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EXTENSION OF ATTACHMENT OBJECTS AMONG JAPANESE TODDLERS

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From our basic assumption that the attachment motive is universal for human beings and that even adults have multiple attachment objects, we hypothesized that toddlers, after having established specific attachment to a primary caregiver (usually the mother), are ready to extend attachment behaviors to adult strangers who are like the primary caregivers : Toddlers' attachment behaviors in a modified Aninsworth situation with strangers were observed. Study 1 revealed that they gave many attachment behaviors, mostly in the distal mode, to female adults even at the initial contact. Studies 2 and 3 showed that female strangers were responded to similarly irrespective of age (whether nearer mother's or grandmother's), but male strangers were offered proximal behaviors less than female ones. This is probably because in Japanese society the function of caregiver, regardless of age, is filled almost exclusively by females, and males of necessity fall into quite another category.

Key words : attachment, toddlers, adult stranger, caregiver.

In this paper, we will be concerned mainly with the process of the extension of attachment objects from the first specific attachment object to other adults. Before discussing this topic, however, we would like to describe our basic assumptions about human attachment and to explain why the extension of attachment objects is considered to be an important topic in developmental psychology.

BASIC ASSUMPTIONS ABOUT HUMAN ATTACHMENT

The attachment motive is defined as the motive to have social bonds with significant others, that is, to live with other people, to exchange warm attention and help, or to seek psychic support. For human beings, who from ancient times have lived in society and helped one another for survival, the attachment motive is reasonably believed to be one of the most important and essential motives. Therefore, attachment should not imply immaturity. Even adults who have healthy personalities have the attachment motive, as infants and young children do. We have not a few pieces of evidence showing that in order for human beings to live emotionally stable lives, to work hard and to achieve self-actualization, this basic motive should be satisfied (Kamiya, 1966 ; Kishimoto, 1963). Satisfying the attachment motive is not only compatible with, but also the basis for, the mature

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state of independence and autonomy. Studies in gerontology have suggested that the elderly want to establish new attachment with physicians, nurses and others (Troll & Smith, 1976; Kalish & Knudtson, 1976). Similarly, the concept of attachment has become indispensable in life-span developmental psychology (Hartup & Lempers, 1973 ; Antonucci, 1976 ; Knudtson, 1976).

The first author has been interested in the life-span development of attachment, up to adolescence and young adulthood. From studies of attachments among junior high, high school and college students of both sexes, ages 13 to 22, using questionnaires and interviews (Takahashi, 1974, 1980), she obtained data supporting the thesis that the attachment motive continues to exist even among young adults. The students had several attachment objects, including parents, sibling(s), close friend(s) of the same sex, the love object (and/or friend(s) of the opposite sex), and respected person(s) (teachers, famous authors or others), sometimes God.

She also found that the subjects' modes of attachment behaviors varied according to the objects. In other words, the functions of those objects in psychic life had been differentiated; the students had a primary attachment object who supported the most important part of their self, and also had one or more objects for the next most important part, and many other objects for less important parts.

We would like to use the term "attachment structure" to describe the above pattern of attachment object-function pairs. In other words, the attachment structure consists of multiple objects whose functions in psychic life are differentiated interdependently. As the attachment structure has multiple objects, no single object has an excessively potent influence on the person's decision-making; moreover, any loss of the object(s) can be compensated for in the long run by re-assigning functions to the remaining objects or by cultivating new objects.

As mentioned above, the motive to share emotional bonds with others is invariant throughout life. However, the attachment structure does change as a human being grows. Adolescents and adults are expectedly different in attachment structure from infants and children. Takahashi's data on the mature phase in the life-span development of attachment suggest that as life space extends, there is a tendency to incorporate new object(s) into the attachment structure to better satisfy the invariant attachment motive. Human beings can recognize potential functions of objects in a variety of interactions with strangers, thus resulting in the extension of attachment objects and the reorganization of functional assignment.

At the same time, as people grow, they are ready to use different behavioral modes for satisfying the attachment motive. Infants and young children predominantly use the proximal modes, while older children, adolescents and adults usually use distal modes in addition to the proximal ones. This may be because it is physically impossible to use proximal modes with multiple objects at the same time, and also because our society expects us to use the attachment mode which is most suitable for the time, place and opportunity. In addition, the ability to use symbolic modes (e. g., to talk to the object in mind) comes only with general cognitive development ; since young children can not represent others' reactions, only actual modes can be effective for them. There will be an interplay between the extension of attachment objects and the enrichment of modes of behavior.

The former is made possible by the latter, in a sense, but also tends to facilitate the latter development.

To summarize, while the attachment motive itself is invariant throughout life, the number and kind of objects increase as people grow older. That is, there is a developmental tendency from an immature attachment structure with few objects and proximal-mode dominance in infancy to a mature structure with many objects and modes adjusted to circumstances in adolescence and adulthood. From the viewpoint of developmental psychology, it is important to clarify what processes are involved in this structural transformation, an important part of which is the extension of objects.

THE EXTENSION OF ATTACHMENT OBJECTS DURING INFANCY AND EARLY CHILDHOOD

In infancy and early childhood, there are two important phases of the development of attachment in terms of its objects. The first one is the phase of establishment of the first specific attachment object (usually the mother). We would agree to ethological explanations, such as Bowlby's (1969), that there is a genetic basis for the caregiver, who is there to assure the infant's survival, to be the first attachment object.

Many studies have revealed that at the latest by the sixth month after birth, infants have selected a specific attachment object, whom they most frequently smile at, follow and with whom they show separation distress most clearly. In addition, the specific object has the important function of allaying distress or softening anxiety in the infant. Even infants who are reared not at home but in, for instance, a day care center or Kibbutz, clearly differentiate in functions the mother from teachers or metapelets with whom they have spent many more hours in daily life (e. g., Fox, 1977 ; Wynn, 1979) ; for them, the mother is a much more effective, secure base and can ease distress much more easily.

In the initial phase of the development of attachment, human infants, with few exceptions, establish a social bond with a single specific object. Even toddlers raised in extended families were reported to have chosen the mother as the specific attachment object (Takahashi, in preparation-a).

Why do most infants have one specific attachment object instead of multiple ones ? This is probably because of the nature of the categorization itself. Speaking generally, categorization seems to start with the formation of the prototype, not with classifying exhaustively a set of elements into discrete subsets in terms of the criterial attribute (see Rosch, 1978). In other words, before firmly establishing the category of "attachable" human beings in general, the child has to have its prototype, usually the mother. Then, he/she is ready to identify some attachable objects, and also unattachable ones, according to their similarity to the prototype. Without a clear internalized "image" of the prototype, the child cannot judge who fits it and who does not.

Following the establishment of the first specific attachment bond, there will be some period of time in which the specific attachment becomes firmer and internal representation of the object better established. Then in the second phase, children, now toddlers, are ready to extend attachment behaviors to new objects or a class of strangers. We assume that they tend to direct attachment behaviors to strangers similar to the specific attachment object, even at the initial contact. This criterion for new objects in a sense marks this phase of the initial extension of attachment objects. We are sure that children reach

this phase before the second birthday, though we are unable to specify when it usually starts.

We would like to point out that there is a second route for the extension of attachment objects, i. e., to peers or age-mates, though it is not the focus of this paper. This second route comes into operation a little later than the first route, i. e., the extension to other adults. Why do we think these are different routes? There are at least two empirical grounds for believing that emotional bonds with adults and age-mates develop more or less independently.

First, infants show a positive attitude toward a child stranger of either sex in the same experimental procedure in which they express fear toward an adult stranger (e. g., Lewis & Brooks, 1974). This means not only that infants easily differentiate age-mates from adults cognitively but also that they tend to have different feelings toward age-mates and adults. When infants encounter an unfamiliar adult, they tend to fit him/her to a person frame which may be called a "like-mother frame" (Lewis & Feiring, 1979), if, as is usual, the already-established-specific attachment object is the mother. We assume that adults who are seen in relation to, but have a large discrepancy from, the frame, tend to arouse fear. This assumption is supported by the finding that if a stranger imitates the mother, the fear of stranger decreases (Shaffran, 1974). On the other hand, as a child stranger approaches infants, they will rely on a different frame, using a term by Lewis (Lewis & Feiring, 1979), the "like-me" frame. Just when infants begin to acquire the knowledge of self is currently a hot issue, but the like-me frame is believed to be formed quite early, if not genetically given. It has been suggested that infants can recognize their mirror image at least as early as they show fear of adult strangers (Lewis & Brooks-Gunn, 1979).

Why do infants direct attachment behaviors to those assimilated into the like-me frame? It should be noted that they do not require any antecedents to have positive interest in unfamiliar age-mates early in their life. This suggests that the positive interest in age-mates (those incorporated into the like-me frame) at the initial contact is genetically determined for the purpose of biological adaptation. The favorable attitude toward age-mates would be indispensable for a human being as a well-rounded social animal; it helps infants/toddlers develop a self and also elaborate the like-me frame.

Secondly, the quality of the relationship with the mother is not strongly related to that with other children (Harlow & Harlow, 1969; Lieberman, 1977; Muller & Vandell, 1979; Lewis et al., 1975). And also, abused and neglected infants/toddlers can have as good contacts with peers as can infants/toddlers from normal families (Lewis & Schaeffer, 1981). Probably, infants try to establish new relations with other persons, because they seem to have important, though latent, functions, such as the allaying of fear, not because they are perceptually familiar. We assume that the child's attempt to establish relationships with new objects is most strongly and directly influenced by the prior relationships with familiar objects serving the same function(s). Thus, the quality of attachment to the mother influences considerably the child's initial behaviors to adults, whose latent functions are caregiving and soothing, but not for those to peers, who are there to play and interact with.

In later years, we assume, there are at least two more important developmental phases in the extension of attachment objects. New attachment object(s) may be added

when children enter a formal organization, like kindergarten or school. A teacher or any other person respected for his/her competence is the primary example. The attachment structure may change dramatically when adolescents begin to reexamine their world existentially, trying to find someone who can support their psychic life. A love object often appears at this phase of development.

SOME EXPERIMENTAL FINDINGS

Three experiments have been conducted to investigate the process of the extension of attachment to "mother-like" adult strangers. Attachment behaviors of Japanese toddlers to their mothers and strangers were observed in a modified series of the Ainsworth situations.

The first experiment, details of which have been reported elsewhere (Takahashi, in press), examined whether Japanese toddlers were ready to interact positively with and to direct attachment behaviors to an unfamiliar adult even at the initial contact. They had a full-time mother as the primary caregiver. The mother devoted most of her time to taking care of the child, and seldom went out of the house leaving the child alone or with another adult. There is no custom of having a baby-sitter in Japan. Thus, while American children's attachment behaviors to a female adult stranger can be regarded as the product of prior social reinforcement given by baby-sitters, these behaviors of Japanese counterparts should enable us to conclude that the extension of attachment objects is a "natural" developmental event.

Twenty-four first-born children, 14 girls and 10 boys, ranging in age from 24 to 26 months, served as subjects in this study. Two female 22-year-old senior students majoring in psychology alternately took the stranger-role. The child's attachment behaviors, both to the mother and the stranger, were observed and recorded in 5 sessions, each lasting 3 minutes: introductory, mother-child, mother-stranger-child, stranger-child, and mother-child reunion. The observation was quantified by giving a score of one if each of the following 5 attachment behaviors occurred in the session: touching, being within arm's reach of, following, looking at and smiling at. The first 3 types of behaviors were classified as "proximal", and the latter two, "distal."

We found that the 2-year-olds directed attachment behaviors to the female stranger. For example, in the mother-stranger-child session, 15 toddlers and, in the stranger-child session, all the toddlers, "looked at" the stranger. But, this does not mean that all attachment behaviors to the mother were indiscriminately generalized to the stranger (see figure 1). As the subjects used the distal mode predominantly for the stranger, in contrast to the mother, they certainly knew that the stranger was not the mother and had different functions for them. But, even though differentiating among the female adults, they did generalize certain attachment behaviors to the stranger. We will discuss in the final section why this generalization or extension occurs at this age, when the specific attachment has been established firmly.

Then, the second and third experiments, details of which will be reported elsewhere (Takahashi, in preparation-b), were designed to examine what attributes of a stranger would influence a toddler's social cognition of mother-likeness and induce more attachment behaviors. We assumed that the stranger's age and/or gender would be significant.

In the second experiment, it was hypothesized more specifically that at least at the initial contact, a "young" stranger of mother's age would arouse more attachment behaviors than an "old" stranger of grandmother's age, because the former is seen to have a smaller discrepancy from the primary caregiver.

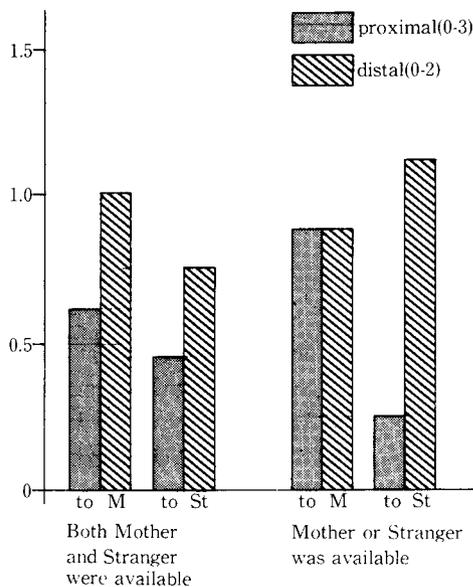


FIGURE 1 Mean number of attachment scores to Mother(M) and Stranger(St)

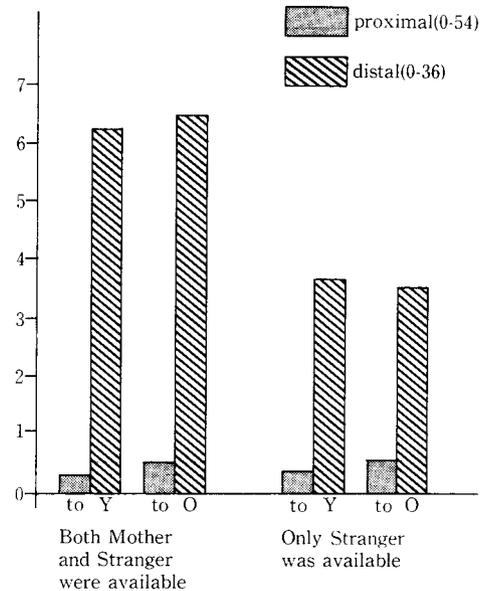


FIGURE 2 Mean frequencies of attachment behaviors to female young(Y) and old(O) strangers.

Thus, two types of strangers were used here. One type was a "mother-like" stranger and called a young stranger. Two 23-year-old unmarried female students, majoring in child education, alternately took the role. The other type was a "grandmother-like" stranger called an old stranger. Two old females, 65 and 68 years of age and having grandchildren of their own, took turns playing the role. All four strangers were trained to behave identically and they dressed in everyday clothes appropriate for each age. The toddler's 5 kinds of attachment behaviors either to the mother or the stranger were again observed. For each type of stranger, the toddler had three critical sessions : with both the mother and the stranger, with the stranger only, and finally with the mother returned. These were preceded by an introductory session in which he/she spent 3 minutes playing in presence of the mother. The order of appearance of the strangers was counter-balanced. The frequency of each of the 5 kinds of attachment behaviors was recorded by a trained observer for each 10 second, with a behavior occurring more than once in the 10 second period being counted only once.

Thirty-one toddlers, 20-28 months of age, served as subjects. They consisted of 20 children from nuclear families, who had contact with either grandmother less than three days per month, and 11 children from extended families which included a grandmother.

The results confirmed the previous findings : 1) 2-year-old children continued to

attach to the mother, but they began to attach to other female adults. 2) The children used the distal mode dominantly for the strangers, but both modes for the mother.

As can be seen in figure 2, the two types of strangers were responded to quite similarly by the toddlers. Difference in age among female adult strangers did not seem to be perceived as a discrepancy-inducing property by the toddlers. No clear difference between children from nuclear and extended families was observed in attachment behaviors to the old stranger.

Can we conclude that the age of female adults is unimportant for inducing attachment behaviors? We cannot do so, because the young strangers in this experiment, who were 23 years old and unmarried, may have been too young to be perceived as "mother-like". Qualitatively, they may be said to have had as large discrepancy as the old strangers to the mother who was 30.0 years old on the average.

The primary purpose of the third experiment was, therefore, to replicate the second one with better control: Attachment behaviors to a female stranger who had minimal age and related discrepancies to the mother were compared with those to an old female stranger. In addition, we examined stranger's gender as a potentially discrepancy-inducing property: toddler's attachment behaviors to a young male stranger were compared with those to a young female stranger.

Thus three types of strangers were used in the experiment. The first type was a mother-like stranger (young female stranger). Two 32-year-old full-time mothers, each having two children, alternately took the role. The second type was a grandmother-like stranger. Two old females, 65 and 68 years old respectively, played the role. The third type was a male stranger who was similar to the young female stranger in terms of age (30, 28 or 27). Three graduate students majoring in psychology served as a stranger of this type. All strangers were intensively trained to behave identically.

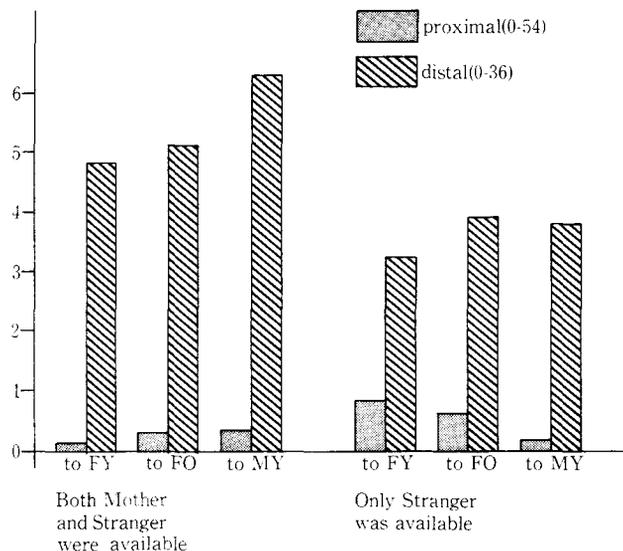


FIGURE 3 Mean frequencies of attachment behaviors to female young(FY), female old(FO) and male young(MY) strangers

Subjects were 29 children, ranging in age 19 to 27 months, all from nuclear families.

Attachment behaviors of each child to the three types of strangers and the mother were observed in a standardized series similar to that of the second experiment. Each session lasted 3 minutes except the mother-reunion session, which lasted 1 minute. The order of the strangers was counter-balanced.

The results replicated those of the second experiment. In other words, the children seemed to disregard age in directing attachment behaviors to female strangers. We would conclude that the attribute of age, at least among female adults, was not perceived as a discrepancy-inducing property by 2-year-old children. However, to the male stranger, the toddlers directed proximal attachment behaviors even less often (see figure 3). They showed attachment behavior to the mother at reunion after being with the male stranger more often than after being with the young female stranger. This suggests that gender was a significant determinant in the extension of attachment to adults. We will present our interpretations of these findings in the final section below.

MOTIVATIONAL AND CULTURAL FACTORS INVOLVED IN THE EXTENSION PROCESS

Now, let us discuss some theoretical implications of the above experimental findings. Three questions will be examined in this section.

First, why do toddlers extend attachment behaviors to new objects, adult-strangers? As toddlers, by the twelfth to eighteenth month, have firmly established emotional bonds with a specific attachment object, they have a secure base or a social reference (Campos et al., 1981) to explore new environments including human beings. Therefore, they, who are social animals and from birth enter a social network (Weinraub et al., 1977 ; Lewis, in press), have had enough experience in patterns of interactions, are naturally motivated to contact new objects who are like-mother and seem to have potential caregiving functions.

Second, why do toddlers use the distal mode dominantly in interactions with strangers? The distal mode of attachment behavior is especially suitable for initial positive interactions. In fact Lewis et al. (1972) noted developmental shifts in attachment modes, that is, shifts from distal to proximal modes of behavior with one and the same person. The distal mode (e. g., looking) is easily applicable to a new object, because it requires little energy. As the proximal mode (e. g., touching) requires much more energy, toddlers direct the latter mode only to a more significant, established object, one who arouses a stronger attachment motive and will certainly satisfy it (though it is rather unlikely for any human object to refuse a proximal attachment behavior by an infant or a toddler). Moreover, the distal mode is a safe one which keeps an object at a distance. Since human interactions tend to be reciprocal, if toddlers direct an attachment behavior to a stranger, it implies that they expect or at least permit the stranger to give that back to them. In this sense, to look at a real person differs from looking at a slide of that person. If toddlers look/smile at a stranger, it means that they are willing to be looked/smiled at in return. Another study by us revealed that most 12-month-old accepted being looked at by a female stranger, but they sometimes got angry at being held by her (Takahashi & Miyake, in preparation). Holding (or other proximal mode of behavior) was not permitted for the stranger to give to the infants. In the interaction with strangers, infant/toddlers may be (perhaps intentionally) trying to avoid too much closeness : the use of distal mode in fact tends to

control the level of behavior of the partner.

Third, does Japanese culture affect the patterns of extension of attachment objects? From the above experiments, we can conclude that at least at the initial contact with adult strangers, the gender is important, but the age is not. How can we interpret this in terms of culture?

In Japan, grandmothers and old females are considered as potential caregivers as young females. This seems to be a cultural consensus. The White Paper on Social Welfare reports that 76% of those over 65 years of age, among whom females are the majority, live with their children and that taking care of grandchildren is regarded as the most important job for people over 60. Therefore, even nuclear family children will have positive attitudes to old females.

On the other hand, in our culture, males are considered as noncaregivers, especially to infants. Though longstanding convention is no doubt the main reason, the fact is that males spend little time at home. Even in 1980, employees consumed only 8.8 (paid) holidays per year on the average, though only 23% of them had two days off per week. In addition, husbands, even in working mother families, spent only six minutes per day in housework, leaving their wives to do 3 hours 29 minutes. If fathers were to devote themselves to giving care, infants' attitudes toward males might change. These interpretations should be examined in different cultures from Japan.

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