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COMPLIANCE IN PRESCHOOL CHILDREN AS RELATED TO NURTURANCE,
NONNURTURANCE, AND NURTURANCE WITHDRAWAL

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ABSTRACT

Nurturance, nonnurturance, and nurturance withdrawal were tested for their effects on the compliance behavior of 60 3- and 4-year-old children. The measure of compliance was obtained by counting the number of blocks the child placed in a box when requested to do so and the number of squares the child filled in on quadrille filler paper. Separate analyses of variance were performed on the two dependent variables. No significant main effects or interactions were found although the means were in the predicted direction.

COMPLIANCE IN PRESCHOOL CHILDREN AS RELATED TO NURTURANCE,
NONNURTURANCE, AND NURTURANCE WITHDRAWAL

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The acquisition of or the disposition toward compliance is an important phenomenon in the young child. Compliance is related to socialization, i.e., the process by which a child comes to behave in accordance with the norms of his particular society. A number of studies (Hoffman, 1961; Moore, 1963; Stayton, Hogan, and Ainsworth, 1971; Yarrow, Scott, deLeeuw, and Heinig, 1962) have dealt, often peripherally, with the phenomenon of compliance in young children.

These studies have been typically observational in nature and have often compared the children of working and nonworking mothers. Their concentration on various interaction styles seen in the mothers and the relationship of these styles to characteristics in the children in a correlation type design provide clues to the designing of an experimental approach to the study of the phenomenon of compliance.

Stayton et al. (1971) have provided the most recent and most direct information relevant to the study of compliance. They speculated that the most important step in the socialization process may occur when a child develops compliance or a willingness to behave as his elders wish him to

behave. The focus was upon the style of interaction of the mother with the child and its effect on the compliance of the child to the commands of the mother.

To secure relevant data, they observed 25 infant-mother pairs through home visits of four hours duration every three weeks from the time the infants were nine months old until they were twelve months old. From narrative reports of the visit the maternal variables of sensitivity-insensitivity, acceptance-rejection, and cooperation-interference were rated by two or more independent judges for each visit. Three specific maternal behaviors were also scored: frequency of verbal commands, frequency of physical intervention, and extent of floor freedom. The infant variables scored were: sex, IQ, compliance to commands, and internalized controls.

The results showed that the three variables used in assessing the quality of the interaction of the mother with her infant were highly intercorrelated and, as predicted, the compliance of the infant to commands was strongly and positively related to maternal sensitivity, cooperation, and acceptance. Thus, the Stayton et al. study (1971) provides evidence of an observational nature that a child who experiences a warm, nurturant relationship with his mother is more compliant than a child who experiences a cold, nonnurturant relationship.

Less direct evidence regarding compliance is found in studies by Hoffman (1961), Moore (1963), and Yarrow et al.

(1962). The studies by Hoffman and Moore suggest that children of working mothers who have a cool relationship with their children tend to be more assertive toward their parents. Assertiveness in both instances may be thought of as a lack of compliance with parental requests. The study by Yarrow et al. (1962) suggests that if the mother is dissatisfied with her present role her children are less compliant.

Hoffman (1961) postulated that the effects of employment on the mother-child relationship, and consequently on the child, would be different when the working mother enjoyed work than when she did not. She obtained her data from 176 families with at least one child in the third through sixth grades. The mothers were separated into three groups: non-working mothers, working mothers who liked working, and working mothers who did not like working. The data included questionnaires filled out by the children, interviews with the mothers, teacher ratings, and a classroom sociometric.

Children of working mothers with a positive attitude toward working reported that their mothers showed significantly more positive affect when these mothers were compared with nonworking mothers. These working mothers differed significantly from nonworking mothers on several variables. They used less severe discipline, and had more feelings of sympathy and less feelings of hostility toward their children. The children of working mothers with a positive attitude toward working played significantly more often with younger

children and were less effective with peers than children of nonworking mothers.

Working mothers with a negative attitude toward working were reported as significantly less coercive by their children than mothers who did not work. The report of the mother showed these mothers also showed significantly less power assertion. The children were reported as displaying significantly more assertiveness toward the mother. The teachers of these children reported that the children were more dependent, used more physical force and showed less impulse control than children of mothers who did not work.

In general, then, working mothers who liked working tended to be warm in their relationship with their children and have children who were rather immature and ineffective in their peer relationships as compared with children of mothers who did not work. Working mothers who did not like working, on the other hand, did not appear to be as involved with their children while their children showed assertive behavior toward their mothers and peers. Thus, mother-child relationships characterized as cold or nonnurturant were related to more uncompliant children.

Moore (1963) conducted a longitudinal study of 167 children up to the age of eight years. Data were gathered in a 70-item inventory filled out by the mothers when the child was six years old. Half of the children had been left with substitute caretakers while their mothers worked for some

period of time before the child entered school at the age of five years. The mothers of the other half of the children did not work at any time before the child entered school. These children were cared for exclusively by their own mothers.

Moore was interested in comparing the effects of stable and unstable substitute care on the children. His first comparison was between children who had been exclusively cared for by their own mothers and those who had been in stable substitute care. He found that the children who had been in stable substitute care scored significantly higher on a group of seven items of self-assertive behavior including significantly more resistance to bedtime and a tendency to be unaffected by parental punishment. These children were also more independent of adult help. The cooler and less dependent relationship between some of these children and their mothers was consistent with the greater detachment noted in a number of mothers who were working full time.

Moore then looked at a third group of children. These children had experienced unstable substitute care while their mothers worked. A child was classified as having had unstable substitute care when he had experienced more than two different child care arrangements while the mother worked. When they were compared with children who had experienced stable substitute care, they were found to be more dependent on adults and presented a picture of less than adequate adjustment.

Yarrow et al. (1962) looked at the satisfaction the mother felt with her present role, whether working or non-working, as related to child rearing practices. In general, those mothers who were dissatisfied with their present role tended to have more difficulty in the control of their children and derived less satisfaction from their children. Control in this instance referred to the ease with which the child obeyed a request by the mother and the method the mother used to handle the disobedience. These findings are consistent with those of Hoffman (1961) and Moore (1963). Mothers who report dissatisfaction with their present role along with a cool interaction with their children also report children who are less compliant with parental requests for obedience.

In summary, the results of the correlational studies discussed above suggest that warm mother-child interactions facilitate compliance on the part of the child while cool mother-child interactions lead to a lack of compliance on the part of the child.

Although there have been no laboratory studies directed specifically at the question of conditions facilitating or retarding compliance in young children, there have been studies which have investigated the effects of nurturance on the behavior of children. These studies are important to consider since nurturance is the prime component in a warm mother-child relationship.

Nurturance as described in the following studies consists of a warm interaction between an adult and a child. More specifically, nurturance includes the following behaviors from the adult: smiling at the child, hugging or touching the child, responding to the child's bids for help and attention, and verbally approving of the child's actions. This may be seen as the experimental analogue of a warm mother-child interaction.

Nonnurturance as an experimental treatment, on the other hand, consists of a cool interaction between an adult and a child. The adult in this instance avoids all interaction with the child, thus ignoring the child for the experimental period. This is seen as similar to a cool mother-child relationship.

Hartup (1958) was the first to investigate nurturance and nurturance withdrawal in the laboratory. He was particularly interested in the relationship between withdrawal of nurturance, which was considered as a specific form of non-nurturance, and the acquisition by young children of responses which elicit adult approval. It was predicted that children under this condition would learn faster than those receiving continuous nurturance. His prediction was based in part on those aspects of psychoanalytic theory which suggest that attempts by the child to gain closeness and seek affection are most strongly related to the anxiety generated at times of separation from the mother or when the child has experienced

loss of the love of the mother. Behavior theory was also considered relevant in that it suggests that the capacity of a neutral stimulus to evoke anxiety is strengthened through association with increases in drive or delay in primary reinforcement.

The nurturant condition consisted of 10 minutes of warm interaction with the child by an adult female. The nurturance withdrawal condition consisted of five minutes of warm interaction followed by five minutes of lack of interaction. It was found that in preschool girls nurturance withdrawal was significantly associated with more efficient performance on learning tasks than consistent nurturance. Among preschool boys this difference was not found. However, when the boys were separated into high dependent and low dependent, high dependent boys were shown to learn more efficiently under nurturance withdrawal, but low dependent boys learned more efficiently under the consistent nurturance condition. The findings for boys suggest that the sex of the experimenter, in this case female, may have been involved in the difference between the boys and the girls.

Based on the theoretical reasoning of the Hartup study (1958), one may expect nurturance withdrawal to similarly affect the compliance level of a preschooler. Those preschoolers experiencing continuous nurturance may be expected to be less compliant than those experiencing nurturance withdrawal.

Bandura and Huston (1961) investigated the effects of nurturance and nonnurturance on imitation. It was expected on the basis of theories of identification that the presence of affection and nurturance in the adult-child interaction would promote incidental imitative learning. The reasoning behind this was that affectional rewards increase the secondary reinforcing properties of the model and thus predispose the imitator to reproduce the behavior of the model for the satisfaction these cues provide. The results showed that those preschoolers receiving nurturant interaction imitated the model significantly more often than those preschoolers in the nonnurturant interaction condition.

Since preschoolers imitated the model more following a nurturant interaction than following a nonnurturant one, it seems reasonable to assume that preschoolers would be more compliant following a nurturant interaction than following a nonnurturant one. In this instance also the secondary reinforcing properties of the adult should predispose the child to comply with the requests of the adult.

Another group of studies (Burton, Allinsmith, and Maccoby, 1966; Parke, 1967; Saadatmand, Jensen, and Price, 1970) have dealt with the issue of whether nurturance or nurturance withdrawal would lead to greater resistance to temptation. They are of interest since resistance to temptation and compliance have certain elements in common. In both compliance and resistance to temptation the child is

asked to do something by an adult following an experimental manipulation.

Burton et al. (1966) using four year old children investigated the effects of continuous nurturance and nurturance withdrawal on resistance to temptation among children. They hypothesized that withdrawal of attention by a formerly nurturant adult would arouse dependency anxiety that would mediate the motive to restore a nurturant relationship with an adult. In a temptation situation, the dependency anxiety following nurturance withdrawal should cause the child to conform to the adult's rules and resist temptation in order to escape the anxiety. The results, however, were in disagreement with the above hypothesis as those children who had experienced continuous nurturance resisted temptation longer. Burton et al. suggested that the results might be accounted for by the fact that the temptation task may have aroused achievement motivations in the children.

Parke (1967), using six year old children, found that children resisted temptation longer under the nurturance withdrawal condition. Parke suggested that the difference between the temptation tasks employed in his study and the study by Burton et al. (1966) could account for the divergent results.

Saadatmand et al. (1970), however, felt that the divergent results could be accounted for by the difference between the two age groups used in the two studies. Using the

methodology of Parke (1967) but with all female subjects, Saadatmand et al. found that: (a) Four year olds deviated more following nurturance than nurturance withdrawal; (b) Six year olds deviated more under the nurturance withdrawal condition; and (c) Eight year olds showed no treatment effect. Saadatmand et al. attempted to account for these results by proposing that the temptation situation was controlled by different motivational factors for the three age groups.

Staub (1971) investigated the influence of nurturance and modeling on the attempts of children to help another child in distress. He found that both nurturance and modeling significantly increased helping on the part of the child.

In summary, the experimental studies dealing with the effects of nurturance, nonnurturance, and nurturance withdrawal have found that nurturance as opposed to nonnurturance increased model imitation. In the case of simple learning tasks nurturance withdrawal was more effective than nurturance. With regard to nurturance versus nurturance withdrawal in resistance to temptation studies, the issue has not been definitively resolved as to which produces greater resistance to temptation.

The evidence taken from these experimental studies which investigated the effects of nurturance and combined with that from the observational studies lead to various predictions about the effects of nurturance, nonnurturance, and nurturance withdrawal on the compliance behavior of preschool children.

children. The purpose of this study was to investigate the effects of nurturance, nonnurturance, and nurturance withdrawal by an adult female on the compliance behavior of preschoolers.

It was predicted that those preschool children experiencing a warm interaction with an adult female would be more compliant with her requests than those children experiencing a cool interaction. This prediction receives support from correlational studies by Hoffman (1961), Moore (1963), Stayton et al. (1971), and Yarrow et al. (1962). Additional support for the prediction is provided by the laboratory findings of Bandura and Huston (1961) and Staub (1971) where a nurturant interaction with an adult female was associated with greater model imitation. The warm interaction would provide opportunity for the adult to acquire secondary reinforcing properties which would in turn make compliance with her requests more rewarding for the child. The adult female in the non-nurturant interaction would not have these reinforcing properties for the child and thus compliance by the child would have little reward value to the child.

No prediction was made as to whether those children experiencing nurturance withdrawal would be more or less compliant than those experiencing nurturance because of the conflicting findings in the literature (Burton et al., 1966; Hartup, 1958; Parke, 1967).

Method

Subjects. The Ss were 30 male and 30 female three and four year old children from Appalachian State University Lucy Brock Nursery, the Methodist Nursery, and the Child Development Center. All of these children were residents of Watauga County, North Carolina.

Apparatus. A group of seven toys were used in interactions with all of the children. These toys included 100 colored wooden blocks, a racing car, an animal puzzle, a houseboat, a doctor's kit, a toy clock, and a grader.

A stopwatch was used for all timing. A large cardboard box was used for the child to place the blocks in. Quadrille filler paper attached to a clipboard was used when the child filled in the squares. A thick pencil with soft lead was used.

Design. The Ss were matched on the basis of sex, nursery school, and age. They were then randomly assigned to a treatment condition.

The independent variable consisted of three treatment conditions as follows: nurturance, nonnurturance, and nurturance withdrawal. There were 20 Ss in each of these groups. A counterbalanced order was followed in the administration of the treatment conditions.

Of secondary importance, the Ss from the three nursery schools used may have been slightly different. Thus they were considered separately in the analysis of variance.

Differences may have been due to the difference in setting at the three nursery schools and/or the difference in type of child attending the three nursery schools.

The dependent variables for this experiment were: (1) The number of blocks placed in the box during the two minute time period; and (2) The number of quadrille filler paper squares filled in during the four minute time limit. These measures were treated separately in the analysis of variance.

Procedure. Prior to the start of the study, the nursery school teacher was instructed to tell the children that, "Mrs. DeBell has brought some toys for you to play with this week. You will each have a turn to play with them." As each child's turn came, the teacher told him, "_____, it's your turn to go play with the toys now."

Each S was seen individually in a small room at his nursery school. On the floor of the room was an assortment of toys. After a 10 minute period of interaction the compliance requests, picking up blocks and filling in squares, were made.

During the initial period, the E was observed separately by two observers for a total of five Ss. Both observers agreed that the E was carrying out the experimental manipulations properly. Data on these five Ss were not included in the analysis of results.

In the nurturance condition Ss experienced 10 minutes of warm interaction with the E. When the S was brought to the experimental room by the nursery school teacher the E said to

the child, "Hello, I've brought some toys for you to play with today." The E then sat on the floor close to the child and played with the child. The E was as warm as possible in her interactions with the child. Warmth included smiling at the child, hugging or touching the child, responding to the child's actions.

In the nonnurturance condition Ss experienced 10 minutes of cold interaction with the E. When the S was brought to the experimental room by the nursery school teacher the E said to the child, "Hello, I've brought some toys for you to play with today. You go ahead and play with these. I have some reading I must do over there while you play." Further interaction including eye contact was avoided. If further interaction was necessary, the S was neutrally told that E was busy. "I'm busy reading right now. You may play with the toys."

In the nurturance withdrawal condition the Ss experienced five minutes of the nurturant condition immediately followed by five minutes of the nonnurturant condition.

After the 10 minute interaction session the S was requested to pick up 100 colored blocks that were scattered among the toys and place them in a box. "_____, I want you to put all of these blocks in this box as quickly as you can." This task was allowed to continue for two minutes. At the end of this time the S was told, "That's enough blocks now." The S was then asked to fill in squares on a sheet of quadrille filler paper. After a brief demonstration he was told, "_____, I want you to very carefully go

I want you to very carefully color in each of these little squares one at a time as quickly as you can. Like this." This task was allowed to continue for four minutes.

Results

Table 1 (p. 17) shows the mean number of blocks picked up in each of the treatment conditions by the males and the females. Under the nurturance treatment condition both males and females picked up the highest mean number of blocks. The mean number of blocks for both sexes was slightly less in the nurturance withdrawal condition. Under the nonnurturance conditions the lowest mean was obtained for both males and females with the mean for males being considerably lower.

A 2 x 3 x 3 analysis of variance (Bruning & Kintz, 1968) was used to analyze the data. Two tailed tests were used throughout to determine the level of significance. Table 2 (p. 18) presents a summary of the findings. No significant main effects were found or significant interactions. The .05 level of significance was used throughout.

Table 3 (p. 19) shows the mean number of quadrille filler squares filled in by each of the treatment conditions by the males and the females. For the females, the means of the nurturance and the nurturance withdrawal conditions were nearly equal with the mean for the nurturance withdrawal condition being slightly higher. For the males the mean of the nurturance condition was slightly higher. For both males and females the mean for the nonnurturance condition was lower.

Table 1
Mean Number of Blocks Picked Up

Sex	Condition		
	Nurturance	Nonnurturance	Nurturance Withdrawal
Female (n=30)	50.8	45.0	48.7
Male (n=30)	48.3	29.5	47.5

Note--n=10 for all cells

Table 2
Analysis of Variance: Blocks

Source	DF	MS	F	p
Total	59	-	-	-
Nursery (A)	2	1,125.684	2.223	n.s.
Sex (B)	1	614.400	1.213	n.s.
Condition (C)	2	903,717	1.785	n.s.
A x B	2	413.087	0.816	n.s.
A x C	4	651.927	1.287	n.s.
B x C	2	312.650	0.617	n.s.
A x B x C	4	350.771	0.692	n.s.
Error	42	506.440	-	-

Table 3
Mean Number of Squares Filled In

Sex	Condition		
	Nurturance	Nonnurturance	Nurturance Withdrawal
Female (n=30)	44.9	35.6	45.1
Male (n=30)	39.7	22.3	37.2

Note--n=10 for all cells

Table 4
Analysis of Variance: Squares

Source	DF	MS	F	p
Total	59	-	-	-
Nursery (A)	2	1,920.144	2.496	n.s.
Sex (B)	1	1,161.599	1.510	n.s.
Condition (C)	2	1,094.617	1.423	n.s.
A x B	2	788.703	1.027	n.s.
A x C	4	276.950	0.360	n.s.
B x C	2	85.050	0.110	n.s.
A x B x C	4	1,634.058	2.124	n.s.
Error	42	769.220	-	-

The mean number of squares filled in by the males in the non-nurturance condition was considerably lower than the remaining means. This pattern was also noted in Table 1. Thus the pattern of means for both the number of blocks picked up and the number of squares filled in was essentially as predicted.

A 2 x 3 x 3 analysis of variance of the data failed to show any significant main effect or interaction. Table 4 (p. 20) shows a summary of this analysis of variance.

Discussion

The original hypothesis that children would be more compliant to an adult female following a nurturant interaction than following a nonnurturant interaction was not supported. None of the treatment conditions had a significant effect on the level of compliance of the preschool children to requests by an adult female. Sex of subject was also not a significant variable, although the low means for males in the nonnurturance group was suggestive. Likewise, the nursery school the child attended was not a significant variable.

While the differences in means were not significant for the treatment conditions, the means were in the predicted direction of more compliance from those children receiving a nurturant interaction than those receiving a nonnurturant interaction. One factor which operated against this difference in means being significant was the great degree of variability found between subjects in all groups. However, since this trend in the predicted direction was present, it seems more

reasonable to examine possible flaws in methodological and design factors rather than to reject entirely the hypothesis under consideration.

The experimental manipulation in the present study was adapted from Hartup (1958) and has been used with significant results by others (Burton et al., 1966; Parke, 1967; Staub, 1970). Bandura and Huston (1961), however, did not feel the 10 minute interaction session was long enough and thus used two 15 minute ones with significant results. In view of past studies which have obtained significant results with a 10 minute interaction period, it is felt that some other facet of the experimental manipulation should be considered.

In this study the experimenter was relatively inexperienced since only five practice trials were used. Experimenters in the other studies may have been more experienced in this particular procedure, although exact information on this point is not provided. Experimenters with more experience might be expected to be more relaxed and confident and, therefore, able to interact more warmly with the children receiving nurturance or less ambivalently with those receiving nurturance withdrawal. This would have the effect of increasing the potency of the experimental manipulation. The sex of the experimenter was in this instance female, as in the majority of experimental studies cited and hence should not have been a factor.

The setting in which the experiment took place was typical of similar studies as was the procedure followed in getting subjects to the room. The activity for the children during the manipulation was similar to those used by other studies. In two studies (Parke, 1967; Saadatmand et al., 1970), however, drawing was the activity used rather than playing with toys. Since studies using both forms of activities have achieved significant results, the behavior of the experimenter may be of greater importance.

The subjects used in this study were similar in many respects to those used in other studies. They were for the most part middle-class with parents being university affiliated or engaged in a profession. The subjects were also enrolled in a nursery school as were subjects in the other studies with the exception of two (Parke, 1967; Saadatmand et al., 1970), which used older subjects.

The dependent variables chosen were not based on previous studies but on a desire to find tasks that would not be heavily related to the intelligence level of the children and also monotonous enough that the children would not willingly perform them for a long period of time. The two tasks used may not have allowed for enough differentiation among the children. The length of time allowed for each task may not have been long enough for clear differences between groups to emerge since all the children with the exception of five worked the entire time.

The final point to be considered is the dependence level of the subjects used. In the Hartup (1958) study the girls were much more influenced by nurturance withdrawal than by nurturance. This was not so in the boys until they were separated into high dependent and low dependent. Then the high dependent boys were seen to have been influenced in the same manner as the girls. The Bandura and Huston (1961) study in which the dependency of the subjects was also taken into account found no significant relationships.

It is possible that the compliance tasks used in the present study were more affected by the dependence level of the subjects than that in the Bandura and Huston study (1961) where model imitation was in question. Of interest here is that a number of children in the nonnurturance condition seemed not at all bothered by it and played contentedly with the toys while others were very much bothered by the lack of attention. It would seem that the individual differences in the dependence level of the children influenced their behavior during the experimental session.

Future studies in this area may want to consider some of the following points. Since a high degree of variability was seen between subjects on the tasks used, a subtle pretest of the child's typical level of compliance may be used as a basis to judge the change in compliance level following the various experimental manipulations. Experimenters may also want to take into account the variable of dependence since this may

affect the performance of the child on the compliance tasks. The compliance tasks used may be further refined so as to permit differences between groups to be more clearly expressed. One interesting line of inquiry which may be pursued is whether specific praise for compliant acts during the experimental manipulation would be more effective than nurturant behavior only by the experimenter.

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