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# DOES QUALITY OF ATTACHMENT IN A STRANGE SITUATION RELATE TO LATER COMPETENCE IN DIFFERENT SITUATIONS?

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In this study, we examined whether the continuous effects of attachment was linked to later coping skills. Seven female toddlers, whose quality of attachment at 12 and 23 months of age were assessed in the Ainsworth Strange Situation. The classification across the time showed two C-Cs, two B-Bs, two C-Bs, and a B-C. Their coping behaviors were also assessed in four different situation: free play, peer play, meeting with an unfamiliar woman, and meeting with a robot at 23 months. The results showed that, among other measures in the four situations, only one, the style to use the mother as a secure base, was consistent with the attachment classification. Level and amount of spontaneous play, amount of peer interaction, compliance with an adult, and intention of approach to a robot were determined by individual "forte" skills rather than by the earlier and at-the-time attachment quality. "Forte" skills also played an important role in determining individual reaction to an unfamiliar person or robot. Need of constructing transactional model consisted of skill, temperament, and attachment was proposed.

Key words: quality of attachment, assumption of continuity, forte skill, transactional model, inhibition.

Several recent studies of the mother-child relationship in the toddler have shown that the quality of child's early attachment to the mother is related to emotion, personality style and social, cognitive and play competence during early childhood (Matas, Arend & Sroufe, 1978; Arend, Gove, & Sroufe, 1979; Vaughn, Egeland, &

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Srofe, 1979 ; Londervill & Main, 1981 ; Main, 1983). In general, a child assessed as securely-attached is more well-developed in these domains than a insecurely attached child. These studies proposed that there is a continuity in developmental adaptation, despite changes in developmental level and repertoire (Matas et al., 1978, Sroufe, 1979).

However, on what is the assumption of continuity across various domains based ? In the above studies, two sub-assumptions were shown ; one is child's using of "the mother as a secure base" (Ainsworth & Bell, 1974) for exploration of the environment, and the other is "the salient developmental issues" (Sroufe, 1979). Based on the former, children who are confident of emotional support when exploratory activities lead to stress will be able to control the effect that the environment has on their own activities, and thus enlarge their world. As a result, the greater ability to invest themselves in the environment can lead to greater competence (Ainsworth et al., 1974). Such competent children will show ascendant during various phases of early development and laying the groundwork good adaptation during each developmental issue which "form a sequence, however, for approaching subsequent issue" (Sroufe, 1979, p. 836–837). Sroufe and his colleagues proposed the following developmental issues in each age period : attachment in infancy, effective autonomous functioning during the toddler period, and peer competence in the pre-school.

Though this assumption is interesting and significant for developmental research, it includes some problems. First, some research has shown a discontinuity in the quality of attachment caused by life-event-related changes (Vaughn et al., 1979 ; Egeland & Sroufe, 1981). The authors suggested that it is important to specify the conditions under which stability or change can be expected, and that change per se does not have a negative indication for the validity of stable individual differences. However, in order to defend the assumption of continuity, they proposed a interpretation that the change is one of two directions : back into the mainstream of quality of attachment or toward the pseudo-attachment (Egeland & Sroufe, 1981).

But, it seems difficult whether this interpretation is proper to the assumption as changeability in attachment may effect children's response to later developmental issues. Situational changes may lead to a more different struggle for mastering the developmental issues in both secure children and insecure children.

A recent attachment study, moreover, showed that many children have a different quality of attachment for mother compaired to father (Main & Weston, 1981). Such different attachment relationships might be formed to other people including to peers. Lewis (1979) proposed "the social network model", against "the epigenetic model" of Bowlby and Ainsworth, and suggested that it is possible to have multiple attachment relationships to family members and that children's attachment to the mother itself may not be necessary to enhance peer relationship success. Rather, differentiated relationships will develop through interacting with other children, and children will acquire different social skills corresponding to the different relationships of which they are members.

Researchers have defined concept of competence as distinct from that of skill. This is the second problem with their theory. Matas et al. (1978) examined continuity of adaptation in toddlers and described the dependent variables in thier study as "not

primarily related to *skill*; rather, they were related to the child's *style* or approach to problem solving" (p. 554). Waters , Wippman, & Sroufe (1979) also wrote that, as continuity was not sought in frequencies of discrete behaviors or in specific skills but in the quality of adaptation, "quality of attachment in infancy (rather than an index of early peer interaction skills) would predict competence and effectance in the peer group" (p. 828). In short, these researchers believe later competence can not be predicted by a child's activity skill, but by his/her activity style at the time. As a result, they did not measure the level of symbolic play which differed between securely- and insecurely attached toddlers (Main 1983), but the bouts of symbolic play which did not differ between them (Matas et al. 1978).

However, Waters et al. (1979) defined the concept of competence as "the ability to make use of individual and environmental resources to achieve a good developmental outcome" (p. 828). This definition of competence contains to achieve a good goal. The concept of skill is also defined as "an ability to achieve defined goals" and "entails an ability–a competence–which underlies assessed performance on specific tasks" (Elliott & Connolly, 1974 p. 135–136). Thus, it seems that to distinguish competence from skill is invalid. Some reseachers have shown that securely attached children have a larger vocabulary size (Main, 1983), and a more advanced understanding of means-end relationships than insecurely attached children (Bretherton, Bates, Benighi, Camaioni, & Volterra, 1979). Thus it seems important to identify which skills will develop, based on attachment competence, rather than to regard skills as alien from competence. The assumption of continuity described in the above studies might be too generalized though Sroufe (1979) noted that it is at the abstract level that continuity in the quality of the child's adaptation can be demonstrated. Also he noted that "individual children elicit different reactions from the environment; they also differentially seek, filter, interpret, and evaluate experience" (Sroufe, 1979 p. 836). Such individual activities will lead to both different levels and different domains of skill for each child, and those skills will lead to the actualization of different goals through interaction with the environmental demands in various different situations. It seems, therefore, important to consider situational consistency, and at the same time, inconsistency in developmental directions of the children. Cognitive developmentalists have proposed that we need to attend to "unevenness" (Fischer, 1980) across that domains or to "a network of interwoven, multiply-interconnected developmental paths" (Flavell, 1982 p. 14).

The present study was designed to explore the relationship between the quality of attachment and activities in different situations using a small sample (seven girl children). As to the quality of attachment, children were classified based on behavior in the strange situation at 12 and 23 months. Measures in three novel situations and in free play was obtained at 23 months, two weeks after the 23-month strange situation test.

*METHOD*

*Subjects*

In this study, seven female toddlers were subjects. They were included in a larger study that consisted of 7 male and 14 female toddlers. At 12 and 23 months, all 21 children and their mothers were observed and their quality of attachment classfied by the Ainsworth paradigm (Ainsworth et al., 1978) in a standard laboratory setting. The results showed no "avoidant" baby (type A), two "continuous resistant" babies who were classified into "resistant" (type C) at both 12 and 23 months, nine "continuous secure" babies who were "secure" in attachment (type B) at both times and the rest 10 children changed their classification (Takahashi & Miyake 1983.). As two continuous C toddlers were both female, we decided to use female cases as subjects of this study. However, there were only seven children who had complete data of 23 months in four different situation settings among the 14 female children. Thus these were selected as subjects of this study. In classification of attachment quality, they consisted of two continuous secure (B-B), two continuous resistant (C-C), two changers C to B and a changer B to C (see the top of Tables).

*Procedure and Measures*

To assess consistency and inconsistency of activities of each case across different situations, the following four situations were selected; a) Free play, b) Peer play, c) Meeting with a strange adult, d) Meeting with a robot. Except free play, these situations consisted of confronting with unfamiliarity, like the Ainsworth strange situation. Thus, differentiated coping skills of each child were assessed in these situations. On the other hand, as the free play situation was less stressful, it was considered as the "base line" of the activity pattern of the child.

(1). *Free play.* Each toddler came with the mother to a laboratory room containing toys appropriate to the age and played alone for 10 minutes. The mother was instructed not to initiate or to direct her child's play activities, but to respond to the child neutrally only if necessary.

In free play situation, as children were expected to play spontaneously, longer duration spent in contact with, or in close proximity to the mother was regarded as indicating lower competence in coping with this situation. On the contrary, longer duration of play with toys and the mother indicated better play skills of children. Duration and level of symbolic play were also measures of play skill as shown by Matas, et al. (1978) and Main (1983). Thus, the following measures were adopted (duration was measured by second): a) Duration of "inhibition"; the time spent until the first approach to the toys or until separation from the mother, b) Duration of "play with toys", c) Duration of "play with the mother", d) Duration of "separation" from mother, e) Total duration of symbolic play; pretend act such as drinking from an empty toy cup or caretking a doll. f) The highest level of symbolic play bouts; number of action sequences in one bout of the pretend acts and classified in two types, that is, level Ⅰ, which is defined as the act consisted of one sequence like drinking or pouring, level Ⅱ which is defined as the act consisted of two or more sequences like pouring and drinking, or laying a doll and covering it with a blanket (cf. Fenson & Ramsay, 1980).

(2) *Reaction to an adult stranger.* At the end of free play situation, an adult who was unfamiliar to the toddler entered into the play room. She did the following. a) She was silent in a chair in one corner for 30 seconds. b) Then, as soon as she stood up, she stumbled over her chair. c) The stranger then stepped toward the center of the room and asked the child to come to her. d) If the child complied with the stranger, the stranger showed him / her a card selected from the PPVT (Peabody Picture Vocublary Test) and asked the child to point to the picture corresponding to the word she said (if the child did not comply with the stranger, she went near by the child). The cards consisted of a easier set and a more difficult one for the child's age. Each set contained five card. When the child showed refusal or resistance attitude to answering the question, this session was ended. e) Then, the stranger induced the child to symbolic play, by modelling actions of pouring imagined liquid into a cup from a pot and pretending to drink it. But, halfway through the action, she dropped the cup with playful manner. f). The stranger again poured imaginary "tea" into a cup from a pot, and offered it to the child.

Matas et al. (1978) and Lodervill and Main (1981) have shown that children judged to be securely attached to their mothers were more compliant and cooperative with an adult woman and with her demands for testing than were nonsecurely attached children. Thus children's response to each episode was categorized into inhibition to play, expression of fear, and compliance to the stranger. Coding the response of children into the categories was made by one person.

Each mother was instructed to remain neutral throughout this session.

(3). *Reaction to a robot.* In this situation, each child was asked first to stay with the mother at a given location of the laboratory. Then, an experimenter opened a small door in the wall opposite to the side on which the child and the mother were sitting, revealing a robot. The robot was made from tin cans that were colored in metallic silver and it was equipped with decorative illumination lamps for its hair, small colored lamps for its eyes, a speaker for its mouth and coiled wire arms. The robot was 120cm in height. The lamps of the robot head or eyes could turn on and off by operating switches located in front of the robot's feet.

It was expected that since the meeting with the robot may cause distress to the child, child's compliance with the experimenter's demand to approach the robot, and the way she used the mother as a secure base under such state could be assessed. In order to do that, the experimenter asked the child to do the following. a) To approach the robot. b) To operate the switches in order to turn on or off lights as the robot's hair or eyes, c) Then, the experimenter turned on a hidden tape recorder after telling the child that the robot would introduced itself, and the child was asked to listen to the voice. d) After the end of the introduction by the robot, the experimenter asked the child to shake hands with it.

Response to the experimenter's demands in each child was categorized into compliant or discompliant. The number of return to mother and approach to the robot were also counted as indicator of child's way of using the mother as a secure base. Those codings were made by one person.

During this situation, each mother was asked to sit in a chair and respond to the

child neutrally.

(4). *Reaction to strange peer.* A pair of toddlers, who were strange to each other, played for 15 minutes. Their mothers also stayed seated in a chair in the room. They were given the same instructions as in the free play situation. Several kinds of toys for physical, constructive and symbolic play, which were different from those used in the free play situation, were available in the room.

Since the meeting with an unfamiliar peer may have effect on inhibition of the child's play activity than the free play situation, the following durations were measured ; a) "inhibition", b) "play with toys", c) "play with the peer", d) "separation from the mother", e) "symbolic play".

*RESULTS and DISCUSSION*

*(a). Free play situation.*

A noteworthy result was that there was no clear difference between continuous C and B classified children. The two C-C children's pattern of activities in this situation were very similar to the B-B children, especially FS. They showed equal amount of separation from the mother and a higher rate of play with toys. Thus they could cope with this situation by independent play. IA, one of the continuous B toddlers, was relatively dependent on the mother, since she showed highest proportion of play with the mother among the seven subjects, and moderate separation time from her.

Of the three children who were discontinuous in attachment classification, the pattern of OU was very similar to IA, even though their classification of attachment at twelve months was not the same. In the case of YU, whose classification changed from C to B, her activity pattern was somewhat ambivalent ; though she showed the lowest propotion of inhibited behavior and the highest proportion of toy play, separation was not higher as compared with the three relatively independent children. In other words, YU began to play soon and played with toys enthusiastically, but she played within the "mother base" for half or more of the session. This trend was striking in the case YH, who changed from B to C in the quality of attachment. She showed a higher proportion of inhibited behavior, and the lowest proportion of separation. However, she had the lowest rate of play with the mother, in spite of her staying beside the mother. Thus, YH's pattern may interpreted as ambivalent.

Looking at the results of symbolic play, it is found that two continuous Cs, and an original C (YU), as well as a continuous B (FS) showed a longer duration and higher level of symbolic play than other children. Although Matas et al. (1978) and Main (1983) found that B toddlers had more symbolic bouts than A and C type toddlers, their findings do not agree with the above cases, except for FS.

In free play, it is concluded that secure attachment to the mother may be necessary, but not sufficient to ensure efficient play bahavior.

*(b). Reaction to a peer*

As shown in Table 1, all children except FS showed an increase in inhibited behavior as compared with the free play situation (26.9 to 53.3 on the average). This result is seen as indicating that during a first meeting, a strange peer puts toddlers under stress or makes them fearful. This emotional state is inferred also from a

TABLE 1

Duration of each toddler's activity in the free & peer play situation

| Situation / Category | Subjects (attachment classification at 18 & 23 months) | | | | | | |
|---|---|---|---|---|---|---|---|
| | FS (B-B) | IA (B-B) | YH (B-C) | OU (C-B) | YU (C-B) | KA (C-C) | SM (C-C) |
| Free Play | | | | | | | |
| Inhibition | 30.4% | 30.0% | 37.8% | 39.3% | 3.8% | 22.8% | 24.4% |
| Play with toys | 50.6 | 41.4 | 50.0 | 38.8 | 71.7 | 58.2 | 50.0 |
| mother | 19.0 | 28.9 | 12.2 | 22.4 | 24.5 | 19.0 | 23.1 |
| Separation | 90.0 | 55.0 | 15.8 | 48.3 | 51.7 | 86.7 | 85.0 |
| Symbolic play | 16.5 | 12.2 | 28.0 | 8.2 | 23.0 | 31.6 | 17.9 |
| (level) | (II) | (I) | (I) | (I) | (II) | (II) | (II) |
| Reaction to Peer | | | | | | | |
| Inhibition | 22.8 | 67.4 | 47.5 | 84.2 | 70.0 | 31.9 | 49.1 |
| Play with toys | 42.1 | 20.9 | 27.3 | 5.0 | 18.7 | 45.2 | 42.2 |
| peer | 29.7 | 19.3 | 22.3 | 10.8 | 2.6 | 22.9 | 8.6 |
| mother | 4.4 | 2.4 | 2.9 | 0.0 | 8.7 | 0.0 | 0.1 |
| Separation | 50.0 | 41.7 | 21.1 | 27.2 | 25.0 | 72.2 | 61.6 |
| Symbolic play | 11.0 | 8.5 | 15.1 | 0.0 | 4.3 | 9.3 | 0.0 |

decrease in separation from the mother. Individual differences were found by comparing these variables between the peer and the free play situations. First, both continuous C children, especially KA, showed a relatively moderate change in separation from the mother, but an increase in inhibited behavior, whereas FS (B-B) did not increase in inhibited behavior but decreased in separation. This may be a difference in the way of using the mother; that is, both C-C children seldom use the mother as "a secure base", though they may be wary of the peer, in contrast to FS, who used the "secure base" sometimes, although she might not show inhibited behavior with a strange playmate as much. However, in the case of KA and FS, she showed play with a peer, which is the most important competence in the situation, above the mean of all cases (16.6%). In addition to this, both children also played with toys and performed symbolic play more than the mean of the seven cases (28.96, 6.9, respectively), although the assessed quality of attachment of each was quite different. The other continuous B, IA, showed somewhat a higher peer play rate and a lower toy-play rate. In contrast with her, SM, the other continuous C, played with toys more than with a playmate. Attachment classification, therefore, is considered as independent from play skill in the peer situation.

This interpretation can be applied to the results of the remaining three children. YH, who was classified as a C at 23 months, hardly separated from the mother, although she showed moderate inhibited behavior, but she could play with her peer as well as both continuous B cases. Both OU and YU, who changed to B from C, showed a striking increase in duration of inhibited behavior, and a decrease in both separation

duration and play activities. These two children may be so stressed by meeting a strange toddler that they, especially in the case of YU, could not even play with toys. If one pays attention only to the classification at twelve months, the results may be seen as supporting the assumption of continuity as proposed by Sroufe (1979) and his colleagues. But, at 23 months they were classified as Bs. That means that they could separate from their mothers, wait for her alone, and make themselves cheerful as soon as reunion with the mothers. Thus, though they acquired such skills in the Ainsworth strange situation, it seems that they did not have developed a coping skill in the peer play situation. The results also showed the attachment relationship to the mother affected only the way a child used her mother. Therefore, their coping skills may be bounded by each situation.

*(C). Reaction to an adult stranger*

This situation consisted of two kinds of measures; reaction to events and compliance with an adult stranger. Results from the former kind measures showed a discontinuous pattern between and within children. On first meeting with a strange adult, FS (B-B), YH (B-C), KA (C-C) and SM (C-C) could exhibit play activity but YH and SM expressed stranger fear. In case of KA, she even approached to serve the stranger "tea". The remainder of the children, IA (B-B), OU (C-B) and YU (C-B), showed so much stranger fear that they clung to the mother. Thus, the reaction to meeting with an strange adult is considered as reflecting, not only classified attachment type, but other constraints or factors.

However, only continuous C children did not return to the mother during this episode. This tendency is consistent with the results of separation in the peer situation, mentioned above. As far as this point is concerned, therefore, asseseed quality of attachment seems to have a continuous effect.

A stranger's stumble surprised all children, but the intensity of the reaction differed between individuals. SM (C-C) showed the strongest reaction (cry), then, IA (B-B) and both C-B children showed fear, in contrast to the more moderate responses of KA (C-C). Thus, even the two C-C children responded differently from them.

Reaction to a stranger's playful mistake denoted FS's sunny disposition exactly. Although a stranger acted in a playful manner, only this child recognize her playful intention, and laughed, but other children were surprised at it, or showed fearful gestures.

Measures concerned with compliance to the stranger's demands resulted in a different pattern than the measures for the reactions mentioned above. When children were asked to come nearby a stranger, just after she pretended to stumble over, except for IA and KA, they did not comply with her. In the cases of both C-B children, OU and YU, they did not intend to separate from the mother, rather, they clung to her. However, once the stranger presented a cognitive test (PPVT), these two children became more active, and complied spontaneously. In contrast, KA and YH did not try to do as demanded. The two B-B children also showed compliance when asked to do test, but both refused and left when the task was harder than previous set, though both C-B peers continued to stay in the testing position. In OU and YU, the change from withdrawal to activity suggests that the development of paticular skills to cope

TABLE 2

Response of each toddler to each episode in the stranger & robot situation

| Situation / Episode | Subjects (attachment classification at 12 & 23 months) | | | | | | |
|---|---|---|---|---|---|---|---|
| | FS (B-B) | IA (B-B) | YH (B-C) | OU (C-B) | YU (C-B) | KA (C-C) | SM (C-C) |
| **Reaction to Stranger** | | | | | | | |
| Met with a stranger | Playing after Return to mother | Warning after Return to mother | Cling to mother & Played | Cling to mother | Cling to mother | Playing after Approach to stranger | Warning & Played |
| Stranger stumbled over | Surprised & fear | Showed fear | Surprised & fear | Showed fear | Showed fear | Surprised | Fear & Cry |
| Asked to come over | Resistant | Compliant | Resistant | Resistant | Resistant | Compliant | Cry |
| PPVT : easier | Compliant | Compliant | Resistant | Active complied | Active complied | Answer her own way | Compliant |
| difficult | Resistant | Resistant | Resistant | Silent | Compliant | Resistant | Cry |
| Stranger fell a cup | Laughed | Watched & Pick it up | Showed fear | Watched still | Watched still | Watched still | Watched still |
| Stranger offered tea | Compliant | Resistant | Resistant | Fell a cup & laugh | Ignorance | Compliant | Compliant |
| **Reaction to Robot** | | | | | | | |
| Met with a robot | Showed fear | No fear | Showed fear | Showed fear | No fear | Showed fear | Showed fear |
| Asked to approach | Compliant | Compliant | Compliant | Spontaneous approach | Compliant | Resistant | Resistant |
| Asked switch operation | Compliant | Compliant | Resistant | Active compliant | Compliant | Resistant | Resistant |
| Robot' voice | Return to mother | Watching still | Watching still | Listening | Listening | Watching still | Cry |
| Asked shaking hand | Compliant | Active compliant | Compliant | Compliant | Active compliant | Compliant | Ignorance |
| Times of approach | 4 | 2 | 2 | 1 (stayed near the robbot) | 1 | 2 | 1 |
| return to mother | 3 | 1 | 2 | 0 | 0 | 0 (other) | 1 (non-sep) |

with a special situational demand may make one so competent as to overcome another demands.

Finally, asking children to act in symbolic play demonstrated again a "forte" skill type response. FS, KA and SM complied with the request. These children also showed more play activities and demonstrated a higher level of symbolic play than other in all the situations noted above. Oppositely, IA and YH showed discompliance in this session, and both shorter play duration and lower play level in the free play situation. The symbolic act performed by the stranger consisted of two sequences of action. Thus, for these children, the demands would be harder than for the above three children who were good at play.

On the other hand, the results of OU and YU showed a different trend. Though YU showed both a longer duration in symbolic play and a two-sequence-action in free play, she did not comply with the stranger's demand for symbolic play, whereas OU was compliant and responded playfully, though she acted for less time and with a lower level of symbolic play. It is difficult to interpret these cases. But, OU's response is particularly interesting, since it was such a drastic change from earlier sessions. She may have a playful disposition, but she did not get a chance to demonstrate it, since it took her too long to become accustomed to the stranger.

Looking throughout the stranger situation, FS was stable in compliance, IA was withdrawn, KA and SM were adaptive within play related sessions, OU and YU showed a special competence, and YH was most discompliant. Therefore, consistency in classification of attachment as presented by Londerville & Main (1981) did not fit into the present results, except in the cases of FS and YH.

*(d). Reaction to a robot*

This situation demonstrated two kinds of remarkable contrasts. One is the contrast in individual differences of reactions which differed from the stranger situation, and the other is the constant relationship of the reaction to attachment classification. The former was so striking that all of three children, IA (B-B), YU (C-B) and OU (C-B), who expressed clear fear to an adult and peer stranger, displayed no fear expressions and also active approach to the robot. On the other hand, the children who were not afraid of the stranger and who played with the stranger, peer and free play situation (FS, KA and SM) showed resistance to approach to a robot. What could lead to such a drastic change ? One easy interpretation would be that the three bold toddlers were not sensitive to the strangeness of the robot. If this interpretation is appropriate, why did they express fear to an adult stranger and peer ? Another possible interpretation is that they expressed fear to a strange adult and peer, but did not to a robot because an unfamiliar human's action is accompanied by more uncertain contingency than an inanimate object. In another paper of this Annual Report, Kanaya founded that an inhibited disposition in children, i.e. withdrawal and absence of spontaneous interaction with objects, is stable between eleven and 36 months of age, using the full sample, including the present seven cases. According to her, OU, YU and IA, who did not display fear to a robot, belonged to the group of inhibited type children, and the rest were uninhibited. Thus, it seems that the latter interpretation is appropriate to these cases.

The results from this situation also demonstrated that compliance with an ex-

perimenter was consistent with classification of attachment at the same time. Though FS (B-B) displayed fear to robot, she could comply with the experimenter's demands for approach to the robot by means of using the mother as the "secure base" to relieve distress. Thus she showed the highest rate of approach and return to the mother. Since the other B children at 23 months were not distressed by the robot, they were compliant. So all the B children, assessed at the time were compliant.

On the contrary, KA and SM whose classification was C at 23 months, expressed distress to the robot and did not comply with the experimenter at all. Moreover, they did not utilize the mother as a secure base like FS did. In the case of SM, once she ran to the mother, she never displayed a sign of approach to the robot. On the other hand, KA, after running away from the robot, stood still between her mother and the robot. She did not seem to regard her mother as a secure base. And SM could not be soothed by mother, and they hardly showed any attempts to approach the robot again.

On the other hand, in the case of YH (B-C), another interpretation is necessary. Though she was classified as C at 23 months, she did not display overt fear responses to the robot, and she was also compliant with the experimenter. But a few minutes later, she complied after all. And her coming back twice to her mother was not because of her fearful feeling, but because she wanted to take a favorite toy and to show her mother that she could turn on the lights in the robot. Such a compliant style in this situation contrasted with the one in the stranger situation. Thus, she seemed to have a changeable activity style that is C in the situation, and B in an other situation. (According to Kanaya's suggestion, noted above, consistency with her inhibited disposition was also ambiguous). Therefore, as Vaughn et al. (1979) and Egelang & Sroufe (1981) have demonstrated, any maternal stressful factor may change temporarily the attachment relationship between her and her mother toward insecure attachment and, as a result, her activity pattern also may be changed.

*CONCLUSION*

Though present results are based on data from only seven cases, they showed that activity styles of toddlers in different situations were affected, not only by assessed attachment quality, but also by their "forte" skills and temperamental dispositions. The quality of attachment, at earlier or at the same time only predicted response to some situations. Therefore, in further research, it seems important to construct a transactional model that consists of the following three components ; social relationship, temperamental diposition and specific skill-based competences. in order to understand conditions under which continuity or discontinuity of children's activity patterns can be observed.

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