the development of the child's cognitive abilities. (There may be limitations in that these data came from concurrent correlations.) For example, while the father's extra teaching efforts did not correlate significantly with IQ or other measures—except for a difficult to explain negative correlation between teaching the three R's and reading words—the mother's teaching of the three R's and her frequency of reading were both positively related to IQ, and her teaching of the three R's approached a significant correlation with IQ. Thus there is evidence that the mother's and the father's efforts have varying effects on the child's performance.

One interpretation of this finding is that the father may be a more inadequate teacher than the mother, and consequently fails in motivating his child to learn. It is highly unlikely, we feel, that the fathers were poor teachers, since the fathers' teaching activities were correlated with more contact with the child, with less controlling, and with more sensitivity.

Another possible interpretation is as follows: The father may be anxious to intervene in the child's education in order to help compensate for what he sees as a disadvantage or lack of development in his child's verbal and cognitive abilities. This explanation would be more plausible, we feel. According to our impressions in interviewing both parents, fathers more than mothers were concerned with their children's lack of experience, especially, with their relative lack of cognitive stimulation as compared to urban children.

While further data is needed before any final conclusions can be drawn, the patterns found in this data suggest a variety of issues to be considered in the construction of a theory of cognitive socialization (Tajima & Usui, 1980).

#### REFERENCES

- Bell, R. Q. & Harper, L. V. (Eds.), *Child effects on adults*. Lawrence Erlbaum Associates, 1977.
- Bronfenbrenner, U. Ecological factors in human development in retrospect and prospect. In H. McGurk (Ed.), *Ecological factors in human development*. North-Holland Publishing Company, 1977.
- Fujino, T., Okaji, I., Miyamoto, M., Fukushima, M., & Murayama, N. Personality development of rural children: A comparative study of urban vs. rural children's personality development through the use of projective techniques. *Bulletin of the Institute of Rural Educational Research, Hokkaido University of Education*, 3, 1-60, 1955. (in Japanese)
- Hatano, G. & Inagaki, K. On reflectivity. *The preliminary report of the research on early education in Japan and the United States*. No. 18, 1977, 43-45. (in Japanese)

- Kagan, J. Impulsive and reflective children : significance of conceptual tempo. In J. D. Krumboltz (Ed.), *Learning and the educational process*. Rand McNally, 1965.
- Kojima, H. On parent-child relationship : Focussed on the research into family groups. In the 21st Annual Convention of the Japanese Association of Educational Psychology — "History and review" publishing committee (Ed.), *Educational Psychology Symposia*. Kawashima-Shoten, 1980. (in Japanese)
- Miyake, K., Wakai, K., Tajima, N., Hamana, T., Itoh, N., Gotoh, M., & Usui, H. A longitudinal study on the mother-child relationships and child's behavioral development. *Annual Report 1977-1978, RCCCD, Faculty of Education, Hokkaido University*, 1-8, 1978a.
- Miyake, K., Wakai, K., Tajima, N., Seki, M., Gotoh, M., & Usui, H. An eco-psychological study of parent-child relationship and child development. *Annual Report 1977-1978, RCCCD, Faculty of Education, Hokkaido University*, 9-27, 1978b.
- Miyake, K., Tajima, N., & Usui, H. An analysis of the interactions of mothers and their preschool children : An interim report of longitudinal study on mother-child relationships and child behavioral development. *Annual Report 1978-1979, RCCCD, Faculty of Education, Hokkaido University*, 5-13, 1980.
- Miyamoto, M., Murayama, N., & Ohguro, S. A longitudinal study on the development of cognitive abilities of rural children : Second report. *Bulletin of the Institute of Rural Educational Research, Hokkaido University of Education*, 21, 1-15, 1974. (in Japanese)
- Mondell, S. & Tyler, F. B. Parental competence and styles of problem solving/play behavior with children. *Developmental Psychology*, 17, 73-78, 1981.
- Ohhira, K. A study on the intelligence and the language proficiency of city and farm-village children. *Japanese Journal of Educational Psychology*, 10, 107-112, 1962. (in Japanese with English summary).
- Togawa, Y. *Manual for Thematic Apperception Test* (Japanese version). Kaneko-Shobo, 1953. (in Japanese)
- Tajima, N., Miyake, K., & Usui, H. A longitudinal study on mother-child relationship and personality development of the child : X — 3 (The cross-lagged panel correlational analysis between the mother variables and child's IQ from infancy to school age). *Paper presented at the 21th Annual Convention of the Japanese Association of Educational Psychology*. 1979. (in Japanese)
- Tajima, N. & Usui, H. Studies on cognitive socialization — Environmental influences on child's cognitive development. *The annual report of educational psychology in Japan*. 19, 125-144, 1980. (in Japanese)
- Takemasa, T., Tatsuno, C., & Okamoto, K. *Manual for Takemasa-Binet intelligence test*. Kaneko-shobo, 1959. (in Japanese)
- Usui, H., Tajima, N., Kojima, Y., & Nakano, S. An ecological study of family relationships and child development in a rural community : A preliminary report of ongoing studies. *Annual Report 1977-1978, RCCD, Faculty of Education, Hokkaido University*, 29-44, 1978.
- Usui, H., Miyake, K., & Tajima, N. A longitudinal study on mother-child relationship and personality development of the child : XI — 2 (The cross-lagged panel correlational analysis between mother's behaviors and child's behaviors). *Paper presented at the 22nd Annual Convention of the Japanese Association of Educational Psychology*. 1980. (in Japanese)
- Usui, H., Miyake, K., Tajima, N., Seki, M., Ujiiie, T., Kojima, Y., Nakano, S., & Sato, K. A longitudinal study on parent-child relationships and child development from an eco-psychological standpoint : IV — 2 (Rural vs. urban comparisons of mother interview data.) *Paper presented at the 45th Annual Convention of the Japanese Psychological Association*. 1981. (in Japanese)