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Does the Quality of Attachment Predict Later Successful Adaptation?

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The aim of this article is to investigate the relation of the quality of child's attachment at one year of age to socioemotional and cognitive performance during the second and third year of life. The results indicated that type-B children showed more obedient behavior in mother-child interaction than type-C children at 23 months of age. However, C children became more obedient and no difference was found when compared with B children at 32 months of age. In addition, there was no difference in the ability to solve intellectual tasks by mothers' help between B and C children either at 23 or 32 months of age. These results suggest that the attachment relationship at 1 year is not a good index of later adaptation. It is discussed that multiple variables including children's innate temperamental factors that would be transactionally related to mother-child interaction should be examined.

Key words: attachment; obedience; social adaptation; mother-child interaction

Since Ainsworth, Blehar, Waters and Wall (1978) reviewed data indicating that the quality of early caregiver-infant interaction was closely related to the infant's attachment to his/her caregiver at one year of age and also to his/her later cognitive and socioemotional development, a series of studies has been providing evidence of continuity of individual differences in the relationship between the pattern of attachment and socioemotional functioning in the subsequent years of life (Matas, Arend, & Sroufe, 1978; Sroufe, 1979; Londerville & Main, 1981; Main, 1983). These data indicate that type-B infant is more receptive to the mother than type-A and type-C infant during the first 3 years of life, which accounts for the B infant's advantage in socioemotional and cognitive development. Pointing out the coherence of the individual quality of adaptation, Sroufe (1979) stressed that secure attachment helps the child to draw on personal and environmental resources in the face of novelty and challenges requiring adaptation.

However, there is reason to doubt that the attachment relationship at 1 year of age is an index of later adaptation. Although environmental factors such as the mother's reponsiveness in mother-infant interaction, play an important role in forming the mother-

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infant attachment relationship (Ainsworth et al., 1978), and although the pattern of mother-infant interaction often tends to show coherence (Sameroff, 1979), it is inappropriate to assume these kinds of environmental factors are permanent. In fact, Lewis, Feiring, McGuffog and Joskir (1984) reported that 1-year-old boys classified as securely attached to their mothers exhibited fewer behavior problems than insecurely attached at 6 years of age, whereas the attachment classifications for females did not predict psychopathology. They also concluded that the patterns of attachment at 1 year of age are not sufficient evidence to predict subsequent development, unless considered with several other factors such as life stress events and demographic variables which would affect the mother-child relationship. At least whether the child's receptivity to his/her mother in their interaction and the way he/she deals with the challenges of new tasks and situations are coherent in the first several years of life should be reexamined.

The present study focuses on the relation of the mother-infant attachment relationship at one year of age to subsequent social adaptation by assessing mother-child interaction during the first 3 years of life. At 12 months of age each infant was classified into one of the attachment categories using Ainsworth's Strange Situation Procedure (Ainsworth et al., 1978). When they were 23 and 32 months old, the children were given problem-solving tasks which were difficult for them to solve by themselves, and the process by which they came to understand the task with mother's assistance was observed. Developmental changes in mother's instruction, child's receptivity, and child's requests to mother were examined.

Method

Subjects : The sample consisted of 29 middle-class mothers and their first-born children who were followed from 11 months or earlier to 32 months of age. Twenty children (10 type-B and 10 type-C) and their mothers were observed at 23 months of age, and twenty-two infants (13 type-B and 9 type-C) and their mothers were observed at 32 months.

Procedures : At 23 months of age the children were administered the 'clapboard' task. They were required to put 6 different-shaped blocks into a board with corresponding grooves. At 32 months they were given the 'pyramid' task in which they had to pile up blocks to make a pyramid. In both tasks the child's problem-solving ability was first measured (Pretest). Next, the mother showed her child how to solve the tasks (Explanation). At this time the child was not allowed to interfere with her. The mother was asked to prohibit the child's interference, if it occurred. Then the mother let her child try to solve the task, and helped him/her to understand it (Interaction). Mothers' instruction, children's responses, and children's active request for help from their mothers were observed for 10 minutes. Finally, the children were observed while trying to solve the task by themselves in order to measure achievement (Posttest).

Results and Discussion

1. *Receptivity at 23 months of age.*

In the Pretest the average score on the clapboard task was low (two correct responses out of six) in both type-B and type-C children. There were no significant

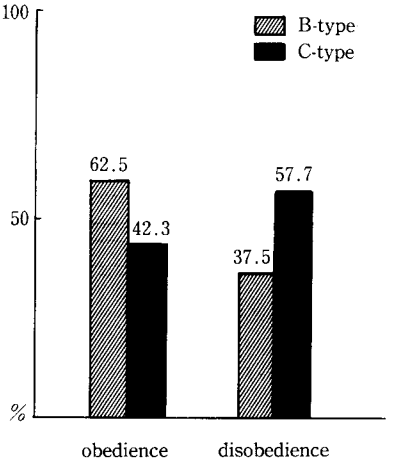

FIG. 1 Proportion of obedience-disobedience by attachment type in the explanation session of the clapboad task at 23 months of age

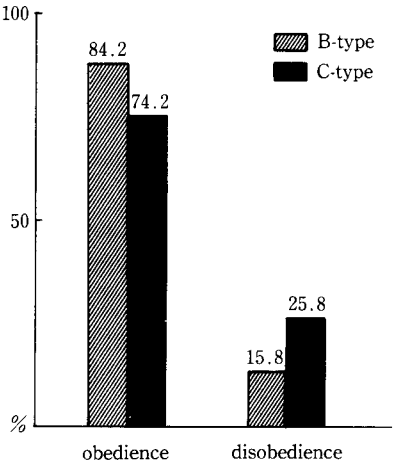

FIG. 2 Proportion of obedience-disobedience by attachment type in the interaction session of the clapboard task at 23 months of age

attachment group differences (B: $M=1.9$, C: $M=2.1/t(18)=-.281$, *n. s.*).

During the mothers' explanation type-C children showed more interference behaviors (e. g. 'I want to do it.' or 'Let me try it.') (B: $M=1.6$, C: $M=2.6/t(18)=1.75$, $p<0.1$). In addition, Figure 1 shows a higher percentage of disobedience to mothers' prohibitions in C children ($x^2=7.722$, $df=1$, $p<.01$). These results suggest that the C child has much desire to behave under his/her own control, and this causes the higher percentage of disobedience. Mother's prohibition, as a sort of rejection, may cause the infant's disobedience, which will be clear in the mother-infant interaction session (Figure 2). Though C children still exhibited a higher percentage of disobedience than B children in the interaction session ($x^2=5.252$, $df=1$, $p<.025$), the percentage of obedient

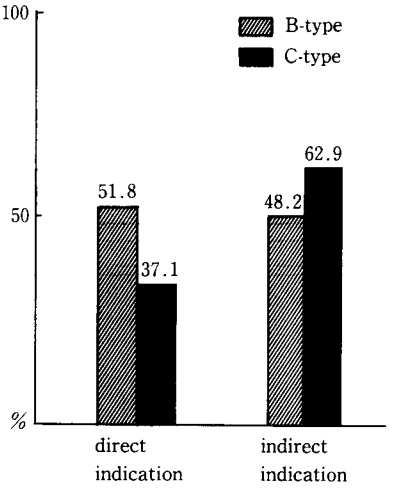

FIG. 3 Proportion of mother's direct-indirect indication by attachment type in the interaction session of the clapboard task at 23 months of age

behaviors markedly increased in both groups compared with the results in the explanation session. Why did this change occur? First, analysis of mothers' instructions (see Figure 3) indicates that the percentage of indirect indication (i. e. questions, proposals) was higher than that of direct indication (i. e. instructions, commands, prohibitions) in mothers of type-C children ($x^2=4.013$, $df=1$, $p<.05$). And C children tended to make more active requests for help than B children, although the difference was not significant (B: $M=1.3$, C: $M=3.0/t(18)=1.403$, *n. s.*). These results suggest that the child's receptivity depends on the mother's behavior. Though the C child tends to protest mother's refusal, the active requests in the interaction session can be seen as positive. It is inappropriate to conclude that disobedience is attributable to mother-infant insecure attachment at one year of age.

In the Posttest there were no significant attachment-group differences (B: $M=5.0$, C: $M=4.3/t(18)=1.00$, *n. s.*). Compared with the scores in the Pretest, there were twice as many correct responses. These results reveal that it is not a single process but multiple ones which lead the child to arrive at a certain level of development in these situations.

2. *Receptivity at 32 months of age.*

Figure 4 presents the results for child's interference with the mother's explanation. It is similar to the results obtained at 23 months of age. The C children still tended to show more disobedience than the B children, though the difference did not reach significance ($x^2=2.248$, $df=1$, *n. s.*). However, obedient responses were markedly increased even in the C children at 32 months compared with 23 months. In the mother-child interaction session there were no significant attachment-group differences and 80% of all responses to the instructions were obedient behaviors (see Figure 5). These results and the improvement in Posttest (see Figure 6) suggest that the children in both groups

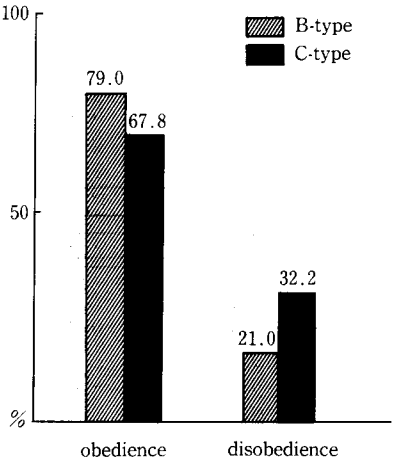

FIG. 4 Proportion of obiedence-disobedience by attachment type in the explanation session of the pyramid task at 32 months of age

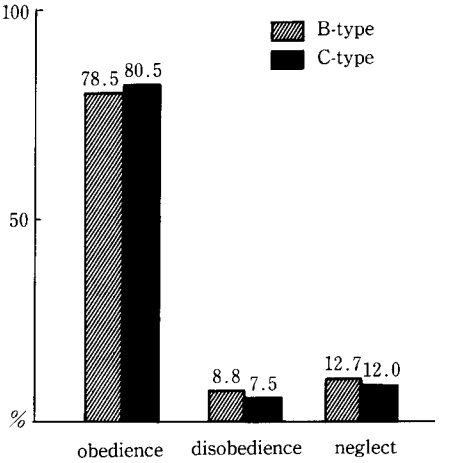

FIG. 5 Proportion of obedience-disobedience by attachment type in the interaction session of the pyramid task at 32 months of age

recognized the task was so difficult that they had to be obedient to mothers' instructions for how to solve it.

Note that these results do not mean that there is no difference between type-B and type-C children. C children still tend to protest mothers' prohibitions compared with B children and this tendency seems coherent. It is inappropriate, however, to attribute this merely to mother-infant insecure attachment. As was shown above, there was found to be behavior change in the children as mother's behavior changed from prohibition to instruction.

Mothers' behavior change, on the other hand, does not depend only on the situation

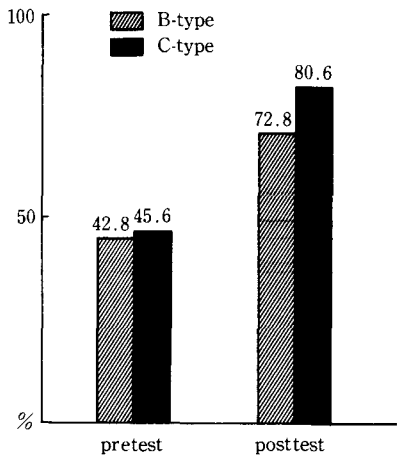

FIG. 6 Proportion of correct response in pretest and posttest of the pyramid task at 32 months of age

but also on changes in the attitude of their children. When the mother finds out that her child can be obedient sometimes, her way of prohibition changes from refusal to persuasion. Though this study lacks the analysis to support this view, the decrease in disobedient responses found between 23 and 32 months of age demonstrates it.

Conclusion

The present study has examined the relationship between the pattern of attachment at one year of age and subsequent social adaptation by observing developmental changes in receptivity and obedience to adult's instructions in problem-solving situations. The results indicated that there are no differences between type-B and type-C children in obedience during the third year of life. It was also demonstrated that the infant classified as type-C at 1 year was not inferior to type-B in behavior and attainment in problem-solving situations during the second or third year of life. On this point Sroufe's (1979) hypothesis that the individual pattern of adaptive behavior has coherence and could be an index of subsequent development, ought to be reexamined more thoroughly. Some other factors such as the infant's own cognitive development (Tajima, 1984), his/her innate temperament (Miyake, Chen & Campos., 1985), and demographic variables (Lewis et al., 1984) that will influence the pattern of the mother-child relationship should also be considered. The process of development should be viewed as transactionally changing (Sameroff, 1979). The pattern of attachment also should not be taken as a fixed, but as a changing variable that presents conditions at one point and predicts not all, but only some aspects of future development.

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