

# Autonomy and Interdependence in Japanese and American Mother–Toddler Dyads

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This study investigated two hypotheses: (a) Japanese mother–toddler dyads will work together more interdependently than American mother–toddler dyads; (b) American toddlers will act more autonomously than Japanese toddlers. The hypotheses were investigated using videotapes of 10-minute shape-fitting interactions of 12 Caucasian American and 12 Japanese national mothers visiting the United States and their 24- to 31-month-olds (matched by mean age, gender and birth order). A significant MANOVA and subsequent stepdown analyses revealed: (a) that Japanese mothers more frequently assisted their toddlers in fitting a shape before the toddlers had tried to fit the shape on their own (interdependence); (b) that American toddlers did not attempt to fit more shapes on their own (autonomy); and (c) that more American toddlers left the task than did Japanese toddlers (autonomy). The results indicate greater interdependent task-engagement among Japanese mother–toddler dyads. Greater autonomy on the part of American dyads was evident not in how they did the task, but rather in toddlers choosing to leave the assigned task. Discussion focuses on the implications of these nationality differences for understanding possible differences in early socialization.

*Key words:* Cross-cultural, autonomy, interdependence, Japanese, American.

Investigators have suggested that American children are socialized to be relatively autonomous, while Japanese children are socialized to work interdependently in groups (Benedict, 1974; Conroy *et al.*, 1980). There is, however, little consistent evidence of behavioural differences in autonomy and interdependence between American and Japanese infants and toddlers. Autonomy, for the purposes of this study, is defined as initiating

activities on one's own, whereas interdependence indicates initiating and carrying out activities with others.

Caudill and Weinstein (1969) found that American 3-month-olds engaged in more gross body activity than their Japanese counterparts, whereas Shand and Kosawa (1985) reported that Japanese infants were more active. There is agreement that Japanese mothers more frequently focus their infants' attention within the mother–infant dyad, while American infants spend more time engaged with toys and vocalize or initiate vocalizations more frequently (Bornstein *et al.*, 1985–1986; Caudill and

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Weinstein, 1969; Shand and Kosawa, 1985). Yet it is not clear to what degree there are consistent differences in patterns of action and interaction in early infancy, or how such differences might be related to later differences in autonomy and interdependence.

Studies during the toddler period have suggested differences relevant to autonomy and interdependence in maternal behaviour and expectations. Clancy (1986), examining linguistic style, found that Japanese mothers encouraged their 2-year-olds to interact harmoniously with others. Hess *et al.* (1980) asked mothers at what age they expected their 4-year-olds to acquire various skills. American mothers said they expected earlier interpersonal autonomy and verbal assertiveness. Japanese mothers said they expected earlier compliance and social courtesy. The current study expands on these findings by asking whether there is *behavioural* evidence to suggest that Japanese toddlers show more interdependence and American toddlers more autonomy when interacting with their mothers.

Evidence for greater interdependence in the interactions of Japanese mother-toddler dyads would shed important light on an apparent developmental discontinuity in the lives of Japanese children: while the desires of infants are indulged, school-age children are expected to regulate their desires to conform to the demands of working in a group (Hendry, 1986). A sharp contrast is thought to exist between the infant-centered relationship with the mother in the home and the expectation that 3-year-olds, upon entrance to nursery school, will learn to conform to *shudan seikatsu*, 'life in a group' (Peak, 1989). The current study was designed to shed light on whether task-oriented interaction between Japanese mothers and 2-year-olds at home involves an interdependence that may prepare Japanese toddlers for future work in other groups.

## METHODS

### Subjects

Participants were 12 Caucasian American and 12 Japanese national middle-class mothers and their 24-31-month-olds, all living in the greater Chicago area. The Japanese sojourners had been living in the United States for 3 years or less; they spoke Japanese at home and planned to educate their children in Japan. (It should be noted that the sojourner status of the Japanese mothers, which

might make them less representative of other Japanese national mothers, would presumably make them more like the American group—biasing against the research hypothesis.) The groups of Japanese and American toddlers were similar with respect to mean age—mean age of Americans ( $M_A$ )=27.0 and mean age of Japanese ( $M_J$ )=27.2 months—gender (six of each) and birth order (five eldest or only children in each group).

### Procedure

On a videotaped home visit, the examiner presented the mother with a turtle-shaped puzzle with seven differently shaped blocks and openings and said in English, 'Please help [toddler's name] complete this task as many times as possible in 10 minutes'. (While verbal Japanese instructions would have been optimal for the Japanese mothers, these mothers spoke English as a second language so prepared written translations in Japanese seemed unnecessary.)

All mothers assisted their toddlers with the task. Approximately 90% of the 'assists' of both Japanese and American mothers simply aided the toddler in fitting a shape, for example, by offering a shape or turning the shape-sorter for the child. The remaining assists controlled fitting a shape, for example, by physically guiding the toddler's hand to the shape sorter.

### Coding

Measures of autonomy and interdependence in the shape-sorting task were calculated on the basis of trials. Trials began when a partner picked up a block shape that had not been handled immediately before by either partner. Trials ended when the shape was either placed into the sorter or put down and another block picked up. The mean percentages of agreement between two raters on the occurrence of all measures ranged from 80% to 97%. The three measures of autonomy and interdependence are described below.

1. *Immediate assists.* The number of trials in which the mother assisted (see above) the toddler before the toddler attempted to fit the shape on his/her own. This was a measure of interdependent task engagement in which the mother acted immediately so that the task would be done together. (The square root of this measure was used in analyses to adjust for positive skew.)

2. *Autonomous shape-fitting.* The number of trials in which the toddler placed a block in the turtle or touched the turtle with a block before the mother assisted the toddler. This was a measure of the toddler's autonomy in attempting to or actually doing the task on his or her own. Both immediate assists and autonomous shape-fitting were corrected for the amount of time toddlers spent away from the task.
3. *Leaving the task.* A dichotomous measure of whether the toddler left the task, excluding going to the bathroom. (Results were equivalent when a more skewed measure, time spent away from the task, was utilized.) This measure gauges the toddler's autonomy or interdependence in, respectively, leaving or continuing the task on which his or her mother has been instructed to help him or her. Although there are many reasons a toddler might wish to leave the task—frustration or boredom, for example—actually leaving the task was thought to index interpersonal autonomy, taking the initiative in leaving on one's own. Conversely, not leaving the task was thought to index interdependence, remaining at work with another.

with differences in the three dependent measures of autonomy and interdependence. (As described earlier, there were six males and six females in each nationality group; there were eight older [28–31 months] Japanese toddlers and five older American toddlers.) Using Wilks' criterion throughout, nationality ( $F(3, 14)=4.88, p<0.025$ ) and the interaction of nationality and age ( $F(3, 14)=3.40, p<0.05$ ) were associated with significant differences in a combination of the three dependent measures. There were no significant effects for gender ( $F(3, 14)=0.90, p>0.05$ ), age ( $F(3, 14)=2.99, p>0.05$ ) or other interactions.

To determine the particular measures on which Japanese and American dyads differed, follow-up univariate tests were conducted on nationality and on the interaction of nationality and age. A Bonferroni correction, using a criterion  $p$  value of 0.016 for each of the three measures, maintained an alpha value below 0.05. None of the univariate tests for the interaction term proved significant. The results of the associated univariate tests on nationality are discussed below, and Figure 1 shows a comparison of the three dependent variables by nationality.

#### *Immediate Assists*

In support of the first hypothesis, in the Japanese dyads as compared to the American dyads, a significantly higher number of trials began with mother assisting the toddler before the toddler had made an autonomous attempt ( $M_A=7.52 (7.05)$ ,

## RESULTS

Multivariate analyses of variance (MANOVAs) were run to see if the nationality, age (24–27 vs. 28–31 months) or gender of the toddlers was associated

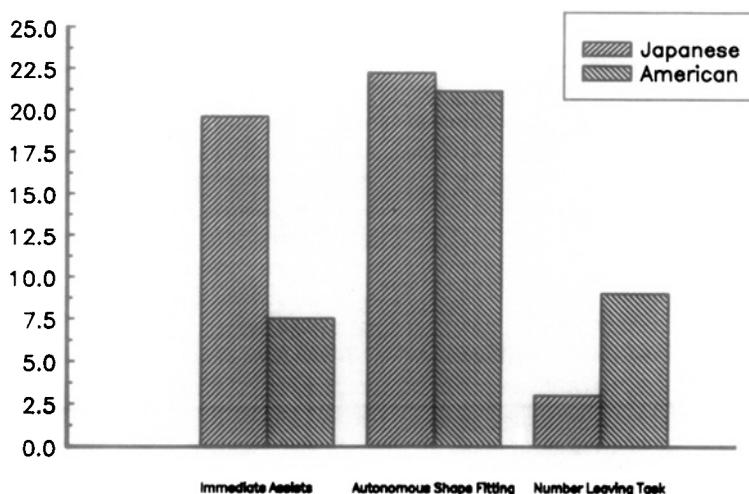


Figure 1. Figure 1 shows mean nationality differences in immediate assists, autonomous shape-fitting (corrected for time spent off task) and the number of toddlers leaving the task.

$M_J = 19.59$  (18.42);  $F(1, 16) = 7.95$ ,  $p < 0.016$ ). Conversely, American mothers were more likely to delay assisting their toddlers or not to assist at all. From a descriptive stance (there were no hypotheses about performance) it is interesting to note that Japanese dyads fit twice as many shapes as American dyads (37.3 vs. 18.6).

Though there were no significant univariate interaction effects between nationality and age, a trend was evident for immediate assists ( $F(3, 14) = 5.54$ ,  $p = 0.032$ ). The trend indicates that the higher frequency of immediate assists among Japanese mothers was stronger amongst mothers of younger toddlers (24–27 months old) than amongst mothers of older toddlers (28–31 months old). Thus younger Japanese toddlers tended to receive disproportionately more immediate assists and older American toddlers disproportionately fewer. This interaction effect may in turn account for the relatively greater variability in immediate assists amongst the Japanese dyads.

#### *Autonomous Shape Fitting*

American toddlers did not attempt to fill the shape sorter autonomously more often than Japanese toddlers ( $M_A = 21.07$  (8.28),  $M_J = 22.16$  (12.91);  $F(1, 16) = 0.09$ ,  $p > 0.05$ ). Contrary to the second research hypothesis, there was not a significant difference between Japanese and American toddlers in doing or attempting to do the task on their own.

#### *Leaving the Task*

Significantly more American toddlers left the task (nine out of 12) than Japanese toddlers (three out of 12) ( $F(1, 16) = 8.47$ ,  $p < 0.016$ ). American toddlers were more likely to act autonomously in leaving the task on which their mothers had been instructed to help them. By the same token, Japanese toddlers were more likely to continue working interdependently with their mothers.

## DISCUSSION

In this study of task-oriented interaction, differences between American and Japanese mother–toddler dyads and an interaction effect between nationality and age emerged on linear combinations of the three measures of autonomy and interdependence. Univariate analyses revealed that Japanese mothers involved their toddlers in more interdependent trials than did American toddlers, a pattern which

was more evident, although not significantly, for younger toddlers. Unexpectedly, American toddlers did not attempt to do the task autonomously more often than Japanese toddlers. However, greater levels of autonomy were exhibited by American toddlers in leaving the task they had begun working on with their mothers.

One might object that the finding of higher levels of interdependence amongst the Japanese than amongst the American dyads may have been an artefact of nationality differences in mothers' interpretation of the task. The counter-argument is that the task demands on the mothers elicited characteristic patterns of mother–toddler interaction. Both Japanese and American mothers often seemed to respond as though the videotaping was a test of their toddlers' proficiency. However, the Japanese mothers seemed to take the instructions ('as many times as possible') more literally than American mothers, slipping into a well-worn role of intensively assisting their toddlers, particularly the younger ones.

Japanese toddlers, then, had more exposure to the interdependent experience of doing the task together than did American toddlers. As mentioned earlier, over nine out of ten of the Japanese mothers' assists required the toddler's active participation to actually put the shape in the sorter. The Japanese toddlers' cooperation with their mothers suggests that intensive, interdependent interaction was a regular part of their experience. It may be that the Japanese mothers' pattern of assistance during the shape-sorting task demonstrated an interdependent style characteristic of their interactions with their toddlers.

American mothers issued fewer immediate assists than Japanese mothers, thus providing their toddlers with more space to do the task on their own. The finding that American toddlers did not rally to perform the task more autonomously than Japanese toddlers indicates an unexpected similarity between Japanese and American toddlers. While interdependence was created through immediate assistance, providing the toddler with more opportunities did not elicit autonomous task performance.

More American toddlers left the task (and left for more time) than did Japanese toddlers. This might be due to different levels of frustration or boredom with the task, or a host of other proximal causes. It is crucial, however, that whatever their proximal motivation, American toddlers exhibited greater interpersonal autonomy in controlling what they were going to do by leaving the task on their own.

While some American mothers seemed content to let their toddlers wander away from the task, others became involved in verbal negotiations and physical tussles to get them to return.

Japanese toddlers, in contrast, rarely left the task, giving the appearance of adapting to a mother-defined group goal of working on the task. When one of the two Japanese toddlers who actually stood up from the task did so, for example, his mother commanded 'No!' ('*Dame!*'), and he promptly sat down again. In addition, Japanese mothers seemed adept at avoiding the point at which their toddlers were ready to leave. For example, they allowed their toddlers to engage in playful variations of the task when they became bored or discouraged. Maintenance of a common focus of attention and activity seemed more successful in the Japanese dyads, while struggle was more apparent in the American dyads.

In conclusion, Japanese mothers more frequently acted immediately to provide their toddlers with an experience of working interdependently than did American mothers. However, American toddlers did not exhibit a corresponding tendency to work at the task autonomously. Although American toddlers experienced a greater proportion of autonomous shape-sorting, this was due to the relative dearth of interdependent trials, rather than to a surfeit of autonomous attempts. Instead, the autonomy of American toddlers was evident not in how they did the task but in their frequent decision not to do the task at all.

The generalizability of these results, particularly of the interaction effect, is limited by the small sample size and by the use of Japanese nationals living in the United States at the time of the study. The results are nevertheless consistent with a pattern evident in the findings of other researchers. Infant-focused, behavioural indices of autonomy have not yielded differences (Bornstein, 1989) as consistent as those between American and Japanese mothers. For example, while it is not clear whether American or Japanese 3-month-olds engage in more physical activity (Caudill and Weinstein, 1969; Shand and Kosawa, 1985), Japanese mothers of older children appear to foster and expect interdependence more consistently than American mothers (Clancy, 1986; Hess *et al.*, 1986). The current study indicates that such interdependence is also manifested in everyday, task-oriented interactions between mother and toddler.

The results also have a bearing on the possibility that Japanese mothers provide their children with experiences that facilitate the children's later work

in groups. Japanese popular belief as reported in the psychological literature holds that interaction with mother does *not* socialize toddlers to participate in group activities and conform to group needs (Hendry, 1986; Peak, 1989). However, in this study Japanese mothers assisted their 2-year-olds in achieving a dyadic goal more intensively than American mothers. The implication is that interaction with mother may be one route through which Japanese toddlers become accustomed to interdependent work in groups.

Although in need of replication, the current study of autonomy and interdependence amongst American and Japanese toddlers has practical implications. The study suggests that some of the roots of the Japanese capacity to work interdependently with others are present in early task-oriented interaction with mother. This is in sharp contrast to the American pattern of task-oriented interaction. While American mothers issued fewer immediate assists, their toddlers did not attempt the task more frequently on their own, and tended to leave the task. Further research is clearly needed to examine the early origins of these patterns.

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