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Social responsiveness as a function of examiner involvement and history of maternal involvement.

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SOCIAL RESPONSIVENESS AS A FUNCTION OF EXAMINER
INVOLVEMENT AND HISTORY OF MATERNAL INVOLVEMENT

A Dissertation Presented

By

Leatrice Mankin Sherer

Submitted to the Graduate School of the
University of Massachusetts in partial
fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

June

1975

Clinical Psychology

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Social Responsiveness as a Function of Examiner Involvement and
History of Maternal Involvement (June, 1975)

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Previous studies of a child's responsiveness to E involvement produced inconsistent results. These may have resulted from a failure to take into account the S's prior social learning experiences. The major purpose of this study was to test whether a child's initial responsiveness to a woman's social involvement was affected by her experiences with maternal social involvement. A second purpose of this study was to see how a child's social responsiveness was affected by her dependency. Home observation of 36 first grade and 24 kindergarten girls and their mothers determined the level of maternal involvement. Several types of dependency behavior were tallied during the home observation, and teachers were asked to rate Ss on 5 scales of school-dependency behavior. After maternal involvement and dependency histories were established, Ss were asked to assume the maternal role in a shopping game at school to assess baseline response-styles. Two weeks later, they observed E modelling a different maternal style following one of three treatment conditions: (1) consistently positive E involvement, (2) disrupted positive involvement, or (3) no involvement.

Data were analyzed for imitative and ingratiating behaviors. A S was more likely to imitate when E's style of involvement matched her

mother's. Also, first grade Ss with histories of low maternal involvement imitated slightly more. There were no significant results for ingratiating behavior. The maternal involvement results clearly show the importance of a child's history in affecting her initial responsiveness. Discussion of this interaction supported arguments for life-history viewpoints, like Baron's (1966) Social Reinforcement Standard, and for social-deprivation hypotheses. Correlational analyses showed that a child's dependency had no relationship to her imitative behavior, but had a moderate positive relationship to her ingratiating behavior. Patterning of dependency results also suggested that a child's specific social learning history determines her social responsiveness. Discussion of the effects of both maternal involvement and dependency did not support arguments for various anxiety-arousal hypotheses. The variability of results, according to type of social responsiveness and S age, was discussed as the role of cognitive cues in modulating social response.

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C H A P T E R I

INTRODUCTION

Social reinforcement and imitation constitute the major means for changing behavior in children. Used together they are very effective in facilitating the intentional learning of instrumental responses. Much of a child's behavior repertoire, however, is gained through a process of incidental learning, in which the child actively imitates a Model in the absence of both induced set to learn and direct reward or punishment for his instrumental responses (Bandura & Huston, 1961). Accordingly, imitation and identification are homologous processes, and generalized behavioral and conceptual propensities as diverse as sex-role identification, dependency, aggression, resistance to temptation, patterns of self-reward, reduction of phobias, and food preferences can be acquired by imitation in the absence of either direct or vicarious reward (Bandura, 1969; Bandura & Walters, 1963; Flanders, 1968).

Imitation in the absence of social reinforcement, however, is a selective process, dependent on the same antecedent and contextual conditions that govern any type of social responsiveness. The present study seeks to clarify the facilitative role of several of these conditions. Of those Model characteristics which cue the availability of social reinforcement, nurturance has proved to be the most salient. Used as a precondition for various types of imitation, however, nurturance has produced conflicting results. The present study will investigate whether nurturance is necessary for the imitation of role-playing behaviors and for ingratiation. It will also compare the facilitative

effect of nurturance with that of nurturance-withdrawal for these behaviors.

Of those Observer characteristics which greatly influence the amount and type of imitation produced under conditions of both social reward and nonreward, dependency has been the most heavily studied. Yet there remain questions about the type of social reinforcement history which fosters dependence and about the relationship of dependency to imitation. The present study seeks an explanation for the positive correlation between a child's dependency and her tendency to imitate by examining various aspects of the mother-child relationship.

Previous research has focused on those Observer characteristics, like dependency, which are associated with higher rates of imitation and with greater responsiveness to social reinforcement. Such Observer characteristics interact with contextual cues that signal the present probability of social reinforcement to produce further increases in social responsiveness. Most researchers, however, believe that this interaction between Observer and contextual characteristics effects only initial response strength or stimulus control. Recent research, however, has not only produced some results contrary to the predicted initial response strength, but has shown that response strength and stimulus control change throughout the experimental situation as a function of the present rate of social reinforcement. This writer contends that using Observer characteristics to predict social reinforcer effectiveness can not be as accurate as using the more fundamental social reinforcement history from which such characteristics derive. The present study will test the hypotheses that the Observer's

expectancy of reinforcement, as determined by his reinforcement history, is the best predictor of initial and ongoing responsiveness to social reinforcement.

Imitation and Identification

In this study, female children will be asked to play the role of mothers in a supermarket who must consider, answer, and act upon the childlike requests of a doll. Several weeks later each subject will observe an adult respond differently to the same task and then will be asked to play the role a second time. This task was chosen to simulate role-learning in natural settings.

What is viewed as "imitation" in the present study is likely to be regarded as "identification" by personality theorists. Identification usually implies a process or product different from that of imitation and is generally believed to be indicative of an affectional relationship. It seems necessary, therefore, to discuss both (1) the similarity between imitation and identification and (2) the occurrence of identification in a situation where an established positive interaction is minimal and where social reinforcement for imitation is absent.

Earlier learning theorists like Dollard and Miller and Mowrer believed that imitation and identification are distinct behaviors. These theorists, however, did offer explanations for imitative behavior in the absence of external reinforcement. Dollard and Miller believed that a person is rewarded for similarity, and punished for dissimilarity, of his behavior to that of a Model. He soon learns to discern

differences in his behavior, and perceived similarity to a Model becomes anxiety-reducing and thereby positively reinforcing. Mowrer advanced a model in which imitation could be independent of direct reward. Since certain Model behaviors are associated with primary reinforcement, they and their imitation acquire secondary reinforcement value.

Gewirtz and Stingle (1968) believe that generalized imitation is the basis for identification. Generalized imitation is acquired when a class of directly reinforced imitative behaviors which are different from, but functionally equivalent to, one another occur in a person's repertoire. The very diversity of imitative behaviors which get reinforced prevents their discrimination from those imitative behaviors which are not reinforced. When one imitative behavior is intermittently reinforced, others in that response class are also reinforced. Thus, nonreinforced behavior can persist, new behavior which has never been directly reinforced can enter the response class, and imitative behavior can recur in a situation without direct reinforcement. When generalized imitation is focused on a single Model, so-called "identification" can occur. A single imitative behavior may be reinforced, but others in its response class will be acquired additionally. In this way, general dispositions can be acquired, as well as discrete behaviors.

Bandura (1969) agrees with Gewirtz and Stingle that distinctions like motivation or type of emulated response, which are attributed to the concept of identification, are gratuitous. He also believes that the diversity of Models and imitative behaviors for which a child is

reinforced, coupled with an intermittent reinforcement schedule for imitation, can result in a generalized disposition to imitate the behavior of others. This disposition is manifested as observational learning. Whether a child actually imitates the behavior of others, however, is dependent on incentive control by the Model or situation.

This writer accepts Bandura's explanations of imitation. The present study is designed to examine several aspects of incentive control of imitation.

Imitation and Nurturance

Salience of Nurturance

Three parental/Model variables - warmth, power, and aggression - have been hypothesized as affecting identification. Of these, warmth, or nurturance, has proved most salient and has been the most heavily investigated. Model aggression has been largely discredited as a major facilitator of identification. Its importance lay in the psychoanalytically-oriented hypothesis that "aggressive or defensive identification" is a major process in personality development. Hetherington and Frankie (1967) point out that evidence for this type of identification is mostly anecdotal and is obtained in extreme environments, like concentration camps, in which the victim is both dependent on, and unable to escape from, the aggressor. These authors hypothesized that these conditions would be met in a family in which neither parent is warm and in which parental conflict is high, but one parent remains more dominant and hostile to the child. The child can not physically escape because of his dependence on his family, nor can he escape through a

relationship with a warm, nondominant parent. Their study confirmed that children from such families imitate the hostile dominant parent.

There is additional experimental confirmation for the concept of identification with the aggressor. Rule-enforcing behavior in girls is dependent on maternal punitiveness, but is unrelated to maternal warmth; in boys, however, it requires observation of restricting behavior by a warm mother (Maccoby, 1961). When aggression is directed towards children, they are more likely to learn (Grusec & Mischel, 1966) and to perform (Mischel & Grusec, 1966) that aggressive behavior if the Model has been both nurturant and in control of future resources.

Maccoby (1959) has suggested that power, or the ability to control material and social rewards, along with frequency of contact, is predictive of the degree of identification. Few studies have tried to separate social from material power or to estimate their relative efficacy in influencing behavior. In a recent study, Stouwie (1972) found that children more readily follow instructions to transgress or not to transgress from dominant, rather than from warm adults. Mischel and Liebert (1967) found that a child's self-rewarding behavior is greatly influenced by a Model's potential power to dispense material rewards. In contrast to this finding, Bandura, Grusec, and Menlove (1967) found that not only is nurturance less effective than vicarious social reinforcement for influencing self-rewarding behavior, but that nurturance and imitation of self-reward patterns have an inverse relationship. Taken together, these studies strongly suggest that imitation of behaviors relevant to moral development is facilitated more by dominance, or control of material rewards, than by nurturance.

Stouwie (1972) speculates, from the results of both his study and Hetherington's, that nurturance facilitates only identification and sex-typing. Bandura, Grusec, and Menlove (1967) suggest that nurturance may facilitate imitation of neutral classes of behavior, but that it has no or negative influence on imitation of behaviors which are aversive. Indeed, imitation of aggressive behavior seems to be independent of Model nurturance (Bandura & Huston, 1961; Bandura & Walters, 1963). Research has found a negative relationship between imitation of high moral standards and Model nurturance. Procedurally, good performance is materially rewarded. Adoption of high standards obtains fewer material rewards and, therefore, has been conceptualized as aversive (Bandura, Grusec & Menlove, 1967).

Most studies which have supported the importance of nurturance for imitation have used neutral and sex-typed behaviors. Bandura and Huston (1961) found that nurturance facilitates incidental imitative learning. Several other studies have found that while imitation of task-related behavior is independent of Model nurturance, imitation of task-irrelevant behavior is facilitated by it (Jasperse & Hekken, 1971; Rosenblith, 1961). Nurturance by a film-mediated adult Model (Ross, 1970) or by peer Model (Marinho, 1942) facilitates imitation in children.

Several studies support Bandura and Huston's (1961) contention that incidental imitative learning is the process involved in identification. In a laboratory simulation of a nuclear family group (Bandura, Ross & Ross, 1963) and in a family group in a laboratory

situation (Hetherington & Frankie, 1967), nurturance and power were found to facilitate incidental imitation. Mussen and Parker (1965) suggest that sex-typing is merely incidental imitation of the same-sex parent. Their observational study and other studies employing projective and interview techniques (Bandura and Walters, 1959; Mussen & Distler, 1959; Sears, 1953), confirm that nurturance facilitates a child's emulation of the same-sex parent.

Nurturance can fail to facilitate imitation, however, even when the modeled behaviors are irrelevant verbal and motor responses (Gilandas, 1971) or prosocial behaviors (Flanders, 1968). Clearly, the role of nurturance needs to be further defined. Several questions may be asked about the relationship of nurturance to imitation: Is a prior nurturant relationship necessary before a child will imitate a Model's behavior? What types of imitative behavior require a prior positive relationship between the Model and the Observer? How effective is nurturance, compared with other forms of social manipulation, in facilitating imitation?

The present study will test whether nurturance is necessary for the imitation of adult role-playing and verbal response tendencies. The verbal responses modeled will form a pattern which conveys an adult's attitude towards indulging a child and towards justifying her answers. While this study will only test whether nurturance is necessary to a child's willingness to imitate the words or phrases of an adult Model, it will bear on a child's acquisition of attitudes and values.

Children in the control group will be sent to the experimental

room to play the Supermarket Game. Several weeks later, they will be sent to the room again, but will first observe the Model playing before repeating the game themselves. Contact with the Model will be minimal. In an earlier study (Sherer, 1971), children's response patterns did not change appreciably as a function of familiarity with the task, need for novelty, or loss of inhibition with increased familiarity with the Experimenter. Thus, if changes in response patterns occur in the present control group, they will result from the opportunity to observe a Model. The direction and magnitude of these changes, in comparison with those of the group receiving prior nurturance, will measure the facilitating effects of nurturance. This manipulation will test the hypotheses that nurturance (1) is not necessary for the imitation of verbal response categories, but (2) will facilitate such imitation.

Nurturance versus Nurturance-Withdrawal and Imitation

The nurturance studies cited above primarily contrast the facilitating effects of nurturance either with those of no social interaction or an aloof interaction. Essentially, these studies focus on the Model characteristic of nurturance in relation to imitation. A larger, and more interesting, group of studies compares nurturance with its withdrawal in facilitating imitation and other indices of social responsiveness. This group of studies focuses on the effects of the nurturance manipulation on the Observer. Essentially, they measure the Observer characteristic of motivation, or arousal, in facilitating social reinforcer effectiveness.

Because of its association with the gratification of primary

needs, nurturance acquires rewarding properties. Nurturance has been explained as arousing alternatively because of its incentive value, its anxiety-reducing properties, or its signalling the availability of dependency gratification. Nurturance-withdrawal tends to heighten the level of arousal beyond that of nurturance and, thus, enhances response to social reinforcement. Explanations for this effect, however, are more varied and numerous than those for nurturance effects.

Explanation for Facilitation Effect of Nurturance-Withdrawal

Analytic. In psychoanalytic theory, both anaclitic and defensive identification occur when a threat (loss of love or punishment) motivates a child to introject the characteristics of the threatening adult. Mowrer (1950) operationalizes this theory: Imitation of those caretaker responses which possess acquired secondary reward value occurs to a greater extent when the Model withdraws those behaviors, because the Observer will assume those behaviors in an effort to supply the missing rewards.

Social drive. When behaviors acquire secondary reward value, their withdrawal produces a deprivation state which can be eliminated only by the resumption of that reward. Gewirtz and his colleagues (Gewirtz & Baer, 1958a; 1958b; Gewirtz, Baer & Roth, 1958; Landau & Gewirtz, 1967) equate a deprivation state for social reinforcers with a deprivation state for food. Performance to a reinforcer will increase with deprivation of that reinforcer and will decrease with satiation to that reinforcer. The amplitude of the resulting social drive is a function of the number of social reinforcers received. Intensity of

social responsiveness will be greatest after social isolation and decreasingly intense after withdrawal of social reward by a social agent, low availability of social reward by a social agent, and moderate to high rates of reinforcement. Since generalized imitation is subject to the same antecedent conditions as any other response tendency (Gewirtz & Stingle, 1968), social deprivation should facilitate imitation.

Dependency motive. This explanation is similar to that of social drive in that social behaviors acquire a reward value and their removal produces a drive state. According to Sears (1957), removal of social rewards frustrates the individual's dependency motivation and increases his dependency drive. Imitation can reduce the dependency drive by eliciting direct reward or by obtaining vicarious reward through role-playing Model behaviors which previously met dependency needs. Both the social drive and dependency motive explanations predict that the present level of arousal is a function of an individual's characteristic social reinforcement-seeking behavior. The social drive explanation, however, allows for further variation due to the amount of social reward available in the situation.

As an Observer variable which facilitates social reinforcer effectiveness, dependency has long played a part in personality theory and research. Recently, however, both the concept of a "dependency trait" and the process by which dependency influences social reinforcer effectiveness have been questioned. These issues warrant a separate discussion later in this paper.

Anxiety arousal. Walters and his colleagues (Walter, Marshall &

Shooter, 1960; Walters & Ray, 1960) contend that anxiety is the only concept necessary to explain the facilitated social reinforcement effects with arousal. Anxiety is a conditioned emotional response to the pain caused by deprivation of biological needs when a caretaker fails to respond to those needs. Anxiety becomes secondarily conditioned to the loss of social behaviors associated with caretaking. Isolation, social deprivation, and nurturance-withdrawal thus evoke anxiety; therefore, social drive explanations are superfluous.

After conducting a study (Jacubczak & Walters, 1959) which found a positive correlation between dependency and anxiety, Walters agreed with the contention by Hartup (1958; Hartup & Himeno, 1959) that all active dependency behaviors, like help and attention-seeking, and all passive dependency behaviors, like response-shaping through demand or approval, are motivated by anxiety. As with social drive, the facilitative effects attributed to a dependency motive are seen as simply an anxiety reaction, in this case, dependency anxiety.

Imitation Studies

Few studies have compared the facilitating effects on imitation of nurturance versus nurturance-withdrawal. Those which have been conducted produced contradictory and inconclusive results. An early study by Rosenblith (1959) found that nurturance is generally better than nurturance-withdrawal in facilitating imitation; Hartup (1958) found the opposite results. Rosenblith (1959; 1961) found that girls imitate more under conditions of consistent nurturance; Hartup (1958) found the opposite.

Other studies have found no significant differences in imitation with nurturance or nurturance-withdrawal manipulations; both conditions facilitate imitation. Sgan (1967) found slightly more imitation to nurturance-withdrawal, but only for middle-class children. Stein and Wright (1964) conducted the only imitation study in which children were reinforced for imitation before undergoing nurturance manipulations. The authors' first analysis yielded no significant differences, but there was a tendency for nurturance-withdrawal to facilitate more imitation. When the children were divided on the basis of whether the manipulation increased or decreased dependency (based on the number of positive attention-seeking bids), significant interactions between manipulation and dependency-reaction occurred. Children for whom the nurturance-withdrawal and control (brief isolation) conditions produced increased attention-seeking also imitated more. When children in these groups declined in attention-seeking, they also did not imitate. Children undergoing the nurturance manipulation reacted differently; those who increased in attention-seeking did not imitate, but when attention-seeking decreased, imitation increased.

Stein and Wright postulate that two types of facilitation, dependency-anxiety and incentive, were involved in their study. This writer believes, however, that the differences were caused by different amounts of facilitation rather than different types of facilitation. Children in the nurturance-withdrawal and control groups more actively sought reinforcement with any behavior that could serve to elicit attention and reward. The children in the nurturance group seemed to be more discriminating in the behavior chosen to elicit reward. Since

experimenter behaviors in separate stages of the study had signalled the availability of reward first for attention-seeking and then for imitation, it might be said that the children in the control and withdrawal groups were more attentive to the variety of social cues. Sherer (1971) also found a tendency toward more imitation for children from whom nurturance had been withdrawn. In this experiment, the Model chose a verbal style opposite to that of the child. The withdrawal of nurturance group not only added slightly more of the modeled verbalizations to their performance, but also used fewer verbalizations from their previous style. Thus their overall verbalizations conformed to the attitude modeled. In addition, the withdrawal of nurturance group imitated more of the Model's physical responses. Since the verbalizations tended to distract attention from the physical responses, this difference also indicates that the withdrawal of nurturance group was more attentive than the nurturance group.

Walters and Parke (1964b) point out that perceptual thresholds alter concomitantly with arousal. They add that attention may also be linked with specific emotion-arousing cues. In the foregoing imitation studies, withdrawal of nurturance tended to facilitate imitation more than did nurturance. Was this facilitation of imitation a result of arousal, increased attention, or both? Even in the withdrawal of nurturance groups, many children showed reduced imitation, attention-seeking, and attention to cues. For them, is arousal linked with a decrease in attending? If so, what mediates this linkage?

The answers to these questions have been sought through two different avenues of research. The first is the relation of nurturance

and nurturance-withdrawal to performance measures of social reinforcer effectiveness. The second is the relation of dependency to social susceptibility and facilitation of social reinforcement.

Performance Studies

Nearly all investigations of social reinforcer effectiveness have concluded that arousal produces facilitation effects. As discussed above, there are several explanations for this. The social-satiation hypothesis has been severely criticized but remains the most viable of these explanations.

Social deprivation. In a series of studies, Gewirtz and Baer found that social isolation (1958a; 1958b), low social availability (Gewirtz et al, 1958), and satiation (1958a; 1958b; Gewirtz et al, 1958) facilitate social reinforcer effectiveness in a descending order. The authors hypothesize that deprivation arouses motivation to obtain approval and attention. The findings have been repeated. Erickson (1962) using a verbal conditioning paradigm and Stevenson and Odom (1962) using a rate measure of marble-dropping found the same ordering of results as in Gewirtz's studies. Lewis (1965) and Kozma (1969) confirm that approval-contingent performance is a function of duration of prior social isolation. Gewirtz recently operationalized his definition of "low social availability" by finding that approval-contingent performance is a function of the number of prior approval statements (Gewirtz, 1969; Landau & Gewirtz, 1967).

In a recent review of the deprivation-satiation hypothesis, Eisenberger (1970) points out that most of the successful replications

of these findings have been in studies employing choice measures. Those studies employing rate and duration measures, with the marble-dropping task used by Gewirtz and Baer, have yielded weak and inconsistent results. Eisenberger, however, points out several methodological deficiencies, including the relative insensitivity of the rate measure of marble-dropping, which make interpretations based on the rate and duration measures of these studies highly equivocal.

Although these studies fail to delimit deprivation-satiation explanations to choice measures, a recent study suggests another possible limitation. The social drive explanation predicts that a deprivation state produced by one social agent can be satisfied by approval from another agent. Babad (1971) suggests an alternative, cognitive interpretation for social deprivation-satiation effects. The effects are mediated by the child's perception of the contingencies of the interaction, i.e., his learning the reinforcing value of a social agent. Two predictions follow from this hypothesis: (1) the same ordering of results can be achieved merely by providing the child with the adult's usual reinforcing pattern ("He says 'good' many times"), and (2) the effects will not be generalizable to other reinforcing adults. Babad confirmed these predictions for middle-class children. His study suggests that limits can be placed on the generalizability of deprivation-satiation effects when verbal cues are given to facilitate discrimination. There is no basis for assuming, however, that deprivation-satiation effects are generally mediated by the child's perception, and labeling, of reinforcement contingencies.

Sensory deprivation. Critics of the social deprivation hypothesis have claimed that its effects might result from a limited form of sensory deprivation. Two procedures can be used to evaluate this criticism. The first involves isolating children, then comparing their performances for social stimuli with those for sensory, or non-social, stimuli. The second test compares the approval-contingent performances of children who were previously completely isolated with the performances of children who were previously socially isolated, but given sensory stimulation.

Completely isolated subjects perform consistently better for social rewards than for marbles (Erickson, 1962), light (Dorwart, Ezerman, Lewis & Rosenhan, 1965; Rosenhan, 1967), or light with buzzer (Endo, 1968). It might be said that these sensory rewards are not attractive enough to overcome sensory deprivation effects. However, Rosenhan (1967) found that a light is sufficiently rewarding for socially satiated subjects to significantly increase their performance beyond those given for a social stimulus. More conclusively, Endo (1968) found that a light-buzzer reward is positively reinforcing for both isolated and non-isolated children, but not more reinforcing than social reward for the isolated children.

Stevenson and Odom (1962) found no differences in approval-contingent marble-dropping between groups of children who had been completely isolated and those who had been isolated in a room full of toys. A second study substituted a film with "interesting" sensory effects for the toys used previously. The group undergoing both sensory and social deprivation had significantly better approval-contingent

performance than the social deprivation group (Hill & Stevenson, 1964).

Clearly, children who undergo sensory deprivation will respond with more intensity to both non-social and social stimuli. The effects of sensory and social isolation are distinct and additive, but social deprivation accounts for the preponderance of approval-contingent performance following isolation.

Anxiety-arousal. As previously discussed, proponents of the anxiety-arousal hypothesis claim that increased approval-contingent performance following isolation is due to the anxiety-provoking effects of isolation, not to social deprivation. Anxiety facilitates performance of a simple motor task, like marble-dropping, and approval following anxiety-arousal is facilitative simply because it supplies an anxiety-reducing stimulus. Any pleasant stimulus would have the same effect.

While there is ample evidence that anxiety-arousal does have facilitating effects on performance (Walters & Parke, 1964b), there is no clear evidence that isolation provokes anxiety. It is also uncertain, therefore, that isolation facilitates approval-contingent performance through anxiety-arousal. Walters and Ray (1960) had children undergo low or high anxiety-provoking situations followed by isolation or non-isolation. The presence of an aloof stranger was assumed to provoke anxiety, based on prior associations of discomfort to separation from parents and caretaking by strangers. The authors found that the anxiety-isolation condition facilitated approval-contingent performance more than the equally facilitative anxiety-non-isolation and low anxiety-isolation conditions. They concluded that isolation produces anxiety.

Many studies have confirmed that a stranger can facilitate approval-contingent performance more than a familiar person can. Some of these researchers agree that the facilitating process is anxiety (McCoy & Zigler, 1965), while others believe that children respond better to a stranger's approval because they are normally deprived of it (Stevenson, Keen & Knights, 1963). That the stranger in the Walters and Ray study was aloof, however, does not necessarily indicate a further anxiety-provoking condition. Since aloofness can be defined by the number of reinforcers dispensed (Gewirtz et al, 1958; Gewirtz, 1969; Landau & Gewirtz, 1967), the results can be accounted for by social deprivation. Gewirtz points out that his studies have repeatedly found that enhanced approval-contingent performance occurs with both isolated and non-isolated children. The lesser facilitative effect that has been found when children are not isolated, but remain in the presence of an aloof stranger, is probably due to the stranger's emitting some social reinforcement in the form of nearness and visual attention.

To summarize, the contention that isolation facilitates performance to social stimuli because of their anxiety-reducing properties has been poorly tested; most research confounds anxiety and approval-deprivation. In addition, the social deprivation hypothesis is more parsimonious than the anxiety-arousal hypothesis in that it can account for the facilitative effects not only of isolation, but of other types of approval-deficient social relationships as well. Of course, it may be that anxiety is aroused in varying amounts by different degrees of approval-deprivation, but this possibility has been indirectly negated.

The anxiety-arousal hypothesis predicts that any anxiety-reducing

stimulus will facilitate performance following isolation. However, several studies have already been cited which found no increase in performance to non-social stimuli or less increase than to social stimuli following isolation (Dorwart et al, 1965; Endo, 1968; Erickson, 1962; Hill & Stevenson, 1964; Kozma, 1969; Rosenhan, 1967). The anxiety-arousal reinterpretation of Gewirtz and Baer's results is partially based on the assumption that anxiety facilitates performance of a simple motor task. Grossman (1968), however, found that anxiety interferes with simple motor performance by children comparable in age to the subjects used in the Gewirtz and Baer studies.

Facilitation of attention. Although it is questionable whether social deprivation procedures arouse anxiety, they may induce a motivational state. The only study employing a physiological index of post-isolation arousal (Walters & Parke, 1964a) did not measure the separate effects of the isolation and a threatening procedure which preceded it. Gewirtz and Baer did suggest an arousal state when they equated social deprivation with deprivation for a primary reinforcer (1958a; 1958b; Gewirtz et al, 1958). Gewirtz later (Landau & Gewirtz, 1967) interpreted the arousal following social deprivation as "motivation for social approval". Assuming that social deprivation procedures induce arousal, the question remains whether, as Walters and Parke (1964b) suggest, it is arousal which elicits the seemingly enhanced attention of children subjected to social deprivation.

Cairns (1967) suggests that social deprivation facilitates attention directly. This suggestion followed his discovery that reduced ambiguity of verbal approval enhances approval-contingent performance.

It may be extrapolated from this that nurturance, as noncontingent social reinforcement, increases the ambiguity of the cue properties of approval and thereby reduces approval-contingent performance. In other words, the expectation develops that approval will continue to be dispensed unsystematically. Babad's study (1971) shows that expectancies based on information about an experimenter's usual rate of emitting approval result in the same ordering of approval-contingent performances as actual social deprivation-satiation manipulations. However, while the expectancy of indiscriminate approval statements might explain lowered approval-contingent performance following social satiation, the enhancement of approval-contingent performance following social deprivation cannot be explained conversely. Ambiguity cannot be reduced merely by decreasing the amount of unsystematic approval.

Gewirtz (1967) suggests that it is motivation for approval which determines the amount of attention given to approval statements. Accordingly, prior approval from an experimenter would result in lower approval-contingent performance, despite explicit instructions that his later approval would indicate "correctness". Eisenberg (1970) has reviewed several studies which support this prediction. A study by Lewis and Richman (1964) supports the contention that increased motivation for approval results from social deprivation. They found that children who had previously received low rates of social approval still showed great needs for social approval on the Edwards Personal Preference Schedule, despite having already received much approval due to their enhanced performances.

To summarize, withdrawal of reinforcement following a positive social interaction tends to facilitate later social reinforcer effectiveness more than does a consistently positive social interaction. Performance measures are best facilitated by withdrawal of reinforcement. Withdrawal of reinforcement includes isolation, nurturance-withdrawal, and low availability of reinforcement. Sensory deprivation and anxiety-arousal account for some of the enhanced social responsiveness which follows isolation. Social deprivation, however, accounts for most of the facilitation effect following isolation and numerous other social manipulations.

Although the mechanism(s) for this facilitation effect is(are) unclear, the prediction can be expected to hold for any behavior that is susceptible to social reinforcement. Since incidental imitation is especially susceptible to social reinforcement, the prediction for the present study is:

(1) Imitation of verbal response categories will increase more under the condition of disrupted E involvement than under the condition of consistent involvement.

Imitation and Dependency

Definition of Dependency

"Need for approval" is only one of many definitions that have been used for dependency. It does represent, however, the prevailing view among personality theorists that dependency is a trait, or a state within, the individual. Viewing dependency as something the individual brings, in relatively constant amounts, to any situation

overlooks the great influence of situational cues and reinforcers for eliciting and modifying dependency.

Dependency can be redefined as a habit of engaging in a number of behaviors which are successful in obtaining help, attention, or approval. Viewing dependency thusly not only recognizes that individuals differ in habit strength because of their prior reinforcement histories, but also that individual dependency habits can be differentially evoked and modified by situational parameters. Extending this revised definition to its logical conclusion means that any behavior which is followed by social reward, and which is then repeated to elicit further social reward, can be called "dependency behavior".

Walters and Parke (1964b) suggest that dependency be redefined as "susceptibility to social influence". Indeed dependency has been found to facilitate suggestibility (Jakubczak & Walters, 1959), conformity (Kagan & Mussen, 1956), affiliation (Walters & Parke, 1964b), success in psychotherapy (Stewart, 1971), performance to social reinforcers (Endsley, 1960; Endsley & Hartup, 1960; Ferguson, 1961; Gewirtz & Baer, 1958a; 1958b), and imitation (Bandura & Huston, 1961; Ross, 1966). Since these too could be termed as forms of susceptibility to social influence, perhaps dependency should no longer be considered a specialized concept. This writer endorses this view. The prevailing practice of defining a priori what behaviors constitute dependency and of delimiting dependency to certain contexts impedes understanding of a major portion of behavior.

It might be argued that the revised view of dependency, presented here, is so overinclusive that it not only limits understanding

of behavior, but that it precludes proper testing. This latter objection would not apply, however, if all forms of social susceptibility could be reduced to a common, testable set of behaviors. Walters and Parke (1964b) point out that all dependency behaviors have, as their common element, orienting and attending responses. Social susceptibility can be viewed as orienting towards people and attention to social cues.

How does this view of dependency behavior fit in with those issues already discussed? Specifically, what is its relation to imitation, attention, arousal, and nurturance? Bandura (1969) points out that under nearly identical conditions of modeling stimulation, certain individuals will display greater response acquisition. He believes that this greater acquisition is attributable to the greater attention paid by these individuals, and that the greater attention paid is influenced by the individual's dependency, level of arousal, and history of reward for imitation.

The relationship of dependency to attention has already been indicated. In the next section, it will be more fully explained and then related to changes in arousal. The following section will examine first the relationship between dependency and imitation and then the influence of several aspects of the individual's social reinforcement history on that relationship.

Dependency, Attention, and Arousal

Walters and Parke (1964b) interpret the results of Rheingold's "mothering" study, showing that attending and orienting responses of

infants increase over other forms of response to social reinforcement, to indicate that orientation and attention are the basis of social dependency. According to this view, dependency is first mediated by distance receptors and then becomes associated with more proximal senses like touch and warmth. This is opposite to the usual contention that dependency is based on feelings of warmth and contact, and that it then generalizes in a proximal-distal progression.

Walters and Parke explain that orienting and attending responses are crucial to learning and are, therefore, strongly reinforced. Attention facilitates matching by making the Observer more aware of the correct responses and by assuring his receipt of signs of approval and disapproval for his performance. Orienting responses are heavily rewarded by parents, because the child's approach behaviors bring him into the sphere of his parents' influence. Dependency, then, means a greater habit strength of attending, approaching, and seeking proximity. When these responses are further elicited by increases in arousal, a child becomes even more susceptible to social influence. In arousing situations, the dependent child who has a greater history of reinforcement for such responses at times of arousal, will be even more susceptible than at times of lower arousal.

Dependency and perception have been linked in another theoretical system. Witkin, Dyk, Faterson, Goodenough & Karp (1962) propose that individuals have a characteristic style of orienting and perceiving that is manifested across all areas of their functioning. Such styles are graduations on a continuum of "psychological differentiation". People who are "field-dependent" (manifested on perceptual tasks by the

fusing of figure and ground) have difficulty in segregating one aspect of functioning from another, in approaching tasks in a structured manner, and in separating themselves from people in the environment. Accordingly, they rely heavily on others to provide structure and approval. Approval serves as a source of information as well as support. Although field-dependent individuals are global in their processing of cues, they are understandably highly selective in attending to certain cues. They attend most to social cues, and in stressful situations, which tend to further hamper perceptual organization, they attend almost solely to social cues (Exline & Messick, 1965). Additionally, they are more sensitive to any change in the human environment (Konstadt & Forman, 1965).

To the observer, the field-dependent child acts in the same manner as the child typically labeled "emotionally-dependent". The emotionally-dependent child shows many of the perceptual and orienting responses of a field-dependent child. Beller developed a series of scales which measure dependency according to the frequency with which a child seeks contact, proximity, attention, recognition, and help (1955). In later studies, he found a positive correlation, which increased with stress, between dependency and attention paid to persons on whom children were dependent (1958). He also found that the social significance of a stimulus strongly influences the perception of high-dependent children (Beller & Turner, 1964). The field-dependent child looks toward social agents because of their utility in controlling not only his perceptual handicaps, but also their consequent frustrations. Any child finds utility in attending and orienting to social agents, but

children who are labeled "dependent" have been trained to rely more heavily on these responses. Those children, whose parents have rewarded such responses during times of stress, respond to stress with even higher frequencies of orienting and attending behavior.

Linking Dependency and Imitation

The relationship between dependency, attention, and arousal is clear. It has been well documented that there is a relationship between dependency and imitation (Bandura & Huston, 1961; Bandura, Ross & Ross, 1961; 1963; Ross, 1962). It is unclear, however, how these habits of dependency and imitation are related. Dependency means that a person finds great utility in attending and orienting to other persons and that, for him, social cues have a high probability of eliciting and maintaining the class of attending and orienting behaviors. Imitation is obviously among these behaviors. Attention and orientation to a Model are necessary for observational learning. The incentive value provided by the Model and his behavior determines the selective retention of and willingness to perform these behaviors (Bandura, 1969).

Is, then, a person's usual rate of dependency behavior predictive of his rate of imitation? That is, does the same reinforcement history which produces a dependent child also produce a child who will imitate at higher rates in a situation which provides social incentives? Or, do the reinforcement histories for dependency and imitation strongly overlap but nevertheless differ? Dependency (Cairns, 1962; Ferguson, 1961; Nelson, 1960), imitation, and generalized imitation

(Baer, Peterson & Sherman, 1965) have been increased through direct training in a laboratory situation. This indicates that contingent reward for dependency and imitation can govern their separate acquisition and maintenance and thereby produce quite different characteristic rates of dependency and imitation in a child. To what extent, however, do natural settings provide disparate rates of reinforcement for dependency and imitation?

As was discussed before, traditional theories of personality posit that dependency is the basis for imitation, and that nurturance facilitates imitation because of its facilitative effects on dependency. Bandura and Walters (1963) present several reasons for the relationship of nurturance to dependency and imitation: (1) Warm, accepting parents more often reward children's approach responses, and thereby, ensure more frequent parent-child interactions and more opportunities for children to observe their parents. (2) A nurturant parent's behavior acquires more reward value and is more likely to be reproduced. (3) When imitative responses occur, a nurturant parent is more likely to reinforce them.

Earlier it was noted that nurturance tends to facilitate only incidental imitation. Recent studies have shown that dependency, also, tends to facilitate only incidental imitation (Goggin, 1972; Ross, 1966). No or negative relationships have been found between dependency and intentional learning (Goggin, 1972; Portuges & Feshbach, 1972; Ross, 1966). Intentional or purposive learning requires attention to nonsocial cues and perhaps requires the ability to be motivated by nonsocial incentives. Thus, if dependency is defined as greater attention

and susceptibility to social cues, it is predictable that the relationship between nurturance, dependency, and imitation would diverge at task-related imitation.

Any child's imitation and dependency repertoires have histories which overlap. As discussed by Gewirtz and Stingle (1968), reinforcement of any behavior in a response class strengthens other behaviors in that class. Therefore, whenever any orienting and/or attending response is reinforced, all dependency and imitative behaviors are strengthened. Each child's characteristic selection and habit strength of dependency and imitative behaviors, however, is determined by his history of contingent reinforcement for particular behaviors. This statement is supported by the findings of Mussen and Parker (1965) that maternal nurturance and incidental imitation are positively related, but maternal nurturance and dependency are negatively related. While the authors state that the warm and accepting mothers of this sample are unusual in their encouragement of independence in their daughters, nevertheless their study shows that imitation and dependency can be separately trained. A recent study (Jeffrey, Hartmann & Gelfand, 1972) compared the efficacy of prior nurturance against prior contingent social reward for facilitating imitation on a forced-choice task. Contingent reward produced greater acquisition and maintenance of imitation, while nurturance, or non-contingent reward, produced chance-level rates of imitation.

To summarize, a dependent child is one who has a greater habit strength of attending and orienting to social cues and is more susceptible to social influence and to changes in the human environment.

A social interaction which tends to threaten a child's status for receiving social reinforcement will elicit more attending and orienting behaviors from the dependent child. Imitative behavior also involves attending and orienting responses, is susceptible to social influence, and can be facilitated by changes in the human environment according to the individual's reinforcement history. Due to common behaviors and shared reinforcement histories, dependency and imitation will covary somewhat. This is especially true of incidental imitation. A reinforcement history of high maternal nurturance tends to increase both dependency and incidental imitation. A child who is rewarded contingently for dependency behaviors will probably also imitate incidental behaviors at a higher rate. Incidental imitation, however, should be highest for those children who have a strong history of contingent reinforcement for imitation.

A child who is low in dependency is, by definition, less oriented toward social agents and less reliant on social cues or reinforcement. Presumably, his history is one of extinction and/or punishment for dependency behaviors. He is opposite to the high-dependent child in that he will have higher rates of intentional imitation than of incidental imitation. Only one study has investigated the relationship of low dependency to changes in the human environment. Hartup (1958) found that low-dependent boys performed better to a consistently rewarding social interaction. Low-dependent boys, therefore, do not have a history of reward for approach responses under stress. For them, incentive is more facilitative than stressful arousal.

Many questions remain about the relationship of a child's dependency to her social responsiveness in various situations: Does imitation increase with dependency, or does high dependency facilitate incidental imitation, while low dependency facilitates intentional imitation? Will high dependent children imitate most if a Model withdraws social reinforcement, but will low dependent children imitate most if a Model provides consistent reinforcement? Does ingratiation behavior also increase with dependency? Finally, will the relationship between dependency and imitation and ingratiation change with histories of contingent reward of ingratiation and imitative behaviors?

The present study will examine the general relationship of dependency to social responsiveness, and predicts that:

(1) Girls who manifest many dependency behaviors at home and in school will imitate more verbal behavior, despite the type of prior social interaction with the Model, than will girls who manifest few dependency behaviors in other situations.

(2) Girls who manifest many dependency behaviors at home and in school will ingratiate more than will girls who manifest few dependency behaviors in other situations.

Imitation and Social Reinforcement History

To date, most investigators of social reinforcer effectiveness have followed one of three approaches: (1) assessing the potency of different classes of social reinforcers (e.g., approval, correctness); (2) determining which personality characteristics (e.g. dependency)

or social history parameters (e.g., nurturance) create initial differences in response strength to reinforcement; and (3) assessing the arousing or facilitative strengths of different types of social manipulations (e.g., withdrawal of reinforcement). This paper has presented studies of the two latter types.

These studies highlight certain parameters of social reinforcement which generally tend to enhance social responsiveness. Social responsiveness is such a complex issue, however, that predictions about how any one person will respond to social reinforcement can not be successfully based on single parameters. Observer characteristics are inevitably modified by the context. Some researchers have investigated the interactive effects of Observer characteristics and social manipulation. This research has been conducted in the belief, however, that these variables combined will facilitate social reinforcer effectiveness more than will either variable alone. In the next section, these studies will be presented and critiqued.

Baron (1966; Baron, 1970; Baron, Robinson & Lawrence, 1968) faults such studies with viewing the individual's social responsiveness as static, something to be turned on, or not, by situational parameters. He believes that social responsiveness changes within the situation. Each individual responds in a manner designed to equilibrate the present level of social reinforcement with past levels of reinforcement. Present Observer characteristics result from histories of reinforcement for certain behaviors and by certain persons. Social manipulations can be translated into rates of social reinforcement presently available for certain behaviors and by certain persons. The interaction of past

and present rates of social reinforcement determines a person's responsiveness.

In the second section, Baron's hypotheses will be documented and applied to previously presented studies of facilitation of social reinforcement. In the last section, deficiencies in previous studies of the effects of social manipulation on imitation will be discussed, and Baron's hypotheses will be used as the basis for correcting these deficiencies.

Interaction Effects in Studies of Responsiveness to Social Reinforcement

As presented earlier, Observer characteristics, like dependency tend to facilitate or attenuate social reinforcer effectiveness. Dependency is defined in terms of certain response patterns and receptiveness to certain cues. Different degrees of dependency, therefore, represent different amounts of the same response patterns and reinforcement histories. Presumably, social reinforcer effectiveness would be more or less facilitated according to whether a child is more or less dependent. We have already seen, however, that a difference in degree of dependency can also produce a difference in the type of learning or social operation to which a child responds. In other words, less is not only less, but also different.

Several studies report that high-dependent children imitate incidental behavior, while low-dependent children imitate task-related behavior (Goggin, 1972; Portuges & Feshbach, 1972; Ross, 1966). It can be said that these children are differentially attentive and responsive to the same cues, or equally attentive and responsive to

different cues. Social operations which signal the availability of social reinforcement affect high- and low-dependent people in different ways. College students who have high affiliation needs perform best for instructors whose classrooms are high in affiliation cues, while students with low affiliation needs perform worse for these instructors and best for instructors whose classrooms are low in affiliation cues (McKeachie, Lin, Milholland & Isaacson, 1966).

As presented earlier, different types of social manipulation facilitate social reinforcer effectiveness. Of these, withdrawal of reinforcement tends to facilitate more types of learning in more contexts. Yet, in interaction with specific Observer characteristics, withdrawal of reinforcement tends to have limited success as a facilitator of social reinforcement. For high-dependent boys, withdrawal of reinforcement tends to elicit stronger dependency behavior and performance (Hartup, 1958). White (Baron, 1970), middle-class (Endo, 1968; Sgan, 1967) children also tend to have enhanced performance following withdrawal of nurturance. But low-dependent, black, and lower-class children all respond best to incentive or consistent reinforcement.

According to social deprivation-satiation formulations, however, the number of situational presentations of social reinforcement should determine the level of performance. The only deviations from that formula follow the extent to which a child normally seeks social reinforcement (Gewirtz & Baer, 1958a; 1958b). In other words, as the number of prior reinforcer presentations goes from low to high, children will generally become less responsive to present social reinforcement. If this relationship were plotted, dependency would raise

the values of response to social reinforcement, but would not change the slope of the curve. A child's dependency is supposed to be the only determining factor of deviations from expected responsiveness. Knowing that differences in dependency produce differences in type of response, as well as intensity of response, casts doubt on this statement.

Two studies cast further doubt that deviations from expected responsiveness are due to differences in dependency interacting with present level of social reinforcement. Stein and Wright (1964) measured imitative learning under conditions of nurturance and nurturance-withdrawal. When children in the nurturance-withdrawal group reacted to that level of reinforcement with increased dependency behavior, they also showed more imitation; as dependency behaviors decreased, imitation decreased. For the nurturance-withdrawal group, therefore, dependency and responsiveness to social reinforcement varied directly and predictably. However, dependency and imitation had a negative relationship for children in the nurturance group; imitation increased if a child's dependency behavior decreased.

Sherer (1971) also observed imitation in relation to nurturance and nurturance-withdrawal. Overall, most children showed a moderate amount of imitation, but they responded to withdrawal of reinforcement with slightly more imitation. In each experimental group, the children divided into two sub-groups; a large group comprising 75% of the subjects and a small group which deviated radically from the major trend. In the withdrawal of reinforcement condition, the deviation was toward a strong decrease of imitation, while in the consistent reinforcement condition, the deviation was toward a strong increase of imitation.

Although no Observer measures were collected, the patterning of the responsiveness for the deviant groups does not suggest dependency.

If dependency does not interact with social manipulations in a unitary manner, is there another single explanation for the interaction effects found in these studies? (Stein and Wright offered a different explanation for each of their four experimental groups). One increasingly popular explanation is that social manipulations produce behavior change by changing the Observer's attitude. A Model with a "positive valence", as determined by his affective rewardingness, can facilitate imitation by producing a positive attitude in the child (Bandura, 1969; Berkowitz & Zigler, 1965). Conversely, when a Model withholds reinforcement, children will sometimes delay imitation or mismatch his behavior (Jeffrey, Hartmann & Gelfand, 1972). These Observer reactions have been termed "negative set" (Patterson, Litman & Brown, 1968). Attitude change, however, does not always effect a concomitant change in behavior (Berkowitz, Butterfield & Zigler, 1965; Portuges & Feshbach, 1972). In fact, one study found that subjects respond with an increased desire to perform well for an experimenter whom they dislike. The performance scores for these subjects, however, did not reflect the increased motivation they reported (Kanfer & Karas, 1959). This study shows that attitude or preference for a person, as ascertained in later interviews, motivation to perform well for him, and actual performance change independently of one another.

Another criticism of the "attitude change" hypothesis is that a Model's apparent rewardingness is not necessarily perceived as such or received in the predicted manner. Sherer (1971) administered a social

distance technique to measure the degree to which level of reinforcement influenced the "closeness" subjects felt for the experimenter. Results were highly variable in each group. Lastly, Baron, Robinson and Lawrence (1968) found that the actual level of reinforcement dispensed by a person is only partially predictive of another person's attitude or mood towards him. That is, a highly rewarding person will not necessarily be liked. In fact, when a person who is accustomed to a low rate of social reinforcement meets someone who is highly rewarding, she will feel discomfort with the "inappropriate" rate of reinforcement and may feel negatively towards that person.

Social Reinforcement Standard (SRS)

The Baron et al study was conducted to test and revise several hypotheses presented earlier (Baron, 1966). Baron claims that each individual has an internal norm or baseline of social reinforcement which he feels is appropriate and preferred. This norm, or Social Reinforcement Standard (SRS), is based on that person's typical rate of past social reward. The rate of reinforcement in each new situation is measured against the individual's SRS. Any significant deviation from that SRS elicits both negative affect and self-presentation strategies designed to raise or lower the level of reinforcement. Accordingly, a child who is accustomed to a high rate of social reward will feel negatively toward a person who emits a low rate of reward, but he will nevertheless try to gain more social reward from him. If the context is one in which social reinforcement is dependent on performance, this child will perform much better than other children. If reward is not

dependent on performance, this child will engage in ingratiating behavior. In the same way, a child who is accustomed to low rates of reinforcement feels very uncomfortable receiving high rates of reinforcement. He will lower his level of performance or engage in social behaviors designed to lower the rate of approval and/or increase the rate of disapproval.

The SRS hypothesis can account for the enhanced performance of middle-class persons (whose SRS is usually high) following isolation, social interactions of low or non-support, and negative reinforcement. To the extent that dependency is based on higher rates of nurturance, the SRS hypothesis accounts for the decreased performance of persons with typically low histories of reinforcement who encounter very high rates of reinforcement. Low-dependent children, lower socioeconomic persons (Davis, 1943; Sears, Maccoby & Levin, 1957), Negroes (Davis, 1943; Beller, 1967), and schizophrenics (Baron, 1966) are examples.

Although Baron originally assumed (1966) that the preferred rate of reinforcement is one that is not discrepant from the SRS, he later (Baron et al, 1968) revised this assumption. For people accustomed to a high SRS, any decrease in the rate of reinforcement is less preferred. But people who are accustomed to a low SRS prefer a moderately discrepant higher rate of social reinforcement over a rate which is consonant with their SRS. There are indications that children with low SRS's prefer equally a moderately discrepant and highly discrepant positive rate of social reinforcement and disfavor a rate consonant with their low SRS (Epstein & Price, 1970). Baron (1970) argues that standards of appropriateness require a level of cognitive development

not achieved before age seven or eight. Younger children with low SRS's, therefore, may not yet find a high positive rate uncomfortable. Moderately discrepant positive rates increase behavior to a near asymptotic level, so that further increases in reinforcement do not bring further increases in behavior.

Several studies have confirmed that people with low SRS's respond poorly to very high rates of reinforcement and best to moderately high rates of reinforcement. Children who typically receive little peer reinforcement imitate a rewarding peer Model less frequently than a nonrewarding peer Model (Hartup & Coates, 1967). Negro children (Costello, 1968) and adolescents (Baron, 1970) respond best to moderate rates of social reinforcement and worst to high rates of social reinforcement. In a study by Baxter, Lerner, and Miller (1965), adults who report being raised in punitive homes perceive themselves to be similar to the experimenter who administered punishment and to be less similar to the experimenter who administered reward.

Imitation and the SRS

If the SRS model is applied to the results of the Sherer (1971) and Stein and Wright (1964) studies, we can speculate which children comprised which subgroup. The Sherer paradigm can be conceptualized thusly: Each child entered the experiment with a certain SRS. The SRS was confirmed or disconfirmed when the female experimenter emitted a low rate of reinforcement (withdrawal of reinforcement group) or a high rate of reinforcement (consistent reinforcement group). Since the reinforcement was varied, general approval ("Good!") and approval for

performance ("Good work!"), and not contingent on a specific behavior, the SRS against which the experimental relationship was judged is the typical rate of social reinforcement from female adults. Self-presentations designed to adjust the experimenter's rate of reinforcement followed.

Baron (1966) says that self-presentations are chosen to satisfy the perceived needs of another. In situations for which task evaluation is subjective, basing self-presentations on the perceived needs of the reinforcing agent increases. In the Sherer study, because the experimenter rewarded no specific behavior contingently, the subjects were forced to use general ingratiating behaviors (seeking help, smiling) and "acting like the experimenter". The experimenter never actively elicited imitation, and most subjects questioned after the study said that they did not think the experimenter wanted them "to copy" her but "played that way because I felt like it".

In this study, few children used ingratiating behavior, but those who did were most often the children in the withdrawal of reinforcement group who also imitated most. In the Stein and Wright study, ingratiation and imitation increased concomitantly in the withdrawal of reinforcement group. According to the SRS model, such behavior would be most emitted by children with a high SRS who have been subjected to much lower rates of reinforcement. In the Stein and Wright study, children in the withdrawal of reinforcement group who decreased in ingratiation behaviors also decreased in imitation. Since these children had been reinforced by the experimenter for both imitation and ingratiation, it was apparent that decreases in such behavior would

lower reinforcement input. Certain children in the Sherer withdrawal of reinforcement group not only imitated less, but maintained original behaviors contrary to the experimenter's behavior. According to the SRS model, those children who would be least responsive to low rates of reinforcement are children with low SRS's. It can be speculated that these children, with an apparent "negative set" for imitation were children with a typically low SRS.

Several studies cited earlier show that children respond less differentially to high rates of reinforcement. That is rates discrepant in a positive direction, to both a moderate and a high degree, elicit equally enhanced performance and/or ingratiation. Both low and high SRS children would have enhanced performance and ingratiation under conditions of high reinforcement, but low SRS children would have higher rates. It is speculated that the groups showing moderately high rates of imitation under the Sherer consistent reinforcement condition were children with moderate to high SRS's, while the highest rates of imitation were by children with low SRS's. The Stein and Wright study is more difficult to speculate about. Since ingratiation and imitation behaviors were initially reinforced, the following period, in which the criterion measure was taken, is tantamount to the extinction period in a conditioning paradigm. Performance measures during this period are measures of resistance to extinction. Studies testing the SRS model with a conditioning-extinction paradigm report variable patterns for resistance to extinction, especially for subjects receiving a high rate of reinforcement (Baron et al, 1968; Epstein & Price, 1970).

The last aim of the present study is to test the SRS model in an experimental paradigm which parallels a natural situation. That is, a child will encounter a rate of reinforcement which she hopes to maintain, or adjust, to suit her SRS. Reinforcement will not be systematic and the changing situation will further hinder her choice of appropriate behavior. More specifically, the present study will test the speculations just presented. Namely, that a child with a high SRS for female adults will most imitate an adult female if that female presents a discrepantly low rate of reinforcement and signals that imitation is a behavior which may elicit approval. A child with a low SRS will imitate least under these same conditions, but will imitate most under conditions of a moderate to high positive discrepancy in reinforcement. The hypotheses to be tested are:

(1) Children with a high SRS will have the highest rates of imitation under the disrupted E involvement condition and moderately high rates of imitation under the consistent involvement condition.

(2) Children with a low SRS will have the lowest rates of imitation under the disrupted involvement condition and the highest rates of imitation under the consistent involvement condition.

It is more difficult to make predictions for ingratiation behavior, because it is not elicited in any way by the present task. Most children have been strongly reinforced for ingratiation in many situations and are likely, therefore, to ingratiate E to some degree. If ingratiation occurs, the predictions for its relative amplitude should follow those just presented for imitation.

Procedural Modifications in Present Study

As presented earlier, past research into social responsiveness has produced inconsistent and sometimes contradictory findings. These partially resulted from specific theoretical differences and a general failure to take into account the S's prior social learning experiences. These inconsistent findings, however, also resulted from inconsistencies in methodology, how "social responsiveness" was defined and measured, and how "social reinforcement" was defined and administered. The present study will attempt to reconcile the different methodologies previously used, and to revise the measures of "social reinforcement" and "social responsiveness", to better approximate nonlaboratory learning situations.

First, Ss will not be contingently rewarded for any behavior so that whatever social behavior occurs will be elicited as a function of situational cues and a child's history of reward for social behaviors. Second, "social responsiveness" will be measured both by rate of imitation and several types of ingratiation. Ingratiation is a universal means of obtaining adult involvement. In the present task, however, imitation is cued as more appropriate. Comparisons of the two measures will show how judgment affects type of social responsiveness. Also, using both of these measures will not only better test how social responsiveness is facilitated, but will make the results of this study comparable to previous results, except those from studies using forced-choice measures.

Choosing the types of social reinforcement, and the method by

which E should administer them, presented the greatest problems. The measure had to be reliably observable, yet be suitable to definitions of "warmth" or "nurturance" generally applied in nonlaboratory situations. Since S's past history of social interaction with her mother is theorized to interact with E's present rate of social reinforcement, socially reinforcing behaviors had to be chosen to equally suit both a child's interaction with her mother and with a stranger. Finally, the behaviors chosen to comprise "social reinforcement" in the present study had to encompass the diverse behaviors used in previous studies.

"Praising" has been the most widely used measure of social reinforcement, being the sole index in studies investigating the facilitating effects on social responsiveness of sensory and social deprivation and of prior histories of social reinforcement. "Praising" is a good index, because it is reliably measured, and it has high face validity with so many constructs about positive social interaction. Using "praising" as the sole index, however, does not approximate nonlaboratory situations in which social agents use proportionately less praising and more of other behaviors to convey "warmth". Studies investigating the facilitative effects of anxiety or dependency on social responsiveness used nonlaboratory concepts like "warmth" or "friendliness", but failed to both adequately operationalize the behaviors E used to convey "warmth" and to control across Ss the "warmth" s(he) dispensed. A team of prior investigators (Gewirtz et al, 1958) noted that "social availability" of E had an effect on social responsiveness similar to that of "social reinforcement", but no one has systematically varied neutral social stimulation as part of E's social behavior.

Social reinforcement is defined, for the present study, as praising and attentiveness, and it will be conveyed by positive and neutral comments, smiling, eye contact, proximity, and body posture. These measures encompass and operationalize those measures of "social reinforcement" used in previous studies. When using these measures to ascertain the mother's social involvement, the rate of these behaviors will index the child's history of social reinforcement. When these behaviors are used to establish E's involvement, both the rate and pattern will index her relationship to the child. When E's involvement is to be great, she will continually engage in attentive, nonverbal behaviors and will periodically say something to S; using this procedure, E is both highly and consistently reinforcing. When E's involvement is to be minimal, she will be attentive and talk periodically for an initial period of time, and then be completely inattentive; using this procedure, E is low reinforcing and also disrupts the relationship. These procedural modifications will make the present results comparable to those of all previous studies, even though these differed procedurally in defining "nurturance" as a rate measure or as a consistency measure.

Summary

Imitation and social reinforcement are the bases for most types of childhood learning. The child's responsiveness to social reinforcement determines its effectiveness in modifying his behavior. Imitation, as one type of susceptibility to social influence also varies with the child's responsiveness to social reinforcement. Several major variables,

which tend to facilitate social reinforcer effectiveness, have been identified. These are: Model characteristics or situational variables which cue the availability of social reinforcement, and Observer characteristics which heighten the individual's response to the available social reinforcement.

Nurturance, or a person's general tendency to emit social reinforcement, is the most widely studied Model variable. Several questions may be asked about the role nurturance plays in relation to imitation and social reinforcer effectiveness. These concern its influence in eliciting and facilitating imitation, and its relative efficacy, compared to other types of social interaction, in facilitating responsiveness to social reinforcement.

The hypotheses to be tested by the present study are:

(1) Nurturance is not necessary for the imitation of verbal response categories, but

(2) Nurturance will facilitate such imitation.

(3) Imitation of verbal response categories will increase more under the condition of disrupted involvement than under the condition of consistent involvement.

(4) Ingratiation will increase more under the condition of disrupted involvement than under the condition of consistent involvement.

Dependency, as a tendency to respond more readily to social cues and reinforcement, is the major Observer variable studied in relation to all social behavior. It is believed that dependency will maximize or augment the effects of most social manipulations. Questions remain about the nature of dependency and, therefore, about not only the

manner in which it facilitates social responsiveness, especially imitation.

The hypotheses to be tested by the present study are:

(1) Girls who manifest many dependency behaviors at home and in school will have higher rates of incidental imitation, despite the type of prior social interaction with the Model, than will girls who manifest few dependency behaviors in other situations.

(2) Girls who manifest many dependency behaviors in other situations will have higher rates of ingratiation, despite the type of prior social interaction with the Model, than will girls who manifest few dependency behaviors in other situations.

Because the bases for the facilitation effects of nurturance, nurturance-withdrawal, and dependency have not been clearly understood, studies manipulating these variables have often produced inconclusive and conflicting results. These variables, however, can be more parsimoniously conceptualized in terms of social reinforcement: "nurturance" and "nurturance-withdrawal" translate to "available social reinforcement", and "dependency" translates to "past rates of social reinforcement for certain behaviors". According to the Social Reinforcement Standard hypothesis, people respond to social reinforcement in a manner designed to equilibrate the present rate of reinforcement with the typical rate received in the past. This means that a person's reaction to a high or low rate of reinforcement is predictable, but must be based on her past history of reinforcement.

The hypothesis to be tested by the present study are:

(1) Children with a history of high maternal social reinforce-

ment will have the highest rates of imitation and ingratiation under the disrupted involvement condition and moderately high rates of imitation and ingratiation under the consistent involvement condition.

(2) Children with a history of low maternal social reinforcement will have the lowest rates of imitation and ingratiation under the disrupted involvement condition and the highest rates of imitation and ingratiation under the consistent involvement condition.

CHAPTER II

DEVELOPMENT OF OBSERVATIONS AND CODING PROCEDURES

Mother-Child Interaction

Because the present study hypothesizes that a child's reaction to a woman stranger is influenced by her past interaction with her mother, it was necessary to devise a procedure to assess that interaction. Direct observation was more desirable than speculating about a parent's behavior based on attitude scales or interview procedures. Additionally, observation provided information about a child's reaction that could not be obtained, because of the Ss' age, by other procedures. The observation setting was devised to be analogous to the one in which E would interact with the child. Essentially, this was a play situation, during which the mother was nearby, and could become involved in the game, but was not needed to play it. The extent to which the mother got involved was presumed to signal, to her daughter, her desire for social interaction in this type of situation. Observations made about the mother's extent of involvement, the child's acceptance of that involvement, the mother's tendency to control her daughter and to foster dependency, and the daughter's dependency-bids were presumed to be typical behaviors for only this situation. Similarly, any expectancies about appropriate adult or child behavior, which S brought to her interaction with E, were presumed to derive only from this situation.

Maternal Involvement

The major predictions of the present study concern the interacting facilitating effects of present and past levels of social reinforcement on social responsiveness. Selecting reliably observable behaviors, which would adequately tap maternal warmth and social reinforcing potential in a short observation period and which would be sufficiently flexible to apply to various maternal styles, required preliminary observation and checks for validity and reliability.

Preliminary observation, I. Originally, behaviors to index social reinforcement were chosen on the basis of whether they would reward, extinguish, or punish the child behaviors which they followed. These behaviors were selected on the basis of others' findings that they were either associated with maternal "warmth" or were potent for modifying child behavior.¹ The behaviors used to index positive social reinforcement were:

COMPLIANCE - When the mother verbally or actually complies with the question, suggestion, or direction of her daughter.

ATTENTION - Mother makes a neutral response which conveys no approval or disapproval, but rather interest in her daughter or recognition of her activity.

APPROVAL - Mother gives clear gestural or verbal approval.

¹ The use of and descriptions for "compliance", "noncompliance", "no response", "attention", "approval", "disapproval", and "positive and negative physical contact" were adapted from Patterson, Ray, Shaw & Cobb (1969). "Interactive play" is described by Brody (1965). "Independent play" is adapted from Terdal, Brose, Buell, Busch & Chelidelin (1968).

POSITIVE PHYSICAL CONTACT - Mother touches her daughter in a friendly or affectionate manner.

INTERACTIVE PLAY - When the mother plays with her daughter within the framework of the child's conception of the activity, thereby showing acceptance.

The behaviors used to index no or negative social reinforcement were:

NONCOMPLIANCE - Mother verbally or gesturally does not comply with her daughter's question, suggestion, or direction.

NO RESPONSE - Mother does not respond, either by ignoring or not perceiving her daughter's behavior.

DISAPPROVAL - Mother gives clear gestural or verbal disapproval.

NEGATIVE PHYSICAL CONTACT - Mother tries to physically attack her daughter or to physically restrain or change her behavior.

INDEPENDENT PLAY - Mother engages in a separate activity, or plays the same game as her daughter, but changes her daughter's rules and suggestions or establishes separate areas of play.

This coding system for "maternal warmth" was tested on eight kindergarten and first grade girls and their mothers playing the Lite Brite game at a daycare center in Tarrytown, New York. This pilot sample was of lower socioeconomic status than the sample used for the study. Negative physical contact, which should have been more probable in this sample, rarely occurred. In fact, the mothers rarely used any physical contact but both were retained for preliminary observations with the present sample because of their face validity. E found it difficult to judge style of play - interactive versus independent - and eliminated these categories, but retained for observation whether the mother played in any manner with her daughter or engaged in her own activity. Approval remained valid as an index of

positive social reinforcement, but it needed to be revised to include many other types of positive statements that, on observation, were clearly reinforcing to the child. Disapproval needed similar revision. Analyzing the pattern of a mother's compliance, noncompliance, or no response was tedious, and it did not seem valid as an index of social reinforcement. That is while these behaviors obviously do modify behavior, the pattern of these behaviors did not represent the "nurturant" character of the observed mother-child interaction. Instead, it was decided to revise these indices to a simple count of response - no response to serve as a measure of the mother's attentiveness.

Redefining "maternal nurturance". The preliminary observation provoked a reevaluation of maternal social reinforcement and "warmth or nurturance". Besides the observation that many types of verbalization, other than clear approval, can be rewarding to a child, mothers were also observed to give nonverbal signals about their interest and the likelihood of further positive interaction. These observations made the author revise the concept of positive social interaction to include approval, attentiveness, and signalling availability of social interaction. The term for this interaction also needed revision, because "maternal nurturance" involved a judgment that was often not validated by the child. That is, some mothers whose behaviors seemed "nurturant" to E were rebuffed or avoided by their daughters. Some girls responded enthusiastically to mothers who seemed "aloof" to E.

The term "maternal involvement" was selected, for several reasons. It is more independent of E bias. It does not imply a characteristic affect, but can accommodate affectual variations in a mother-

daughter interaction. It can still be applied to the various "nurturance" behaviors chosen by previous investigators of social responsiveness. Last, "involvement" is applicable to both the mother's and E's interactions with the child, making them comparable, even though the two relationships are quite different in terms of attachment.

Preliminary observation, II: Validity and reliability. Several behaviors which had been empirically established as indicating liking, acceptance of, or availability to a child were added to the revised behaviors of "approval/positive statement", "plays" versus "own activity", and "maternal responsiveness/attentiveness". They were all used for observation of the first 30 Ss and their mothers, to test their practicality and validity. Some behaviors were quickly dropped, because they did not occur frequently or were confounded by the physical requirements of the task. The remaining behaviors were checked for their validity after half of the sample had been observed. E selected mothers who impressed her as being "high nurturant" and "low nurturant"; there were 8 and 5, respectively. Their scores were tallied and compared with those of the 17 remaining mothers. All behaviors which had been selected to indicate a positive relationship, were above mean for the clinically-selected "high-nurturant" group and below mean for the clinically-selected "low-nurturant" group; the converse was true for negative relationship behaviors. The behaviors were, therefore, validated, but some were eliminated because they did not occur frequently.

There were two procedures for determining the reliability of these measures of maternal involvement. Measures which could be scored after the observation session from audiotapes, symbolized below by (A),

were rated by E and another psychologist. Using the scoring sheet for aural indices of maternal involvement presented in Appendix D (see D, I), the two raters listened simultaneously to randomly-selected interactions and checked whether each child and maternal response was present or absent in that selection. Reliability was the percentage of "yes-no" agreement. Since each interaction would have several types of behavior which could be obviously omitted, i.e., a "yes" for one behavior dictated several automatic "no's", reliability was based on agreement within a category. To make scoring conservative, only six categories were scored: who initiated interaction, how she was responded to, the content, and the affect of the mother's statements and of the child's statements. Training before the first aural reliability session consisted of reading and discussing the manual and trial-scoring random samples. When both raters were comfortable with the scoring criteria, they scored 10 randomly-selected interactions from each of the 5 Ss. Difficulties were discussed, the scoring criteria were revised (see Appendix B, I for final scoring manual) and reviewed. Two weeks later, the raters scored 10 randomly-selected interactions from each of 10 Ss.

E decided not to use any mother-child interactions which could be used for final data as a means of checking the reliability of visual indices of maternal involvement. This procedure would have placed two observers in the S's home, and this may have prevented the mother and child from interacting naturally. Instead, E and three naive observers, who had read the scoring criteria, observed 10 samples of behavior from each of two mother-child pairs playing Lite Brite in E's home. The

two mothers were acquaintances of E's and were similar to mothers in the sample. Using the scoring sheet for visual indices of maternal involvement presented in Appendix D (see D, II), the four raters simultaneously looked at the interaction for five seconds and checked whether each maternal response was present or absent during that interval. Reliability was the percentage of "yes-no" agreement. The summary of reliability for all measures of maternal involvement is presented in Table 1. Average reliability was 85% for visual indices and 94% for

 Insert Table 1 About Here

aural indices, and these indices were considered acceptably reliable for use in the study.

Following is the revised list of all behaviors considered for inclusion in a final coding system for maternal involvement. Each behavior will be defined, then there will follow the rationale and/or empirical basis for its selection, the reason for its elimination, if applicable, and the reliability obtained among raters.

(V) PLAYS WITH CHILD - Mother plays with or physically helps her daughter.

Brody (1965) observed that mothers who scored low in child rejection on two attitude scales helped and played with their children more than did high-rejecting mothers. Although the present single behavior category combines and redefines Brody's two behaviors, its selection is based on her findings.

Rater agreement was 86%.

(V) LOOKS AT CHILD'S ACTIVITY - Mother watches her daughter's

Table 1
Per Cent Agreement among Observers for Measures
of Parental Involvement

Measures		% Agreement
<u>Visual</u> ¹		
Involvement with Child's Activity		
Plays with Child		78
Has Own Activity		86
Signals Availability to Child		
Is Within 3 Feet		96
Leans Forward		84
Positive Affect		
Smiles		81
	Average	85
<u>Aural</u> ²		
	Session I	Session II
Initiator of Interaction	98	100
Respondent's Verbalization	95	97
Child's Verbalization		
Content	86	92
Affect	98	99
Mother's Verbalization		
Content	74	83
Affect	90	94
	90	Average 94

¹ Agreement was obtained among four raters

² Agreement was obtained between two raters

movements or looks at her pegboard design.

"Attention" has long been accepted as a generalized positive social stimulus and was, therefore, included for preliminary observation. Brody's (1965) low-rejecting mothers had fewer nonattending behaviors, but the opposite behavior, attentive observation, was more associated with authoritarian attitudes. In the present study, "looking" was thought to be on a continuum of involvement between "own activity" and "play". When totalled, "looking" behavior did not vary greatly. Only what mothers did when they were not "looking" distinguished the high- and low-involved groups. "Looking", therefore, was eliminated.

(A) INITIATES CONVERSATION - Mother attempts to elicit verbal interaction by commenting, questioning, or exclaiming. Score each time the mother is the initiator of conversation.

Brody (1965) observed more verbal interaction from mothers who scored low in rejection on two parental attitude scales. In the present study, maternal verbalization varied greatly and seemed to differentiate the clinically-judged high and low nurturant groups. Also, verbalization is a powerful indicator of maternal involvement, because it is easily noted by the child despite her mother's distance or position relative to her, and despite her mother's seeming involvement in another activity. Gewirtz, Baer and Roth (1958) noted that if an adult is nearby but does not speak to a child, she is perceived as "low available".

Rater agreement was 100%.

(V) INITIATES VISUAL INTERACTION - Mother looks at her daughter's face.

Eye-contact has repeatedly been found to indicate, and to be a

basis for inferring, warmth and a positive attitude (Argyle and Dean, 1965; Mehrabian, 1969). It was dropped as an indicator of involvement, however, for several reasons: A mother can talk and be heard regardless of her child's activity, body orientation, or distance. She can only be seen, however, if her child is closeby, is not playing, and is looking up at her. Also, data analysis following the preliminary observation showed that "maternal looking" added little to an assessment of maternal involvement. Much of the time looking at her daughter accompanied talking to her daughter, so that while frequency of maternal involvement would be different, if looking were added, ranks of maternal involvement would remain the same. Since ranking was used for final analysis, maternal looking-behavior was eliminated, because it added little information and was confounded by task parameters.

(A) RESPONSIVE TO CONVERSATION - The percent of the child's verbalizations to which the mother gives a verbal reply. If the mother continues the subject, even to say "no", she is responsive. If she talks after the child does, but changes the subject, she is not responsive.

Although maternal eye contact often completed a verbal interaction, the child was often unaware of her mother's looking because of her own involvement with the game. Only verbal responsiveness was, therefore, considered as completing an interaction. In Brody's (1965) study, a parent's responsiveness to her child's questions and a rejecting attitude varied inversely. Brody's definition ("answers questions") and measure (frequency of response, minus no response) of parent responsiveness are too dependent on the child's talkativeness. Using the present percentage score corrects for this, and is preferable, because a child's expectancies for adult responsiveness are generalized

from one situation to another in terms of a schedule of reinforcement. Also, children's styles of eliciting adult response differ among people and situations. Expanding adult responsiveness to cover more types of child verbalization corrects for these style differences.

Rater agreement was 97%.

(V) LEANS FORWARD - The number of times the mother bends from her waist to orient her body towards the child minus the number of times she is oriented away from the child.

In Mehrabian's (1968) study of nonverbal indicators of attitude, Ss interpreted his forward lean as a positive attitude toward themselves, and a backward lean as negative. In the present study, backward lean did not occur frequently enough to warrant a separate measure. Instead, backward lean is used to "negate" some of the positive message of forward lean by the subtraction formula. Forward lean, like eye contact and cocking of the head, directly conveys interest, attention, or readiness for involvement, and it is from these that a positive attitude is inferred.

Rater agreement was 84%.

(V) LOCATED WITHIN THREE FEET - Mother stands, sits, or lies so that some part of her body is within three feet of her daughter's body.

Recent research has equated physical distance with social distance; i.e., one tends toward closer proximity with a person as one's feelings or relationship becomes closer. In Mehrabian's (1969) work, subjects inferred a positive attitude when he sat closer to them.

Rater agreement was 96%.

(V) ARMS RELAXED - Mother's arms are lying open in her lap or positioned so that her upper torso is exposed.

(V) ARMS CROSSED - Mother's arms are crossed over her chest or

positioned so that her upper torso is mostly hidden.

Scheflen (1964) found that the crossed-arm position tends to "distance" a person, while an open, relaxed-arm position conveys a positive attitude.

While these behavior categories were originally included for observation, they were soon discarded. They seem more applicable to and meaningful only in a conversational setting. Since mothers in this study had the choice of playing the game or doing household chores, as well as talking to or observing their daughters, their arm positions were not comparable.

(V) SMILES - Mother smiles directly at her daughter, or her expression changes toward a smile following something the child says or does.

A smile has long been accepted as a generalized reinforcer and as a clinical index of a "warm person". Rosen and D'Andrade (1959) defined smiling as a "positive tension release". In a later analysis of parent-child interaction behaviors, they found a strong relationship between a parent's tendencies to give positive evaluations and to smile or laugh. Smiling, therefore, was made an indicator of "warmth".

Rater agreement was 81%.

(V) FROWNS - Mother frowns or scowls at her daughter, or has a disapproving facial expression following something the child says or does.

Frowning is commonly accepted as a signal of displeasure or disapproval. Rosen and D'Andrade (1959) found that parents who frowned more often also criticized and spoke angrily more often; thus, a frowning parent would be perceived as rejecting. This behavior was eliminated from the present study, however, because too few mothers frowned

at their children.

(A) POSITIVE STATEMENTS/VERBAL APPROVAL - Maternal verbalizations or intonation which show disapproval, hostility, or nonacceptance of the child or her activity.

Compliments have long been accepted as approval statements, and these have long been accepted as indications of "warmth". Brody (1965) found an inverse relationship between parents' hostility-rejection scores on an attitude scale and their praise-approval-affection behaviors. Rosen and D'Andrade (1959) found positive correlations between positive evaluational acts and pleasant laughter, and considered these behaviors indicative of warmth. A positive, lilting intonation conveys a positive attitude more strongly than the actual content of a verbalization (Mehrabian and Ferris, 1967; Mehrabian and Wiener, 1967). High maternal acceptance has been defined as a verbal recognition of a child's feelings and behavior (Stover, Guernsey and O'Connell, 1971).

Rater agreement for all maternal verbalizations, which included "approval", was 83%. Rater agreement for determining statements with positive affect was 94%. Since this category was combined, because of conceptual similarity of the two behaviors, average rater agreement was 89%.

(A) NEGATIVE STATEMENTS/VERBAL DISAPPROVAL - Maternal verbalizations or intonation which show disapproval, hostility, or nonacceptance of the child or her activity.

Criticism and threats of punishment have long been accepted as indicators of parental hostility. Criticism, abusive language, or rejecting a child's feelings or behavior show extreme lack of acceptance (Stover, Guernsey and O'Connell, 1971). Brody (1965) found that forbidding-behavior strongly distinguished parents who scored high on

a hostility-rejection attitude scale from those who scored low. Rosen and D'Andrade (1959) found that parents who showed irritation also tended to express hostility toward, denigrate, and make sarcastic remarks to their children.

When all of these component behaviors were scored and tallied within the single category of negative statements, mothers in the present study showed low frequencies and little variability. This category was therefore eliminated from observation.

(V) POSITIVE CONTACT - Maternal touching which indicates affection for or acceptance of her daughter, including a mother's allowing her daughter to hold or touch her.

Behavior which indicates parental affection is a commonly accepted sign of parental warmth or positive involvement. The mothers in the present study rarely kissed, patted, or hugged their daughters. Many of them initiated or allowed contact, but such touching occurred usually only when mother and child played together. The physical dimensions and equipment of the Lite Brite game forced proximity and contact. Since "positive contact" was confounded by the experimental task, it was eliminated as an index of parental involvement.

(V) NEGATIVE CONTACT - Maternal touching which indicates hostility towards or nonacceptance of her daughter, including attempts at physical restraint.

Punishing-behaviors, like slapping, are commonly interpreted as hostility or negative involvement. Stover, Guernsey and O'Connell (1971) view an adult's behavioral willingness to follow a child's lead as parallel to verbal expression of acceptance. Restraining, as an index of parental control, therefore, shows nonacceptance of the child.

The mothers in the present study showed few negative-contact

behaviors. This category was therefore eliminated from observation.

Data analysis for maternal involvement. Maternal involvement was based on the frequencies of eight maternal behaviors. These behaviors, were clustered into four separate categories of maternal involvement, based on the author's interpretation of what they represented. The grouping of scores was done only to clarify the concept of "maternal involvement", but was not included in data analysis. The eight behaviors finally chosen to index maternal involvement are:

INVOLVEMENT WITH CHILD'S ACTIVITY - Plays with child, Involved in own activity.

INVOLVEMENT WITH CHILD - Initiates conversation, Responsive to conversation.

SIGNALS AVAILABILITY TO CHILD - Leans forward, Located within three feet.

AFFECTUAL NATURE OF INVOLVEMENT - Smiles, Makes positive statements/verbal approval.

Prior to the preliminary observations, the author believed that the "positive maternal behaviors" should be more heavily weighted in a final score of "maternal warmth", because these behaviors were thought to be more desirable to a child than the "neutral maternal behaviors". Observing the children's responses to various styles of maternal involvement, however, forced the author to revise the scoring method along with her overall conception of maternal involvement. Some mothers frequently praised their daughters, but offered little other social stimulation. Their daughters responded only as well, and sometimes worse,

to them as did the girls whose mothers praised little, but frequently engaged the child by neutral talk, eye contact, and proximity. The children seemed to respond positively to neutral maternal involvement. It was decided, therefore, to weight all the indices equally in a final score. Also, it was observed that mothers frequently gave mixed signals about their involvement at any one time. Their children, like most people, probably make judgments about the likelihood of social reinforcement, by considering all available cues. That is, they tend to balance one signal against another. Many Ss were observed to change their efforts to engage their mothers, when their mothers changed their behavior. It was, therefore, decided to have the final maternal involvement score reflect this "balancing effect" of various social stimuli, by using a single score. This score is the ranked total of the eight indices.

Child Acceptance of Maternal Involvement

When data from the preliminary observations were tallied, there was an unexpected finding. Mothers who had been clinically-judged as "high nurturant" had good reciprocity with their daughters in initiating conversation. There was great disparity in initiating conversation for clinically-judged "low nurturant" mothers and their daughters. That is, the daughters in the first group were as interested in involving their mothers as their mothers were in getting involved (1:1). The latter mothers, however, were either nonresponsive to their daughters (1:3), showing nonacceptance or rejection of them, or seemed intrusive compared to their child's interest in social involvement (3:1), also

showing nonacceptance of the child and her activity. The remaining mothers tended to initiate slightly more conversation than their children (1.5:1).

The author considered using "mutuality of interaction" as an index of positive maternal involvement. The rationale was that a child's interest in engaging her mother is the "true" gauge of the mother's effectiveness or positiveness. If the proportion was highly disparate in either direction, the mother could be considered overly involved in herself or her own activity. This index was eliminated, however, for several reasons. The children tended to initiate interaction by verbalization, as opposed to eye contact and other nonverbal behavior, proportionately less than did the adults. The task used for observation made it difficult to correct this index with the addition of visual attempts to elicit interaction because the child's eyes were directed towards the LiteBrite game.

Since imitation and ingratiation, the experimental indices, are forms of responsiveness to an adult, it was still important to know how each S responded to her mother. Two measures were finally selected to gauge the child's acceptance of maternal involvement (see Appendix B, I for scoring criteria): the percent of the mother's verbalizations which were ignored and the percent which were resisted.

Rater agreement for these indices was 97%.

Maternal Control

This category of behavior was chosen for observation, because

the amount and type of control a mother exerts on her child affects that child's social responsiveness in many ways. First, maternal control may be the reason a child resists some of her mother's attempts at social involvement. Brody (1965) found that mothers who were hostile on an attitude scale tended to forbid and restrict their children more than accepting mothers did. In the present study, in which the task was a game easily played by the child, a mother's attempts to intervene could show a lack of acceptance of the child and her activity. Second, social responsiveness is related to dependency, and dependency is partly learned according to a mother's style of communication and involvement in her child's activity. The more control she exerts, the less self-direction a child is allowed (Hess & Shipman, 1967; Stover, Guerney, & O'Connell, 1971). A corollary to this issue of control and dependency is that the child, to whom more suggestions are made, may become more suggestible. Since imitation is a form of suggestibility, maternal control may be an important social history variable for understanding which Ss will imitate most during the Supermarket Game.

Control measures. A parent attempts control, i.e., gives a mand, whenever she directs the child's behavior by asking, suggesting, urging, or ordering. In this study, there are three behavioral indices of parental control: parent-controlled, shared control, and child-controlled mands (see Appendix B, I for scoring criteria). A child-controlled mand consists of a parent urging her child to assume self-direction ("Try it"). Although the parent's behavior is obviously controlling, her intent is the child's independence. A child-controlled mand, therefore, was made an index of the mother's fostering

of independence.

Reliability. The average rater agreement for content of maternal verbalizations, which includes control mands, was 83%.

Data analysis. Initially, the author believed that a good index of a parent's control would be her proportionate use of the three control styles. The fact that observation was restricted to a single task and a single session seemed more critical for maternal control than for maternal involvement. That is, while a mother's social interaction towards her daughter changes in frequency in different situations, her style probably remains fairly consistent. However, the types of control a mother uses should, and most probably does, change with the type of task in which her daughter is involved. The measure of maternal control was, therefore, revised to be the proportion of all verbalizations which were attempts to control the child's play.

Child's Dependency at Home

Dependency. It has already been documented that the amplitude of a child's response, following experimental manipulations which increase social responsiveness, is a function of her usual tendency to seek out or orient towards social reinforcement (Gewirtz and Baer, 1958a; 1958b; Hartup, 1958; Hartup and Himeno, 1959). In other words, a child's willingness to imitate, and to increase other behaviors directed towards obtaining social reinforcement, can be partially predicted by her dependency in other settings.

Several of Beller's (1955) Scales of Dependency and Autonomous-Achievement Striving were adapted for the present study. He defines dependency as a striving for social reinforcement, and he delineates several types that a child may seek: contact, proximity, help, attention, and approval. "Seeking proximity and contact" were eliminated, because the LiteBrite game was so absorbing that Ss made most of their dependency - bids verbally. For the present study, it was not so important to distinguish the type of dependency - bid, but it was important to know the frequency of all bids. Seeking help (asks for permission, information, and assistance), attention and approval were combined into a single index. To this, the present author added "expresses difficulty", because many children use this more indirect behavior for obtaining help. Children also elicit adult attention by talking. Whether this behavior can be called "dependent" is debatable, but it certainly does indicate a child's liking for or comfort with adult involvement. It was made the second dependency measure, because it could be a useful index against which to compare the child's responsiveness to E's involvement.

Nondependence. Beller (1955) considers that a child's ability to be satisfied with her own work is an important component of autonomous-achievement striving. Self-reinforcement and seeking others' approval are generally considered opposite behaviors. During preliminary observation, certain children were clinically judged to be "independent" because of their absorption with the task and resistance to help. These children were also observed to praise themselves and make statements like "I want..." and "I'm going to..." more frequently than the

other children. An interpretation of this behavior is that a child who verbalizes preferences and intentions must feel some responsibility and self-direction for her activity. The author believes that these are components of independence. Based on these observations and prior theoretical constructs, "self-reward" and "'I' statements" were included as measures of nondependence.

Reliability. Average rater agreement for these child behaviors was 92%.

Maternal Fostering of Dependency

A parent fosters child dependency both by differentially reinforcing spontaneous dependent and independent behaviors and by "teaching" dependency through the cognitive style in which she presents information. Past research has found that using instructive statements, those which include a rationale for the suggestion, and giving instrumental help are maternal behaviors which encourage independence. Both using imperative statements (unqualified injunctions or commands) and offering help which allows no initiative or understanding by the child encourage dependence (Hess and Shipman, 1967; Stover et al, 1971).

Development of scales. The author and another psychologist listened to excerpts of mothers' task-related conversation to try to develop a reliable scale of maternal "teaching" styles which could range from giving minimal help, encouraging initiative, and providing constructive information to doing things for the child, discouraging initiative, and providing little explanation. The two raters revised

the scales four times over a period of four weeks, each time discussing differences, providing specific examples, and eliminating any definition which did not receive strong agreement. With such a rigorous criterion for acceptance, only four scales of maternal fostering of dependency resulted. In ascending order of encouraging the child to solve a problem, based on prior research, the measures are: mother gives help, doing all or most of the task for the child; gives complete information or demonstration; prompts; and gives child control (see Appendix B, I for scoring criteria). It must be stressed that these measures are on a continuum of encouraging independence. Actual training of independence involves some optimal, proportionate use of these training styles. Investigating this formula is beyond the scope of the present study.

Reliability. Rater agreement for these measures was the worst of all obtained for parent-child interaction. At the end of the third revision, rater agreement averaged 74%, but the fourth and final revision obtained an average rater agreement of 83%.

Data analysis. It was decided not to use a measure of differential reinforcement of dependence, like per cent of compliance to requests for help, because this would have entailed considerable data analysis. Instead, the frequency of child-controlled mands was selected as one measure, and the other measure is the mother's proportionate use (per cent) of the three styles of giving instruction.

Child Dependency at School

It has already been shown how a child's dependency can facilitate her social responsiveness. Using the child's dependency at home as the

only measure of her dependency can, however, be a misleading measure, because a child's "typical" dependency in any situation is regulated by different cues and different schedules of reinforcement for dependency behavior. The present task presented a problem; maternal-role behavior was going to be modelled, but the experimental setting was in school. Because it was not known whether a child would generalize, to this task, her typical home dependency or school dependency, it was necessary to develop measures of dependency-behavior at school.

The author liberally adapted Beller's (1955) Scales of Dependency and Autonomous Achievement Striving for her own five scales of school dependency: self-sufficiency, suggestibility, help-seeking, likes adult involvement, and requires praise (see Appendix B, II for scoring criteria). No attempt was made to validate or assess the reliability of these scales because of their secondary interest to this study.

Imitation: Coding of Verbal Response Categories

The coding system for imitation of maternal verbal response style was developed for a previous study by the author (Sherer, 1971). The code categories of compliance, noncompliance, command, and explanation (see Appendix B, III for scoring criteria), adapted from Patterson, Ray, Shaw, and Cobb (1969), were chosen because they were sufficiently general to apply to many specific verbalizations, and because they subsume all possible verbal responses to child's request. That is, if a parent directly answers her child's question, her responses can be scored. If she ignores her child's request, by changing the subject or saying

nothing, she can still be scored by checking compliance and by not checking command or explanation (see Appendix D, III for sample data sheet). The only aspect of maternal response which is unscorable, with this coding system, is affectual content ("Honey", "You stupid girl").

Reliability. The author and two graduate students in psychology checked their agreement on responses made-up by the author. After discussing their reasons for disagreement and getting acceptable agreement, the three raters separately scored all of the 20 maternal-role verbalizations from each of 42 Ss. The total rate of agreement was 95%.

C H A P T E R I I I

METHOD

Subjects

The sample consisted of 36 first grade and 24 kindergarten girls, aged 5.0 to 6.7 years, from Hillside Elementary School in Hastings-on-Hudson, New York. The families in this Westchester County community are typically above the national average in level of education and income; approximately 25% of the families can be classified as lower-middle or upper-lower socioeconomic status. Subjective judgments about a family's socioeconomic status were made by E after each home visit. About 96% of Hastings residents are Caucasian. The present sample reflects the composition of the community.

The mothers of these children were unusual in two ways: one-sixth of them were foreign-born and only one-fourth had jobs or studies outside of the home (pursued only on a part-time basis). The families with foreign-born parents do not differ from the rest of the sample on either demographic or mother-child interaction measures. Kindergarten Ss are like first grade Ss except that fewer of them are middle-born and more of them are last-born.

Insert Table 2 About Here

Students whose mothers spoke poor English or who were judged to be unable to comprehend or comply with the tasks were eliminated. Letters, describing the purpose of the study and stating that both home and school observation were required, were sent with the remaining

Table 2

Comparison, by Frequency (f) and Percentage (%) Scores, of
First Grade and Kindergarten Ss on Demographic Variables

Demographic Variables	First Grade (n = 36)		Kindergarten (n = 24)	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
Above-average economically ¹	7	19	4	17
Below-average economically	7	19	5	21
Black mother and/or father	1	3	1	4
Foreign-born mother	5	14	5	21
Mother works/graduate student	9	25	6	25
<u>S</u> first-born child	16	44	11	46
<u>S</u> middle-born child	10	28	4	17
<u>S</u> last-born child	10	28	9	38
Number Children/Family	2.5		2.3	

¹ Economic level based on size, furnishings, and probable ownership of home: 1-crowded apartment, sparse/old furniture, parent(s) on welfare, compensation, etc.; 5-very large home, expensively furnished, professional level income.

102 lower-grade students. All those children whose mother responded favorably comprise the sample.

Mother-Child Interaction

The mother-child observation was structured to make E's later involvement with the child analogous to the mother's involvement. The structure required the mother's presence but allowed her to become involved with her daughter's play as she wished. The game introduced to the session was easily learned and highly interesting to every child. It could be modified, without adult suggestion, to suit a child's own pattern of problem-solution and creativity. The play situation, therefore, was one in which the mother was not needed for help or stimulation. Mother-child interaction, in this situation, was assumed to be primarily a means of social stimulation. The various behaviors tallied were selected to depict how, and to what extent, mother and child both elicited social interaction and responded to its initiation.

Apparatus

The game used for the home play session was LiteBrite (Hasbro Co., Brooklyn, New York), an illuminated peg-board game. A black plastic peg-board grid is fixed at a 45° angle into an opaque plastic cube. The unit contains a 25-watt lightbulb attached to the side opposite the permanent grid. An identical but removable grid receives a paper template for a design. When assembled, the paper is wedged between the two grids, and the printed design is apparent to anyone situated in front of and slightly above the unit.

Each design is outlined in white ink on a separate piece of opaque black paper. A letter, signifying a color, appears whenever a peg is guided, then held in place by a hole in the grid. Only one letter, if any, appears on the template behind each hole. When the light shines through the peg and the pierced paper, the peg looks like a small neon light. The design is then visible for a distance of 30 feet. The manufacturer provides many different designs, graduated in complexity and interest for ages 5 years to adult, and several sheets of blank paper. A colored photograph, showing the completed design, is also provided. If the player chooses to color her design according to the manufacturer's suggestion, she can use either the coding system or the photograph as a guide.

Because the child has two different ways to follow the design and because she can choose to create her own design (blank paper), her mother's help is not required. The mother, therefore, has the option of being uninvolved with the game. LiteBrite, however, allows the mother to participate in the game according to her style of interaction. Since the peg-board is easily visible from a great distance, the mother can see and comment on her child's play while being primarily engaged in other activity. Because LiteBrite is partly designed for adult use, the mother can play with her child.

Procedure

Prior to each observation, E asked the mother to select a convenient appointment and to arrange that she would not be distracted

during the play session. When E arrived at S's home, she asked the mother to select "the room in which it is most typical for you to be near your child while she is playing". Recording equipment and play apparatus were set up on a table or on the floor depending on the child's typical play habits.

Before presenting the task, E explained the purpose of the experiment to both S and her mother:

"As I told you on the phone, I'm interested in learning about children while they're playing. So I'm going to watch (S's name) play this game today and then she and I will play a different game at school. Because I'll be with her when she plays at school, I'd like to see her play now while you're with her. You can do anything you want, so long as you're in the room.

The most important thing, for me, is to see as natural a situation as possible. Some mothers have done some housework or reading, others have sat back and maybe talked about the game or something else, and others have played the game with their daughters. I don't think any of these ways is a basically good or bad way to be with your child. And it is not the purpose of my study to find out. I think lots of ways of being together are fine. I just want to see as natural a situation as possible so that I can understand what happens in school later.

Now (S's name), you have to help me make believe. I want to see how you play all the time when I'm not here; but I have to be here to see you. So I want you to pretend I'm not here and you're playing with just your Mom. I'll show you both how to play LiteBrite, so later you can ask your Mom, if you have any questions.

(Explanation of equipment and manufacturer's suggested play technique). Now that's just how the manufacturer says to play the game. But for me, you can play it any way you want. You can make up your own colors or your own designs. You decide. I want you to enjoy playing it. So it's not important to me that you play it well or try to do it fast. Play the way you want. OK. You can start now. Have fun!"

E positioned herself as far away from the child as possible but

where she could easily observe the facial expressions of both the mother and child. E then activated the tape recorder but did not begin tallying behavior for several minutes. This gave S and her mother some time to test the rules and adjust to being taped and observed. E began tallying behavior only when they appeared ready to play. In most cases, they spent several minutes inserting the design and readying the equipment. After watching several interactions, E judged that most of this preliminary help-seeking and helping behavior was necessary for playing the game, not a mode of social involvement.

Once observation began, E recorded their behavior every 20 seconds for 20 minutes. A recording interval consisted of E's looking for 5 seconds, then recording any criterion behavior observed within that time-span. A total of 60 interaction segments were recorded. Later, E reviewed the tapes and scored aural interactions. The initiator of an interaction was whoever was speaking at the beginning of the timed interval. Like visual interactions, 60 aural sequences were scored but the interval was extended to 25 seconds. A preliminary review had shown that some interactions lasted longer than 20 seconds, but none lasted longer than 25 seconds. Had tallies been made at the shorter interval, the initiator of a lengthy speech would be credited for starting two interactions, but the respondent would be scored only once. The number of initiations and the type of response are important indices of involvement and acceptance of involvement, respectively. To prevent distorting these indices, the longer interval was used for coding aural interaction sequences (see data sheets, Appendix D, I & II).

Scoring System for Maternal Involvement

Ss were distributed among treatment conditions on the basis of a history of high or low maternal involvement. Observation of the following 8 behaviors, and a single score summarizing those behaviors, comprised the index of maternal involvement. Those behaviors which are followed by the symbol (V) were scored from visual cues during the mother-child observation; those followed by the symbol (A) were scored later from audiotapes. The behaviors are grouped according to the type of involvement the author believes is indicated (see Appendix B, I for scoring directions). Seven are frequency measures; one is a percentage score.

Involvement with Child's activity

Plays with Child (V). Mother plays with or physically helps her daughter.

Involved in Own Activity (V). Mother pays no attention to her daughter.

Involvement with Child

Initiates Conversation (A). Mother attempts to elicit verbal interaction: exclaims, comments, or questions. The frequency of conversations initiated by the mother.

Responsive to Conversation (A). The rate (percentage) at which the mother verbalizes in response to the child's verbalization.

Signals Availability to Child

Leans Forward (V). The number of times mother bends from her

waist to orient her body towards the child, minus the number of times she leans away from the child.

Located Within Three Feet (V). The mother stands, sits, or lies so that at least part of her body is within three feet of some part of her daughter's body.

Affectual Nature of Involvement

Smiles (V). Mother smiles directly at daughter, or her expression changes towards a smile following something her daughter says or does.

Makes Positive Statements/Verbal Approval (A). Verbalizations or intonation which show approval, affection, acceptance or empathy with the child or her activity.

Data analysis and S distribution. To enable E to make any statistical corrections that might be warranted after preliminary data analysis, first grade and kindergarten Ss were treated as two different groups. First grade maternal involvement was determined by transforming frequency scores for each behavior into a 5-point Z distribution. Higher ranking indicated higher maternal involvement. These eight, transformed scores were summed and ranked again from highest to lowest. The top half of Ss comprised the "high maternal involvement group", and the bottom half of Ss comprised the "low maternal involvement group". This procedure was repeated for kindergarten Ss.

After Ss were divided into four subgroups, by grade and level of maternal involvement, they were randomly distributed among treatment groups. Two Ss were assigned to an experimental group for each S assigned to the control group.

Scoring System for Child Acceptance of Maternal Involvement

Two frequency measures were used to gauge the child's acceptance

of maternal involvement:

Ignores mother's verbalization. To not respond to a mand or a tact. Behavior may occur, but it is not relevant to the mother's initiating verbalization.

Resists mother's verbalization. To refuse to comply with a mand, or to protest or deny a tact.

Scoring System for Maternal Control

Two types of maternal control behaviors were collected and were later analyzed as the proportion of a mother's conversation which was geared towards directing her daughter. The two measures were:

Shared control. Parent attempts to direct or influence the child's behavior, but intends that the child can dissent.

Parent-controlled. Parent attempts to direct the child's behavior and intends that the child submit.

Scoring System for Child Dependency at Home

After the home visit, E reviewed the audiotapes of the mother-child interaction. The first two of the following behaviors were tallied in order to characterize a S's tendency to make dependency-bids with her mother. The latter two behaviors were used to index a S's independence.

Seeks, help, approval, attention/Express difficulty.

Child initiates conversation. The number of verbal interactions initiated by the child.

Rewards self. Child expresses satisfaction with the quality or completion of a task.

Makes "I" statements. Statements about a child's intentions, preferences, or opinions.

Scoring System for Maternal Fostering of Dependency

Four measures of maternal "teaching" styles were collected from audiotapes. The first three measures are presented in ascending order of assisting a child to take initiative in problem-solving. Data analysis was the proportionate use of these three styles. The last measure is the frequency with which a mother encourages the child to take initiative.

Gives Help. Does part or all of the task for the child.

Gives Information. Provides a complete answer or some demonstration.

Prompts. Gives the child a partial answer, a hint, or a clue.

Gives Child Control. Urges child toward independent action, asks to be directed, or asks about child's intentions for activity.

Supermarket Game I: Baseline Data

Apparatus and Procedure

E met each S in her classroom. During the walk to the experimental room, E reminded S of her promise to play a game with S and told her the game would be "Supermarket". E asked whether S ever went shopping with her mother and then, after hearing the inevitable "yes", said "Oh, then I'm sure you'll know how to play this game". E spoke to the Ss in a friendly manner, but tried to avoid further conversation so that her behavior would be equivalent for each S. If, however, the trip to

the experimental room was long, and continued silence would have made E seem aloof, E made comments about the route ("We're going downstairs", "It's not much farther now"). E also replied enthusiastically to, but avoided continuing, conversations which S initiated.

All experimental tasks took place in a book storage room, located along a familiar classroom corridor, but removed from the noise of class activity. Placed in the center of the room was a 3' X 5' table, laid with miniature toy groceries, and arranged to look like a supermarket. At the head of the table were play money, a small drawstring purse, and a straw basket. Plastic products in bins, a toy scale with movable weight-indicator, plastic milk and soda bottles, plastic cans with labels that simulated actual brand-name products, and magazine pictures of food and household items mounted to cardboard stands were arranged by "supermarket section" along three sides of the table. On the fourth side was an empty space, where Ss could place their purchases on the "conveyor belt". This was followed by a toy cash register and a rack containing tiny paper bags.

E brought S to the table and said:

"Here's the supermarket I told you about. And you can go food shopping here just like in a real store. Except during this game, you'll be a mother who has to go shopping, and you'll have your daughter along to help. You can make believe this doll is your daughter; she walks and talks just like a real child. Here, I'll show you how she works."

E directed S's attention to a 36" doll, dressed in a child's school outfit, and mounted on a skateboard. S was encouraged to take the doll's hand and walk her. Then E showed S how the doll "talked".

The doll's dress was unbuttoned so that S could see an implanted speaker and its connection to the cassette tape recorder hanging from E's shoulder. S was told that a girl already recorded what the doll would say and, although she would be able to answer the doll's questions, the doll would not be able to talk back to her. These directions were included because several pilot Ss, who were not shown the voice apparatus, tried to engage the doll in their own version of the shopping procedure and were disturbed when the doll did not comply.

The taped script consisted of 20 requests for food choice or shopping responsibilities and one statement reminding S to wait in the "check-out line" (see Appendix C, I for actual script). Each request was followed by a time interval sufficient for S to respond and move forward along the table. S was told that she had to take along her daughter who, like all children in a supermarket, would ask her mother to do things and to buy her favorite foods. S was then reminded that she was the mother and that "Mothers make up their own minds. When she asks, you can say or do anything you want. All you have to do is let her ask first, then tell her what you're going to do". S was instructed how to let the doll carry the play money, purse, and basket "if that's what you decide to do". E guided S around the table, telling her what the items were called, eliciting guesses, showing her how to work the scale and cash register, and reminding her to "wait your turn in line" when she arrived at the empty space.

The doll was then connected to the tape recorder and S was told to begin. She was reminded to wait for the doll to speak first, but to

answer as she liked. E walked through the shopping sequence with S and recorded all of her verbalizations on a data sheet (Appendix D, III). By walking alongside, E was able to cue S how far to move and when to listen to the doll.

When S finished the game, E asked if she liked playing it and promised she could play it again in a few weeks.

Data Analysis and S Distribution

Each S's responses were later scored for their frequency and style, whether she complied with the doll's request, and whether and how she elaborated her answer (see Appendix B, III for scoring directions). All Ss were strongly compliant (average 13:2) and non-elaborative (average 2), with the exception of 9 Ss who elaborated more than half of their answers. After controlling for high and low responsiveness and elaboration, Ss were randomly distributed among the three treatment groups.

The Tower Game: Establishing E-S Relationship

Apparatus and Procedure

Two to three weeks after Supermarket I, E met S in her classroom. Again E was friendly, but tried to converse only about that task and the path to the experimental room. To Ss in the control group, E spoke only about the promised Supermarket Game. E reminded the remaining Ss about the Supermarket Game and excitedly told them that there would be an additional game.

In the experimental room, the supermarket apparatus was set up as in the first session. Behind the table and against a side wall was

a small, low school-desk, with a child-sized chair behind it and another beside it. Eight feet away was an adult-sized chair, placed perpendicular to the child's desk. When S entered the room, she could see a colorful box on the desk and a book on the large chair. On entering, E said "The other game is over there. Let's play that one first" and led S to the desk. E sat in the side chair and motioned S to the chair behind the desk.

The "Tower Game" is an adaptation of blockhead!, the balancing skill game (The Saalfeld Publishing Co., Akron, Ohio). The set contains 20 brightly-colored, irregularly-shaped wooden blocks. Any tall construction built from these blocks is precariously balanced. There are two long, flat blocks which can be used as stabilizers to allow the construction of a relatively tall tower. The manufacturer's printed rules contain a photograph of a girl, placing a block atop an intricately balanced tower, and of two people watching her. This photograph was mounted on the inside of the box lid.

When S was seated, E lifted the box lid, positioned it so that S could see the photograph, and dumped the blocks on the desk. E said:

"Here's the Tower Game. The way to play it is you have to make a tall tower by piling up all these blocks. You can make it in whatever design you want. It's fun to play, but it's tricky. Because you can only use one hand to build it. And you can only have one block on the bottom.

Look, I'll show you. (E piles 4 or 5 blocks so that the tower looks shaky and/or falls down). You see, it can fall down. You have to keep trying different ways until you make a tower that stands up. That's what makes it fun.

If you look at this picture, you can tell what the rules are. See, she has one block on the bottom and she's only using one hand to build. You can switch hands, but only use one at a time. See

how the other people are only watching her? That's the last rule. I'm not allowed to help you or do it or figure it out.

OK, you can start".

Establishing E's Involvement

Continued Involvement (CI). To indicate her level of involvement, E varied the same behaviors which were observed for maternal involvement. To indicate interest, E leaned forward in a chair which was placed within 2' of the child. E was attentive to S's activity and tried to return any eye contact that S initiated. E smiled often, but only in response to a S-initiated behavior and she spoke with a lilting intonation. Starting at 30 seconds into the game, and at 30 second intervals thereafter, E praised, commented sympathetically, or spoke positively about S's activity. She selected her verbalization randomly from the following: "Good", "I hope it doesn't fall", "I can see you're trying real hard", "That's a pretty design you made", "That's good", "That's a nice one!", "You're a good builder", "Wow", "You're doing fine", and "I like your tower" or "I like the way you made it match (made a tunnel, etc.)." The Ss in the CI group received 13 reinforcements during a 7 minute "relationship" period.

Occasionally S completed her tower before the period elapsed or balked at finishing a tower. E replied warmly, "We have a few more minutes before we play the Supermarket Game. You can play with the blocks however you want."

Withdrawn Involvement (WI). E's behavior and intervals for speaking were the same as for CI Ss, except that she dispensed only

6 reinforcements during a 3 1/2 minute "relationship". At the end of that interval, E stood up and said in a neutral tone, "I have something I want to read. You keep playing with the tower. When time is up, we'll play the Supermarket Game". E walked to the distant chair, slouched back, and began to read. Her behavior copied that of a low-involved mother: more than 3 feet away from the child, involved in her own activity, backward lean, and no interaction by talking or looking.

If S tried to engage E's involvement, E glanced over and said, "I'm reading now. You keep playing." Further attempts to involve E were ignored. If S completed the tower or balked at finishing it, E kept reading and coolly said, "We have a few more minutes before we play the Supermarket Game. You can play with the blocks however you want".

Control (C). When these Ss entered the experimental room they could see only the extra furniture; the Tower apparatus was hidden. They were immediately reintroduced to the Supermarket Game.

Ingratiation Measures

E counted each time S asked for help, commented, questioned, or looked directly at E's face as one (1) ingratiation. E wore a leather bracelet on which seed beads were strung like an abacus. Whether E was sitting with S or reading, she kept one hand resting lightly on her wrist so that she was able to manipulate the beads inconspicuously.

Supermarket Game II: Measuring Social Responsiveness

Procedure

Ss were reintroduced to the Supermarket Game. E said, "Remember you are a mother who has to take her daughter shopping with her. She's going to ask you to let her do things and to buy her things. Since a mother makes up her own mind, you can say or do what you want so long as you wait for her to ask first." E led S around the table, soliciting names for products and reminding her how things worked.

When S was familiar with the procedure, E said, "You know, when you played last time it looked like so much fun that I decided I'd like a turn. Since you already played it once, I'll go first this time to make it fair. Whoever is the mother can do what she wants. So when I'm the mother, I'll say and do what I want, and when you're the mother you can say and do what you want." E then asked S to help her walk the doll, as E had done for S. This insured S's proximity so that she would hear E's responses. To Ss in the CI and C groups, E's delivery was warm and her posture was oriented towards the child. To Ss in the WI group, E spoke in a neutral voice and did not orient her body towards the child.

For all Ss, E as the "mother" spoke to the doll in the same tone of voice. E modeled two mothers: one who never complied with her daughter's request and always elaborated her answer, and the other who never complied and did not elaborate (see Appendix C, scripts II and III). The latter script was for Ss who had elaborated 50% or more of their baseline responses. This script actually contained minimal verbalization ("Not today", "No honey") so that E, as mother, would not seem punitive. Although E's "mother" was always noncompliant, she was

always sympathetic and warm towards the doll. Whichever maternal-role style E modeled, it was always opposite to the subject's baseline style.

When E finished her turn and replaced the toys, she turned to S and said, "Now it's your turn. Since you're the mother you can say or do what you want. But remember to wait for the doll to ask, and answer her whenever she speaks". E walked beside S and recorded her answers.

Ingratiation

E counted each time the S looked at her, commented, asked for help, or gave physical assistance (e.g., helped E replace toys) as one (1) ingratiation.

Child's Dependency at School

After collecting the measures of imitation and ingratiation, E asked teachers to rate the Ss on five scales of dependency behavior. Each scale had a five-point range, on which Ss with the highest frequency of that behavior were scored high. The scales are:

Self-Sufficiency. This rated the child's attempts, not ability, to be self-sufficient.

Suggestibility. This rated the child's willingness to accept suggestions because an adult made them and not necessarily because they were sensible or helpful.

Help-seeking (from adults).

Likes adult involvement.

Requires praise. This rated the child's tendency to perform for approval rather than for the satisfaction of doing a task.

C H A P T E R I V

RESULTS: EFFECTS OF MODEL AND MATERNAL INVOLVEMENT
ON IMITATION AND INGRATIATIONChoice of Statistical Analysis

The measure of ingratiation is a simple frequency score of attempts to help, talk to, or look at E. Imitation is measured by the number of S verbalizations which increased or decreased following E's modeling of decreased compliance and increased noncompliance and elaboration. These changes are represented as difference scores. This statistic was chosen over Supermarket I and II frequency scores, because it summarizes both the amplitude and direction of change.

Insert Table 3 About here

When maternal involvement data were analyzed, kindergarten mothers' frequencies were 12% higher than those of first grade mothers. Not only were kindergarten mothers consistently higher for all eight measures of maternal involvement, but, as presented in Table 3, these differences were significant for "plays with child" ($p < .01$), "involved in own activity", and "leans forward" ($p < .001$). The original choice of analysis of variance, for analyzing social responsiveness data, had to be dropped, because it was based on the assumption that Ss would be alike on the dependent variable of maternal involvement, and because partitioning Ss by age would have made cell sizes too small to test experimental effects. Instead, the Cochran-Cox χ^2 test (described in Ferguson, 1966) was used to test the significance of imitation and

Table 3
Comparison of Maternal Involvement Measures Between
Kindergarten and First Grade Ss.

Maternal Involvement	First Grade		Kindergarten		p
	\bar{X}	s	\bar{X}	s	
Involvement with Child's Activity					
Plays with Child (\underline{f})	5.6	11.1	13.0	20.0	.01
Own Activity (\underline{f})	20.6	18.8	11.4	14.3	.001
Involvement with Child					
Initiates Talk (\underline{f})	15.1	8.7	17.5	9.1	n.s.
Responds to Talk (%)	75.0	19.9	75.7	14.9	n.s.
Signals Availability					
Is Within 3 Feet (\underline{f})	46.3	17.8	50.6	13.4	n.s.
Leans Forward (\underline{f})	36.2	22.6	48.0	14.8	.001
Positive Affect					
Smiles (\underline{f})	8.4	6.9	11.0	7.9	n.s.
Approval/Positive Talk (\underline{f})	4.5	3.9	5.1	3.7	n.s.
Total Transformed Score (\underline{Z})	22.4	7.9	23.0	7.5	n.s.

ingratiating data. This particular t test was chosen because it corrects for differences in variance between contrasted groups. Because Ss' maternal involvement data had been separately normalized by Z - transformation, the assumption of normal distribution, underlying the use of t tests, was met.

Effect of Model

To test the prediction that imitation would occur merely with opportunity to observe a Model, t tests were made to see if Control group rates of imitation differed significantly from zero (score 0, $p < .05$). Inspection of Table 4 reveals that no Control subgroup mean,

 Insert Table 4 About Here

except verbalization scores for low maternal involvement (LMI) first graders and of high maternal involvement (HMI) kindergarteners, was significant. The cell size ($n=3$) is too small for analysis and accounts for the lack of significance. When subgroups are combined ($n=6$), however, Control group scores show significant imitation for codes non-compliance and verbalization and approach significance ($p < .06$) for code compliance by first graders. It should be noted that compliance was modeled only "by implication". Ss in all treatment conditions showed more imitation of the directly modeled verbal codes; i.e., they increased noncompliance and verbalization behaviors more than they decreased compliance behavior. The results clearly show that observation of a familiar adult Model is sufficient to elicit information of maternal response styles.

Table 4

Comparisons of Difference Scores for Imitation among Treatment Groups, Showing Significant Deviations from Zero(0) for Three Verbal Codes.^{1,2}

	Maternal Involvement					
	First Grade			Kindergarten		
	High	Low	Group X	High	Low	Group X
<u>Compliance</u>						
Withdrawn Involvement	\bar{X} 2.0 \underline{s} 2.8	6.9* 5.6	4.3* 4.9	2.3 2.2	4.6 ^a 3.5	3.8* 3.6
Continued Involvement	\bar{X} 4.8*** \underline{s} 2.8	5.9*** 2.1	5.3*** 2.6	4.5 3.8	1.6** 1.9	2.8 ^a 3.3
Control	\bar{X} 3.3 \underline{s} 3.8	6.3 4.1	4.8 ^a 4.2	0.3 5.7	5.0 3.6	2.7 5.3
<u>Noncompliance</u>						
Withdrawn Involvement	\bar{X} 6.4*** \underline{s} 2.0	9.6*** 3.5	7.9*** 3.3	6.3* 2.5	7.4* 2.5	6.9*** 2.7
Continued Involvement	\bar{X} 9.1*** \underline{s} 2.8	9.7*** 3.9	9.4*** 3.8	8.5* 4.1	8.0*** 2.2	8.2*** 3.2
Control	\bar{X} 7.3 \underline{s} 4.2	10.0 4.6	8.7*** 4.6	8.0 3.2	5.0 3.6	6.3* 3.9

Table 4 - continued

<u>E</u> Involvement	Maternal Involvement					
	First Grade			Kindergarten		
	High	Low	Group \bar{X}	High	Low	Group \bar{X}
<u>Verbalization</u>						
Withdrawn Involvement	\bar{X}	4.9	6.3*	3.3	6.6*	5.1***
	s	6.7	5.4	2.9	3.2	3.5
Continued Involvement	\bar{X}	7.9*	7.1*	8.0*	7.0*	7.4***
	s	5.7	5.9	3.1	3.4	3.3
Control	\bar{X}	8.3*	6.5*	8.3*	5.0	6.7***
	s	2.6	4.5	1.0	3.7	3.2

1 First graders were distributed as follows: 8 Ss in WI-HMI subgroup, 8 Ss in CI-HMI subgroup, 7 Ss in WI-HMI subgroup, 7 Ss in CI-HMI subgroup, and 3 Ss in both Control subgroups. Kindergarteners were distributed as follows: 4 Ss in WI-HMI subgroup, 4 Ss in CI-HMI subgroup, 5 Ss in WI-LMI subgroup, 5 Ss in CI-LMI subgroup, and 3 Ss in both Control subgroups.

2 * $p < .05$

** $p < .02$

*** $p < .001$

a approached significance, $p = .06$

S interviews. This conclusion is supported by qualitative data from random interviews of Ss following Supermarket II. Nearly every S said that her maternal-role style differed the second time she played. Most Ss, however, both denied copying E and did not believe that E had played first so that Ss could copy her. (In contrast, the Sherer, 1971 control group, who saw no Model, both showed no change and said they did not want to change). Those Ss who commented on E's maternal-role style, singled out E's adult or motherlike characteristics: "You said no all the time. My mommy always gets me what I ask for", "Do you have any kids?", "You've got grown-up ideas", "You were right. Little girls shouldn't get their way all the time".

It was also predicted that having a relationship with the Model would facilitate significantly more imitation than would merely observing the Model, and that imitation would be most facilitated by the Model who offered the low-rewarding or disrupted relationship (WI). Inspection of Table 4 reveals no significant differences among types of relationship with the Model. For imitation of verbal styles of maternal-role behavior, the only facilitating factor was the opportunity to observe an adult Model. Comparing the present Control group's results with those of Sherer's 1971 study, confirms that observation of the Model, not a second chance to play, effected the changes in maternal-role verbal style.

Effect of Maternal Involvement

Contrast Data

Since the present study tested the hypothesis that social

reinforcer effectiveness is a function of past and present social reinforcement, all predictions were made for specific combinations of maternal involvement with E involvement. A corollary to this model is that no main effect should be found for maternal involvement. This prediction is not entirely supported by the data. Kindergarteners showed no maternal involvement effect for any verbal code, and first graders showed no maternal involvement effect for code verbalization. However, LMI first grade Ss differed significantly from HMI Ss ($p < .05$) in compliance and also tended to imitate noncompliance more.

It has already been shown that modeling of verbal styles elicits high rates of imitation. The "demand aspects of the Model's presence" (Yarrow and Scott, 1972) in this task may be more potent than the Model's rewarding characteristics in eliciting imitation, if indeed Model rewardingness elicited imitation at all. No differential rates of imitation were found for E involvement. The powerful eliciting effect of the Model may also blunt the differential effect of social history (maternal involvement) on rate of imitation. While HMI-LMI first grade imitation differences for modeled noncompliance only tend towards significance, HMI-LMI differences for nonmodeled compliances are significant. It may be that when the "pull" of modeling decreased, LMI Ss were more attentive to and/or more willing to allow cognitive cues to determine changes in their verbal behavior.

Decreased compliance behavior had to be effected by cognitive cues in addition to demonstration. If changes in compliance and non-compliance were just reciprocal measures of imitation, their correlation

would be 1. However, correlations between these measures were only moderate (r .55 and r .65, for first grade and kindergarten Ss, respectively; see Appendix A, Table 1). Ss who showed concomitant changes in compliance and noncompliance had to both understand and act on the conceptual relationship between the two verbal styles. It might be argued that the lack of perfect correlation was effected only by the difference in eliciting power between a modeled and nonmodeled verbal style. But, when compliance changes are compared to changes in verbalization, a style which was also modeled, the correlations are near-zero. Verbalization differs from compliance in two ways: it was demonstrated, while decreased compliance was only implied, and there is no conceptual relationship between the words used to express a "yes-no" decision and the habit of elaborating on that decision.

Correlation Data

Spearman correlations were run between each of the nine measures of maternal involvement and each of the three measures of imitation (complete matrix in Appendix A, Table 2). The correlation of the Total MI Score were r -.42, r -.47 ($p < .01$), and r -.35 ($p < .05$), respectively, with compliance, noncompliance, and verbalization for first grade Ss, and were all near-zero for kindergarten Ss. This data, of an inverse relationship between maternal involvement and tendency to imitate, supports the contrast data that LMI first graders tend to imitate more.

While there was generally no relationship between kindergarten maternal involvement and imitation, one significant correlation sug-

gests that kindergarteners might be affected differently by social history. Noncompliance varied directly with "parent smiles" ($r = .38$, $p < .05$). Also, a low-moderate, inverse relationship between "parent activity" and noncompliance ($r = -.27$) was found. Kindergarteners, therefore, tend to imitate maternal role-playing slightly more if their mothers have been more highly involved with them, while first graders imitate more if their mothers have been less involved.

Effect of Maternal Involvement and Model Involvement

The predicted relationships between maternal and E involvement are depicted in Figure 1.

 Insert Figure 1 About Here

According to the predictions based on the SRS hypothesis, a child should respond least to the Model whose level of involvement is similar to that of her mother: HMI Ss should imitate most the low involved Model in their attempts to increase her level of involvement or reward to their accustomed level. LMI Ss should imitate more as the Model's involvement increases but level off in responsiveness beyond a moderate amount of Model reward.

The data are presented in Table 5 and depicted in Figures 2, 3, and 4.

 Insert Table 5 and Figures 2-4 About Here

The results are contrary to most predictions. First, all HMI Ss imitated more under the condition of high E involvement; in other words these children imitated the Model whose level of involvement was

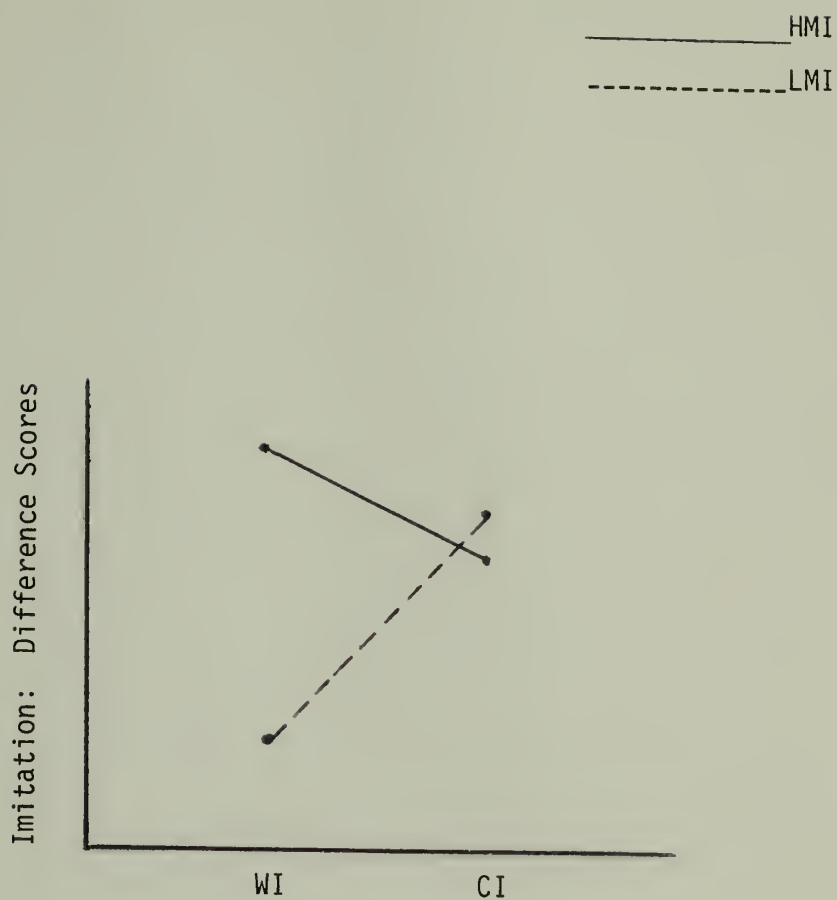


Figure 1. Predicted Relationships Among Levels of Maternal Involvement and E Involvement.

Table 5

Comparison of Difference Scores for Imitation as a Function of Maternal Involvement and E Involvement, for Three Verbal Codes.¹

<u>E</u> Involvement	Maternal Involvement			
	<u>1st Grade</u>		<u>Kindergarten</u>	
	High (n=8)	Low (n=7)	High (n=4)	Low (n=5)
<u>Compliance</u>				
Withdrawn Involvement	2.0 *	* 6.9	2.3	4.6
Continued Involvement	$\frac{4.8}{3.4}$	* $\frac{5.9^a}{6.4^b}$	$\frac{4.5}{3.4}$	$\frac{1.6^a}{3.0^b}$
<u>Noncompliance</u>				
Withdrawn Involvement	6.4 ‡	‡ 9.6	6.3	7.4
Continued Involvement	$\frac{9.1}{7.8}$	$\frac{9.7}{9.6}$	$\frac{8.5}{7.4}$	$\frac{8.0}{7.7}$
<u>Verbalization</u>				
Withdrawn Involvement	7.5 ^c	4.9	3.3 ^c *	6.6
Continued Involvement	$\frac{6.4}{6.9}$	$\frac{7.9}{6.4}$	$\frac{8.0}{5.6}$	$\frac{7.0}{6.8}$

1

* $p < .05$ ‡ approached significance, $p = .06$

a

difference between first grade and kindergarten LMI-CI Ss was significant, $p < .02$

b

difference between first grade and kindergarten LMI Ss was significant, $p < .05$

c

difference between first grade and kindergarten HMI-WI Ss was significant, $p < .02$

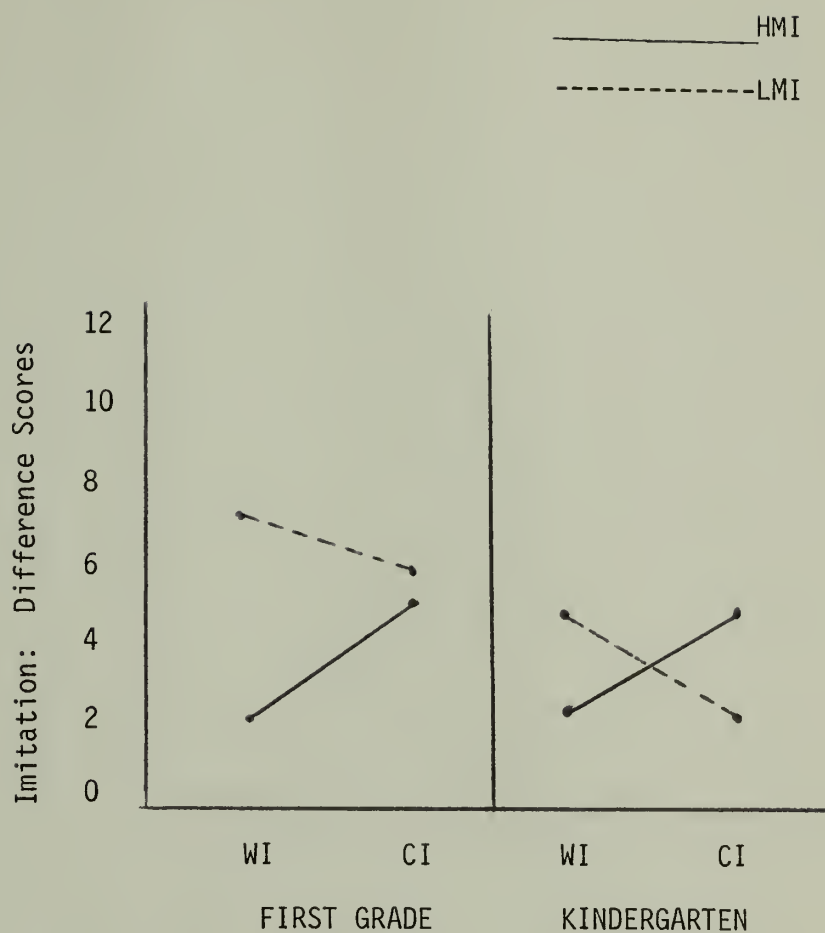


Figure 2. Imitation of Compliance Under Conditions of Continued (CI) and Disrupted (WI) E Involvement for High (HMI) and Low Maternal Involvement (LMI) Ss.

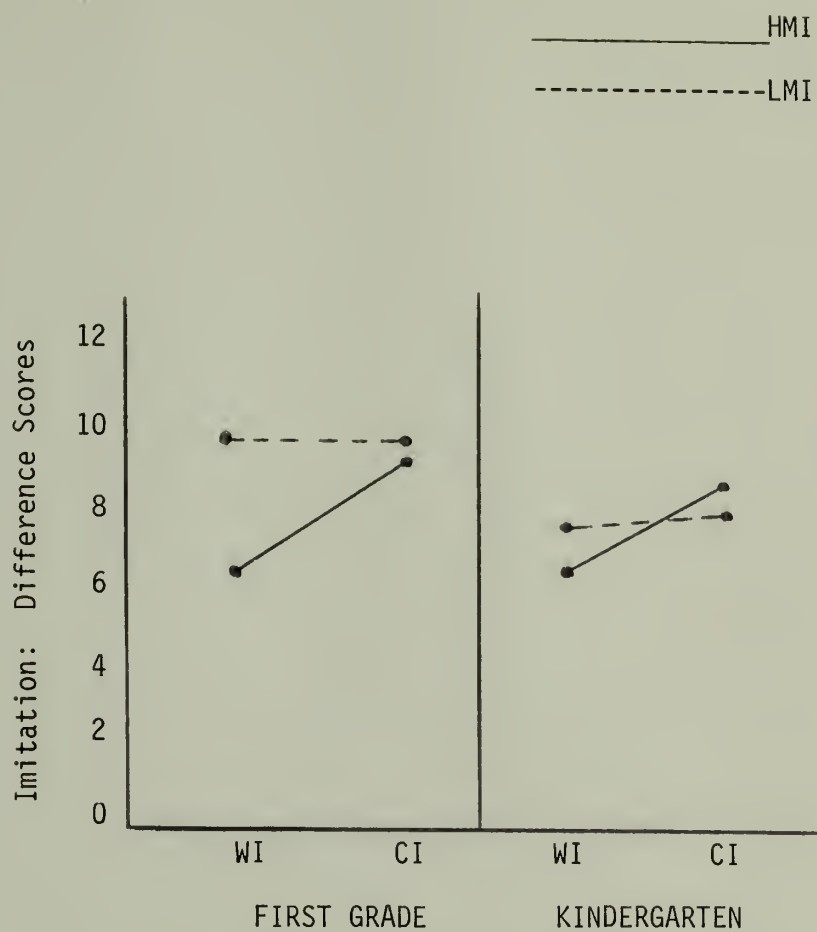


Figure 3. Imitation of Noncompliance Under Conditions of Continued (CI) and Disrupted (WI) E Involvement for High (HMI) and Low Maternal Involvement (LMI) Ss.

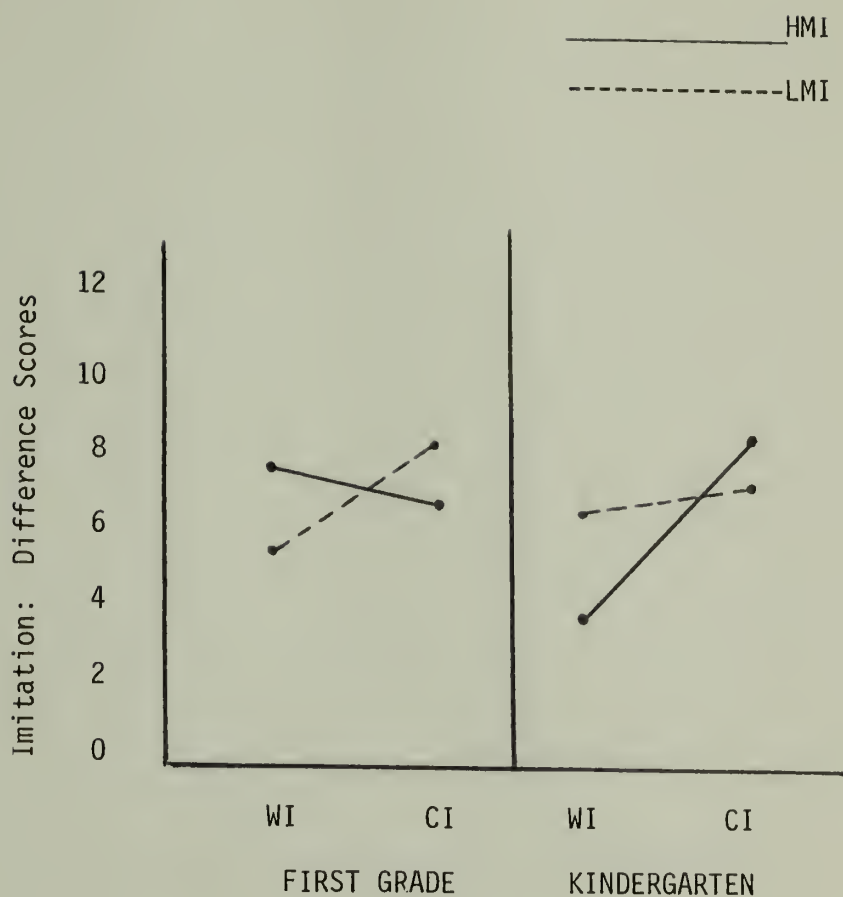


Figure 4. Imitation of Verbalization Under Conditions of Continued (CI) and Disrupted (WI) E Involvement for High (HMI) and Low Maternal Involvement (LMI) Ss.

similar to their mothers'. For kindergarten HMI Ss, these differences are significant only for verbalization ($p < .05$). Similarly, first grade HMI Ss imitated compliance significantly more ($p < .05$), and approached significance ($p < .06$) for noncompliance, with high Model involvement (CI). Referring to Table 4, shows that HMI Ss were so uninfluenced by the WI Model that they did not change significantly from their original compliance behavior. In sum, children from high maternal involvement homes tended to imitate more as model reinforcement increased, becoming more similar to that dispensed by their mothers.

For compliance, kindergarten LMI Ss were influenced only by the WI Model whose level of involvement was also most similar to that of their mothers. This is based on Table 4 data which show that changes in compliance behavior approached significance ($p = .06$) only under the WI condition. In Table 5, despite the large separation between means showing decreased imitation with increased Model involvement, LMI Ss show no significant differences in compliance behavior under WI and CI conditions. The small n for kindergarten subgroups contributes to this lack of significance. Of the remaining LMI comparisons of WI and CI levels of imitation, none are significantly different, and all but verbalization for first grade Ss are nearly exact. Although first grade LMI Ss did tend to verbalize more as reinforcement increased, the differences were not significant. As presented in Table 4, LMI first grade Ss did not significantly change verbalizing behavior after observing the WI Model. Failure to reach significance can be attributed to the high variance within all first grade subgroups for verbalizing behavior. These data also show that LMI Ss tend to

imitate well those models who are similar in level of involvement to their mothers. Unlike HMI Ss, they do not change their rates of imitation depending on E's level of involvement.

Ingratiation

 Insert Table 6 About Here

The data for ingratiation are presented in Table 6. Inspection of the table shows, despite large separation of some means, no significant differences among subgroups. Inspection of group variances reveals that they are quite large, and this high within-cell variability probably contributes greatly to the lack of significance. The facts that ingratiation consisted of both looking and talking behaviors, but that E's need to be occupied with experimental duties prevented her from noting Ss eye contact as reliably as S conversation, probably contributed to the high variance. Ss who could be characterized as "lookers" may have been consistently, but unsystematically, discriminated against. During the Tower Game, Ss in the WI group spent half their time with E sitting closeby and the other half with her sitting at a distance. Since strategies of ingratiation probably change with signalled availability (distance and body posture), WI Ss may have behaved differently from CI Ss for some of the session.

It is nevertheless interesting to look at group differences in ingratiation. While E involvement was ongoing, i.e., during the Tower Game, kindergarten Ss tended to ingratiate more with the E whose involvement level was similar to that of their mothers (HMI-CI,

TABLE 6

Comparison of Ingratiation Frequency Scores for Maternal Involvement
X E Involvement Subgroups, for both Kindergarten and First grade Ss.

		MATERNAL INVOLVEMENT					
		First Grade			Kindergarten		
		High (n=8)	Low (n=7)	Group	High (n=4)	Low (n=5)	Group
<u>Tower Game</u>							
Withdrawn Involvement	\bar{X}	10.6	11.7	11.1	7.8	10.0	9.0
	\underline{s}	7.5	7.5	7.4	6.7	11.2	9.3
Continued Involvement	\bar{X}	11.5	11.1	11.3	11.3	9.2	10.1
	\underline{s}	6.3	2.8	4.8	2.3	4.5	3.8
Group	\bar{X}	11.1	11.4		9.6	9.6	
	\underline{s}	7.1	5.4		5.5	8.1	
<u>Supermarket Game</u>							
Withdrawn Involvement	\bar{X}	10.9	10.4	10.7	16.8	9.2	12.6
	\underline{s}	9.3	6.0	7.6	13.9	8.8	12.3
Continued Involvement	\bar{X}	15.4	13.1	14.3	17.3	14.2	15.6
	\underline{s}	9.8	8.3	8.9	9.9	10.6	10.3
Group	\bar{X}	13.2	11.8		17.1	11.7	
	\underline{s}	9.4	7.0		12.3	9.6	

LMI-WI). Once E was no longer involved except by nearness and attention, i.e., during the Supermarket Game, all Ss tended to ingratiate themselves more with the high-involved E (CI). Additionally, HMI Ss, especially kindergarteners, tended to ingratiate most. While all first grade Ss tended to respond only on the basis of past E involvement, only LMI kindergarten Ss did (increased ingratiation after CI). HMI kindergarten Ss ingratiated strongly regardless of past E involvement.

 Insert Figures 5 and 6 About Here

These patterns of ingratiation clearly differ from the patterns of imitation presented earlier, with the exception that first grade HMI Ss imitated and ingratiated more with high E involvement (CI). Comparisons between the two measures (see Appendix A, Table 1) show low negative correlations between each type of imitation and both sequences of ingratiation for first grade Ss. Kindergarten Ss also show low correlation among measures, except for a moderate positive relationship (r .46, $p < .02$) between compliance and Tower Game ingratiation and a moderate negative relationship (r -.44, $p < .05$) between verbalization and Supermarket Game ingratiation.

The former correlation reflects the pattern that HMI kindergarten Ss responded more to E in the CI condition than in the WI condition. The latter correlation can be interpreted in two ways. The inverse relationship indicates that kindergarten Ss who talk more in the role of "mother" tend to talk/look to E less. Interpreted, this could mean that, for younger Ss, devising an explanation for the doll

TOWER GAME

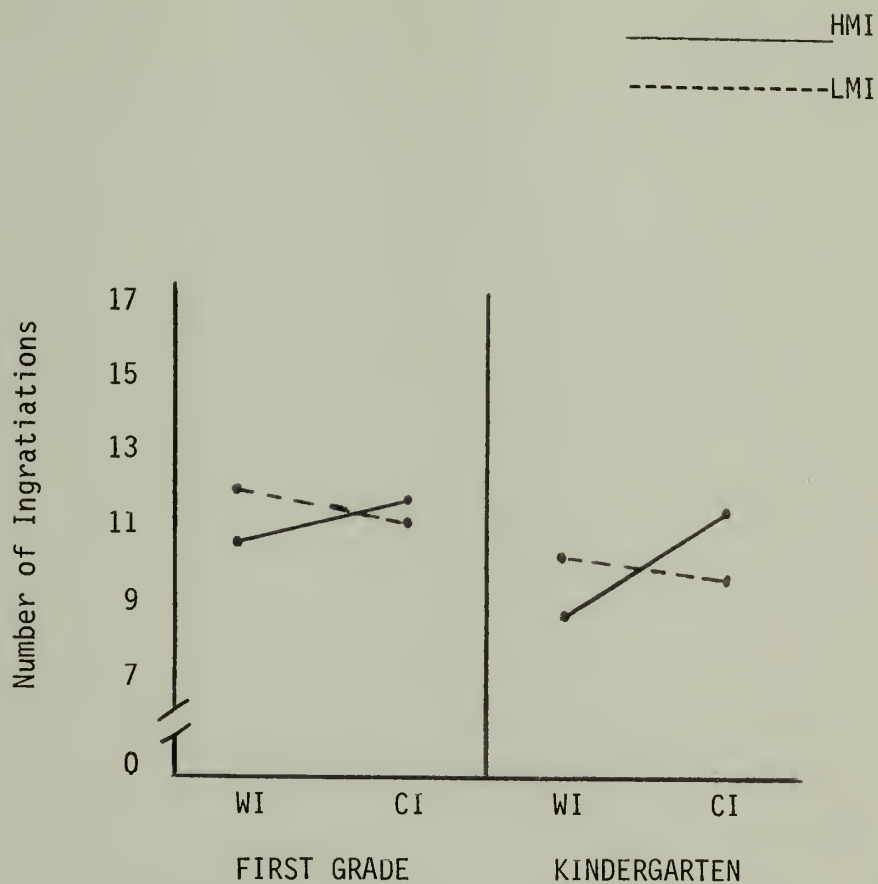


Figure 5. Ingratiation During the Tower Game Under Conditions of Continued (CI) and Disrupted (WI) E Involvement for High (HMI) and Low Maternal Involvement (LMI) Ss.

SUPERMARKET GAME

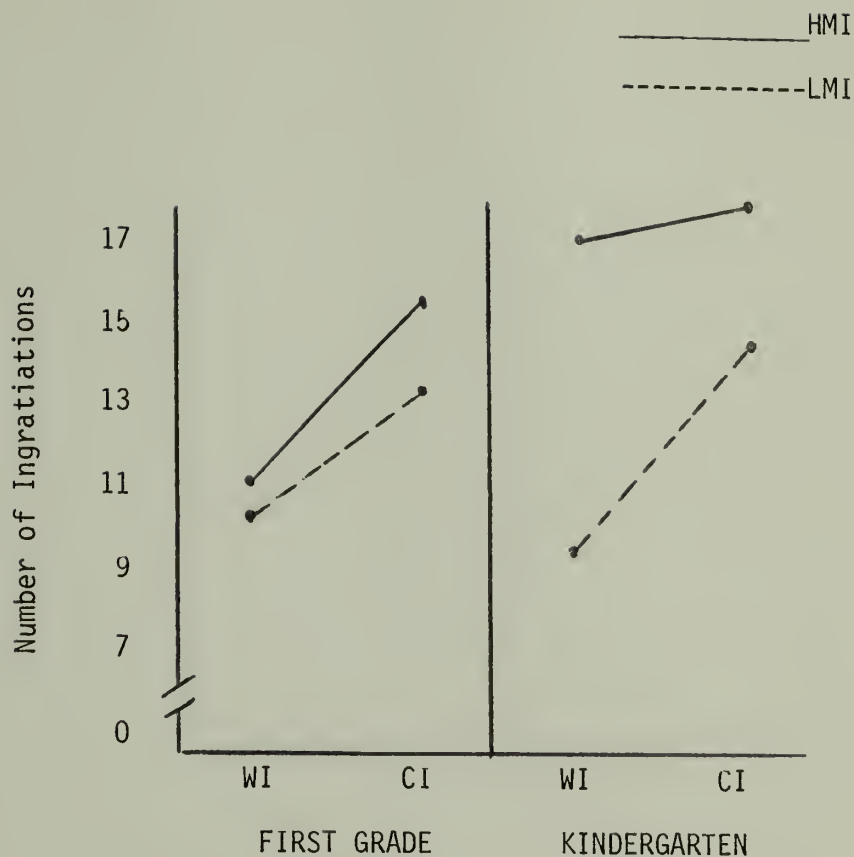


Figure 6. Ingratiation During the Supermarket Game Under Conditions of Continued (CI) and Disrupted (WI) E Involvement for High (HMI) and Low Maternal Involvement (LMI) SS.

takes more attention than it does for older Ss. Or, younger Ss may not have the repertoire of social behaviors that older Ss have, and they tend to rely on one type of social responsiveness at the expense of another. Indeed, kindergarten Ss did have lower rates of imitation but higher rates of ingratiation during the Supermarket Game than did first grade Ss. To accept the conclusions above, however, would mean that there exists a general limitation due to age. Examining the data, however, reveals no such limitation for kindergarten Ss who experienced a continued positive relationship; they talked a lot both to the E and to the doll. Only Ss who experienced a disrupted or moderately positive relationship (WI), and who also seemed to be generally less talkative, "made a choice" for the focus of their conversation. HMI-WI Ss talked almost exclusively to E. Relative to the other groups, LMI-WI Ss talked proportionately much less to E than to the doll. In sum, for kindergarten Ss, Social Reinforcement Standard (SRS) predictions about social responsiveness have some validity. That is, Ss used to a high level of reinforcement (HMI) tried to get the low involved E to increase her rate of reinforcement by ingratiating her more. Also, Ss used to a low level of reinforcement (LMI), increased ingratiation as reinforcement increased. It should be noted, however, that the validation of these SRS predictions occurs only with ingratiation, and not with imitation, as the index of social responsiveness.

Although imitation and ingratiation are both types of social responsiveness, they are clearly affected differently by the inter-

action of present and past rates of adult involvement. Correlation studies (see Appendix A, Table 2) show that maternal involvement alone predicts imitation and ingratiation differently. An inverse relationship between maternal involvement and imitation for first graders has already been presented. For these same Ss, maternal involvement and ingratiation vary directly (r 's of .40 to .50, $p < .02$). Again for kindergarten Ss, no relationships were found, except for a moderate correlation between "parent talks" and S ingratiation during the Supermarket Game (r .38, $p < .05$). In sum, ingratiation of E was highest from all Ss who were accustomed to higher rates of maternal involvement, while highest imitation rates were from first grade Ss who were accustomed to lower rates of maternal involvement.

Summary of First Grade-Kindergarten Comparisons

Kindergarten and first grade Ss often responded differently to E. In addition, they were sufficiently different on maternal involvement variables to warrant segregating Ss, according to age-group, for statistical analysis. Following is a summary of the similarities and differences between these Ss on demographic variables, maternal involvement variables, and social responsiveness to E as a function of E involvement and maternal involvement.

Demographically, the age groups differed only in having fewer middle-borns among kindergarteners. Also, first graders attended school full-time, while kindergarteners saw relatively more of their mothers and less of their teachers. Maternal involvement, which was

initially presumed similar for the two age groups, showed several distinctions. While kindergarten mothers were generally more involved, their separate measures of maternal involvement do not show as much internal consistency and do not correlate as strongly with the total maternal involvement score as do those of first graders (see Appendix A, Table 9). Talking, which E used to establish her own involvement, was not as potent a variable in determining maternal involvement for kindergarteners as for first graders.

There are two major similarities in imitative patterns for both age groups: (1) High maternal involvement Ss with a low involved E (HMI-WI) imitated the least among all treatment combinations. (2) A S imitated well or best the E whose level of involvement was consistent with her mother's. There is one difference in imitation between age groups. For first grade Ss, having a low-involved mother facilitated imitation beyond the effect of Model-mother similarity. For kindergarteners, however, level of maternal involvement had no relationship to level of imitation.

Kindergarteners generally were more responsive under conditions of Model-mother similarity. They also ingratiated more with the E whose level of involvement resembled their mothers', as long as E was directly interacting with them. When E was no longer involved, her past relationship to Ss had little effect on how kindergarteners continued to respond to her. Unlike first grade Ss, who responded to E only on the basis of her past high involvement, kindergarten Ss responded to E on the basis of their mothers' past high involvement.

Both age groups tended to ingratiate more if their mothers had been highly involved, but first graders' ingratiation was facilitated further if E was also highly involved.

CHAPTER V

RESULTS: EFFECTS OF A CHILD'S DEPENDENCY AND ACCEPTANCE OF INVOLVEMENT
AND OF A MOTHER'S TENDENCY TO CONTROL HER CHILD AND
FOSTER DEPENDENCY ON IMITATION AND INGRATIATION

The general purpose of this study was to delineate the social history variables which influence a child's responsiveness to a relative stranger. The major predictions focused on the effects of the child's experiences with level of maternal social involvement. It was recognized, however, that social history variables, unrelated to a child's learned rate of social reinforcement, may modulate the facilitation of her responsiveness to social reinforcement. This section presents the findings of correlational analyses between imitation and ingratiation and indices of a child's acceptance of her mother's involvement, her dependency at home and at school, and the mother's tendencies to control her child and foster dependency. Segregating Ss into subgroups of high and low frequencies of these behaviors would have entailed a sample size and data analysis beyond the scope of this study. Instead, it was decided to use Spearman-correlations merely to select important variables and to delineate patterns of relationship on which to base future research.

Acceptance of Maternal Involvement and "Acceptance of Others"

It was believed that the more a child ignored and resisted her mother's attempts to initiate conversation, the less she accepted her mother's involvement. Ignoring the mother, by keeping silent or by changing the subject of conversation, does not, however, seem to be a

measure of "acceptance". Both kindergarten and first grade Ss ignored their mothers at the same rate, and "ignored" correlated near-zero with all measures of maternal involvement (see Appendix A, Table 3). It appears that young children simply do not respond verbally to about one-third of their mothers' conversation. If imitation and ingratiation of E and making dependency-bids to a teacher can be interpreted as indicating that the child accepts their involvement with her, then "ignoring" maternal involvement also had no relationship to any S's acceptance of E or her teacher.

Resisting maternal conversation did correlate both with a child's acceptance of her mother's involvement and with her acceptance of at least one other woman's involvement. The patterns of relationship, however, are different for first grade and kindergarten Ss (see Appendix A, Tables 3 and 4). For first grade Ss, the more a child's mother got involved in her play, the more the child resisted her talk ($r = .48$, $p < .05$). But "resisting talk" had no relationship to accepting any other forms of maternal involvement or to "accepting E's involvement". If a first grader resisted her mother's talk, she was more likely to make more dependency-bids to get her teacher involved (r 's $.38$ to $.58$, $p < .02$). Since the observed mother-child interaction occurred in a task-situation, the mother was likely to initiate conversations with directions or suggestions as well as with task-irrelevant, more sociable comments. Scanning the interaction-data sheets shows that "resisting talk" typically followed directions and suggestions. Therefore, a summary of the first grade Ss' pattern of acceptance of involvement can be specifically stated to be that Ss who were most

involved with their teachers were also more resistive to their mothers' attempts to play with them and to direct their play.

Kindergarten Ss showed the same positive relationship between resisting maternal talk and making dependency bids with the teacher (r 's .40 to .49, $p < .05$). However, whether a kindergarten child resisted her mother tended to be dependent on her mother's general level of involvement. Kindergarten Ss tended to resist more their mothers attempts to direct and suggest as their mothers became less involved (r -.55, $p < .02$, between "resists" and "parent responds to talk" ; r 's -.26 to -.39 with other measures of maternal involvement). Kindergarten Ss also seemed to transfer their resistance of their mothers to E in her "maternal role". That is, if they resisted their mothers' talk, they did not imitate E's verbal behavior in her modeled mother-role (r -.45, $p < .02$ for noncompliance; r -.38, $p < .05$ for verbalization). However, the children who most resisted their mothers' talk made more attempts to ingratiate themselves with E (r .42, $p < .05$).

Parent Control in Relation to Responsiveness to Examiner

There were no significant correlations among parental control measures and measures of imitation or ingratiation. Parent control only correlated with a child's dependency at school (see Appendix A, Table 5).

Dependency in Relation to Maternal and Examiner Involvement

For both age groups, a child's tendency to be dependent or

independent at home or at school had no relationship to her imitation of E, except that first grade Ss who actively sought permission, help, approval, and attention also tended to imitate verbalization (r .48, $p < .02$) somewhat more (see Appendix A, Table 6). A first grader's dependency was more likely to affect the frequency with which she tried to ingratiate E. The only home dependency measure which predicted ingratiation of E was the number of conversations the child initiated (Tower ingratiation r .39, $p < .02$; Supermarket ingratiation, r .71, $p < .01$). Measures of school dependency were more consistently predictive of ingratiation of E, but only during the Supermarket Game (r 's .38 to .57, $p < .02$). The only measure of school dependency which correlated negatively with ingratiation of E was "willing to take suggestions" (r -.41, $p < .02$). To the extent that imitation can be viewed as "suggestibility", this finding supports the conclusion that dependency did not affect first graders' imitation. For kindergarten Ss, neither dependency at home or at school predicted amount of imitation or ingratiation. However, a measure of independence, the frequency of self-reward statements at home, correlated negatively with a kindergarten's ingratiation of E (Tower r -.61, Supermarket r -.50, $p < .01$). In sum, a child's dependency had limited influence on her social responsiveness; dependency was predictive only of ingratiation.

For all Ss, the pattern of maternal involvement towards dependency behavior predicted the style of the child's dependency at school (see Appendix A, Table 7). This represents differential reinforcement of dependency behavior. For first grade Ss, the child's talkativeness at home had a positive relationship to the total maternal

score (r .48, $p < .01$), but the child's help-seeking had no relationship to most of the individual measures of maternal involvement and had a negative relationship to maternal approval (r -.41, $p < .02$). First graders' school dependency correlated only with their home dependency behavior of initiating conversation (r .57, $p < .01$). For kindergarteners, total maternal involvement was positively correlated to help-seeking at home (r .45, $p < .02$), while their talking was not or slightly negatively correlated with maternal involvement indices (parent responds, r -.38, parent smiles, r -.36). At school, kindergarteners relied heavily on help-seeking for making dependency bids.

For first grade S_s , amount of maternal involvement also predicted the amount of dependency shown. The more talkative and highly involved mothers had children who, at home, rewarded themselves least and made few "I" statements (r 's range from -.41 to -.73, $p < .02$; Appendix A, Table 7). Children who made the fewest "I" statements at home were more dependent at school (r -.54, $p < .01$; Appendix A, Table 4). In general, school dependency increased with maternal involvement (r .39, $p < .02$), but seeking praise and lack of self-sufficiency were especially affected (r 's .43 and .48, $p < .01$; Appendix A, Table 7).

For kindergarten S_s , amount of maternal involvement and amount of school dependency have little relationship. Like first graders, kindergarten S_s rewarded themselves less as their mothers talked more (r -.59, $p < .05$), and they made fewer "I" statements as maternal approval increased (r -.52, $p < .02$). Unlike first graders, their "independence" behaviors had no relationship to school dependency, but

did correlate negatively with dependency-bids (ingratiation) made towards E. However, school-dependency behaviors of seeking praise and liking teacher involvement correlated negatively with two measures of maternal involvement, "responds to talk" ($r = -.40$, $p < .05$) and "has own activity" ($r = -.42$, $p < .05$).

Since "parent responds to talk" was a measure of positive maternal involvement and "has own activity" was a measure of negative or low maternal involvement, these results at first seemed inexplicable. That they are opposite behaviors is partially confirmed by the slight negative correlations between these two maternal involvement measures (see Appendix A, Table 8), for first graders. Kindergarten mothers, however, increased responsiveness as they became more involved in their own activity ($r = .57$, $p < .01$). That is, as they pulled away from the child's activity, kindergarten mothers responded more to the child's conversation. Moreover, kindergarten mothers who got involved in their own activity also tended to give fewer commands or suggestions ($r = -.66$, $p < .01$) but some help ($r = .39$, $p < .06$) and much information ($r = .66$, $p < .01$). For kindergarten Ss (see Appendix A, Table 5) it is precisely this combination of verbal behaviors that is associated with reduced school dependency. In sum, as a kindergarten mother got involved in her own activity, she nevertheless continued to attend to the child and to encourage her independence. Probably because of her continued attendance, she was able to shape these independence behaviors. For kindergarten Ss, therefore, maternal involvement was predictive of school dependency behavior, but only to the extent that

it specifically related to independence training.

Summary of First Grade-Kindergarten Comparisons

There are differences between age groups in how maternal involvement affected a child's responsiveness to two "strangers", her teacher and E. All Ss resisted their mothers' suggestions to the extent that they were responsive to their teachers. For first graders, the resistance was restricted to their mothers' attempts to interfere with the child's problem-solving (i.e., to "teach") and had no carry-over effect on their responsiveness to E. Kindergarteners, however, seemed to resist as a reaction to their mothers' low involvement. If they resisted their mothers, kindergarteners also resisted imitating E. On the other hand, responsiveness to E by ingratiation was facilitated by their resistance to their mothers.

Both age groups were more dependent at home as maternal involvement increased. This relationship represents both the mother's rewarding of her child's involvement-seeking behavior and the child's acknowledgement, by more approach behaviors, that her mother's involvement is rewarding. The age-groups differed in how their home dependency behaviors generalized to ingratiating E and their teachers, but for both groups their history of dependency at home was not important for imitation of E. First graders used maternally-rewarded ingratiation behaviors to obtain involvement with other adults. That is, the relationships among maternal involvement, home dependency, school dependency, and ingratiation with E are all positive for first

graders. For kindergarteners, maternal involvement has a slight relationship only to ingratiation with E. For them, maternal involvement predicts which dependency behaviors are used at home and at school, but it does not predict their amount of school dependency. Nor, does ingratiating a teacher have any relationship to ingratiating E.

CHAPTER VI

DISCUSSION

Evaluation and Redefinition of Social Responsiveness Measures

Before discussing the effects of Model and maternal involvement on social responsiveness, it is best to examine the indices of social responsiveness used. These have been described as imitation of three cognitive styles of maternal role-playing and ingratiation during two tasks. The methodological inadequacies of the ingratiation measures have already been detailed. Since the data show that imitation and ingratiation are quite differently affected by experimental and life-history variables, understanding of social responsiveness would be greatly facilitated by studying these measures simultaneously. Ingratiation, however, must be observed by someone other than the Model to insure that all types of ingratiating behavior are reliably collected.

The three styles of maternal response to a child's request, from which S could pattern her role-playing, were indulgence (compliance), restriction/denial (noncompliance), and instruction (verbalization about decisions). Since only the latter two styles were modeled, only they can legitimately be called "imitation measures". However, analysis of code verbalization raises the question of whether increases in this behavior represented imitation. It was concluded that the three "imitation" measures actually assessed three separate types of social susceptibility.

A S who increased her production of noncompliance behaviors

was clearly imitating E. Since no S copied E's 100% noncompliant style, imitation of noncompliance consisted of simply adding a class of behaviors to her repertoire. It has already been presented that while noncompliance and compliance are mutually exclusive conceptually, statistically they are different, not reciprocal, measures of imitation. Changes in compliance behavior were both smaller and more variable than noncompliance changes. "Negative imitation" occurred only for compliance behavior, and one-sixth of the sample exhibited it. Those Ss who decreased their production of compliance behaviors, therefore, showed both comprehension of and willingness to conform to both the maternal attitude and behavior modeled. There is no way to partition the contributions to final performance of attention, comprehension, and willingness to conform by post hoc data analysis. This question can be explored in future research by asking Ss, on completion of the task, to replicate E's play and by providing incentives for accurate reproduction.

Although changes in compliance and noncompliance behavior were relatively independent, they were affected similarly by maternal and E involvement. Verbalization, however, had a different pattern of increase following modeling. While imitation was enhanced by Model-mother similarity, verbalization was not. LMI-WI Ss had high imitation scores, but low verbalization scores. Verbalization, like ingratiating-talk, was enhanced by higher involvement from E. With the exception of HMI kindergarteners, there were no differences in amount of verbalization despite maternal or Model involvement. It

appears, therefore, that exposure to a Model who elaborates a "yes-no" decision tends only to disinhibit talkativeness.

The coding criteria for "verbalization" were actually too broad to tap imitation. In this study, imitation of verbalization should have been an index of similarity between the Model's and S's explanation. Instead, a S could say "No candy. It's too close to dinner" to exactly mime and please the Model, but add "...but I'll get you some for after dinner" to please herself. With the present coding system, she would have been scored correctly as not imitating noncompliance, but scored incorrectly as imitating verbalization. Future research should include a 4-point scale for imitating the Model's style of instruction: 3 points for exact reproduction, 2 points for partial reproduction or exact reproduction amended by an addition, 1 point for giving some explanation, and 0 points for saying nothing beyond "yes" or "no".

Improved and conceptualized as discussed, these three measures of social susceptibility would aid investigations of a child's comprehension of and willingness to conform to an adult's role-behavior.

Effect of Model

Originally, three questions were asked about the effects on imitation of maternal-role behavior of a Model's relationship with a child: Is a relationship with the Model a precondition for imitation? What type of affectual relationship facilitates imitation most? How is imitation affected by the interaction of a child's expectancy for involvement and her relationship with the Model?

Competence

The results clearly show that the presence of a familiar adult Model was sufficient to elicit imitation of maternal-role styles, and that the Model's rewardingness did not facilitate this type of imitation. The results raise other questions, however, about why a child would imitate an adult without instructions to do so, and whether any Model characteristics facilitated the imitation. Yarrow and Scott (1972) say that imitation without direction illustrates the "generalized instructiveness or compellingness" of adult behaviors. One could posit a competence motive to explain why children so readily imitate adults, but it can be more simply understood in terms of conditioning. A child's developing competence is rewarded by adults who have not only modeled the requisite behaviors in the past, but who frequently exhibit the behaviors while dispensing reinforcement. In this manner, progress towards competence and generalized imitation become linked (Gewirtz and Stingle, 1968).

Kuhn (1973) proposed two Model characteristics which she believes are critical for facilitating imitation. Writing from a Piagetian framework, she describes imitation as a process of accommodation to the environment. Thus, a child acts according to environmental cues, and changes her usual behavior towards that of a Model only to the extent that she judges the Model's behavior to be relevant to the situation. Kuhn posits that the two Model characteristics considered relevant by a child are competence and perceived similarity.

Since the object of the Supermarket Game was to assume the maternal role, the adult E was more competent to play than the child S and was probably perceived as more competent. In postgame interviews, Ss did focus on E's "adult" or "motherlike" answers, indicating that these were salient Model characteristics for this situation. That E's competence became more salient than her rewardingness is probably due to the circumstances (special trips from class, a stranger trying to learn about children, etc.) surrounding the Supermarket Game. It is likely that most Ss judged it to be a task situation rather than a free-play situation. Imitation which occurred was, therefore, probably deliberate and task-related and not incidental.

Rewardingness: Nurturance and Nurturance-Withdrawal

Model nurturance has been found to facilitate only incidental imitation, like task-irrelevant (Bandura and Huston, 1961; Jasperse and Hekken, 1971; Rosenblith, 1961) and sex-role behaviors (Bandura and Walters, 1959; Mussen and Distler, 1959; Sears, 1953). This study was designed to be an experimental analog of how a child learns adult-role behaviors through incidental imitation. However, while a child in a supermarket may incidentally learn her mother's attitude towards indulging children, repeating the situation in a schoolroom actually restructures the cues, so that learning the maternal attitude then becomes the primary task. Incidental imitation and imitation of a Model who has not instructed copying are not necessarily the same thing.

The present paradigm should be changed in several ways to make it more analogous to real-life situations and to better test the effect of Model nurturance on imitation of maternal cognitive styles: Task-irrelevant actions and verbalizations should also be modeled. The modeled task should be embedded in a larger play or learning situation (cf, Yarrow and Scott, 1972) so that there would be competing cues for "appropriate" behavior. Also, since all Ss had been exposed to E in their homes and during two trips to the experimental room, Control Ss had had some relationship with a "pleasant" E. The Control group in future research should observe a completely unknown adult Model. This change would eliminate Model nurturance, as a variable for that group, and better test whether it is a precondition for the imitation of maternal-role behavior.

Only a few studies have compared the facilitating effects of Model nurturance and nurturance-withdrawal on spontaneous imitation. These studies have alternately favored nurturance (Rosenblith, 1959; 1961), nurturance-withdrawal (Hartup, 1958), or neither (Sgan, 1967; Sherer, 1971). Since nurturance-withdrawal facilitates performance and "desire to please" in conditioning studies, and since imitation, conditionability, and desire to please are all types of social responsiveness, it was predicted that nurturance-withdrawal would most facilitate both imitation of maternal-role behavior and ingratiation behavior. There were two assumptions underlying this prediction: (1) all forms of social responsiveness are affected similarly by social stimuli, except that situational cues can elicit the predominance

of one form over another; and (2) social responsiveness is predominantly under incentive control which is regulated by a social agent's rewardingness.

The results of the present study challenge these assumptions. First, while there may be a fundamental learning process for social responsiveness, different types of social responsiveness become associated to different social-stimulus complexes. Not only were ingratiation and imitation evoked differentially by the present task, they were also facilitated differently by diverse social stimuli. Imitation was not dependent on Model nurturance, but ingratiation, and verbal disinhibition for kindergarteners, were facilitated by it. Furthermore, imitation is both a form of social responsiveness and a type of learning (Bandura and Walters, 1963). Whether the "learning set" predominates, and how that type of imitation is facilitated, in distinction to socially-responsive imitation, is dependent on situational cues. Therefore, the same behavior may be differently affected by social stimuli.

Conceptual properties of social stimuli obviously control social behavior to a large extent. That ingratiation and verbal disinhibition were somewhat greater with Model nurturance was probably facilitated as much by cognitive cues as by incentive variables. Typically, these results would be interpreted as indicating only that E rewardingness was an incentive for Ss to talk more and that it was more of an incentive than the arousal-properties of low or disrupted E rewardingness. However, why it was an incentive, and why one type of incentive pre-

ailed, was dependent on the interaction of social history and experimental variables. A child's ingratiation of her mother was positively related to her mother's playing with her and negatively related to her mother's being self-involved. Kindergarteners ingratiated more when their mothers were nearby, and first graders ingratiated more when their mothers spoke positively. To interpret, ingratiation behavior became associated to these maternal behaviors. These children developed the expectancy that ingratiation is more likely to be reinforced when their mothers are engaging in those behaviors, and then they transfer these expectations to similar behaviors exhibited by similar adults. Since E in the CI condition exhibited a higher rate of nearness, playing behavior, and positive statements and also showed no self-involvement, she rewarded, by chance, more ingratiation behavior than E did in the WI condition. The CI E not only confirmed the child's expectancy but also, by exhibiting more cue behaviors, seemed more likely to reward further ingratiation. S ingratiation was, therefore, greatly determined by cues about the probability of "pay-off" for such behavior. In sum, the incentive value of E's rewardingness was determined by the interaction of her behavior with S's social history.

Effect of Model and Maternal Involvement

The interaction effects for Model and maternal involvement underscore how a child's responsiveness to social stimuli is determined by her past social history. Children who were accustomed to high

maternal involvement conformed much more to the modeled maternal style when E was high involved. Unlike HMI Ss, children from low maternal involvement homes conformed very well when E was low involved.

Similarity and the Social Reinforcement Standard (SRS)

This pattern can be summarized by saying that Model-mother similarity, in type of relationship offered the child, facilitated conformity of behavior. These results confirm Baron's (1966) conceptualization that a person's past history provides an internal norm or frame of reference (Social Reinforcement Standard) which greatly influences the nature of the interaction between herself and a reinforcing agent. More specifically, he theorized that a person prefers a level of reinforcement which is similar to her customary amount, if her social history has been high rates of reinforcement, but that she prefers a level slightly higher than her customary amount, if her social history has been low rates of reinforcement (Baron et al, 1968). Discrepant rates of reinforcement should cause decrements in responsiveness, except that young children with low reinforcement histories respond as favorably to highly discrepant rates as to moderately discrepant rates (Epstein and Price, 1970).

The present results confirm these predictions: HMI Ss imitated best after continued reinforcement and worst after disrupted (low) reinforcement. LMI Ss imitated well under both conditions. The results, however, are different from what the author predicted based on Baron's extensions of his SRS model. He states that when a person's

SRS is disconfirmed by a social agent, she will change her own responsiveness to try to reinstate her preferred rate of reinforcement. Thus, when reinforcement is withdrawn, a person with a high SRS will temporarily become more responsive. A HMI S, therefore, should have responded most under conditions of disrupted reinforcement (WI).

Baron's own work confirms his predictions, but, in his studies, a S's SRS was established experimentally, and responsiveness was tested during the shift and extinction phases of a conditioning paradigm. The predictions for the present study were based on the belief that the Supermarket paradigm would be analogous to Baron's paradigm: a S's mother would establish her SRS, E's involvement during the Tower Game would confirm or disconfirm the S's SRS, and E's observer-role during the Supermarket Game would serve as "extinction". The present paradigm differs from Baron's, however, in that the person who is compared against the SRS is different from the person who established it and in that the SRS is based on noncontingent reinforcement. When reinforcement is noncontingent, and when behaviors like attention and nearness are known to be reinforcers, an "extinction phase" can not occur if the social agent remains close by and watches the child play.

The results of this study support Baron's idea that a person is most comfortable with a reinforcing agent who is least discrepant from her learned standard of "preferred" or "appropriate" reinforcement. Moreover, these results bridge some of the gap between Baron's ideas and their application to nonlaboratory situations. Reinforcement in his studies was always limited to approval statements and was always

given contingently. The author believes that a person's true SRS is based on a mixture of many types of positive social stimuli which are typically encountered on a noncontingent basis. The present study mimicked these conditions and still found the predicted pattern of social responsiveness. Finally, Baron intended his ideas to apply to an SRS established by primary social agents, like parents, but he did not test them using SRSs derived from parent-child interactions. The present study directly tested the application of his SRS concept and found it valid.

"Similarity" Revised

Kuhn (1972), in presenting a cognitive model for imitation, states the premise that "the individual only imitates models insofar as he has the requisite cognitive structure to comprehend them and insofar as they bear some relation to his own behavior schemes". She specifies that the Model characteristics, which bear a relation to the child's behavior, are perceived competence and perceived role-similarity. Kuhn does her cognitive theory a disservice by restricting herself to role-similarity. In this, she is similar to other theorists who interpret the concept of similarity too narrowly to mean demographic, personality, or attitude similarities. Thus, children have been found to imitate a child Model who has similar hobbies (Rosekrans, 1967) or who emits social reinforcement at a similar rate (Hartup and Coates, 1967).

However, the Model does not have to be similar to be thus

perceived. Baxter, Lerner, and Miller (1965) found that college students who had been raised in authoritarian homes perceived themselves to be more similar to an instructor who was critical and punishing than to an instructor who used reward and information to teach; the reverse was true for students raised in democratic homes. Perceived personal similarity, in this study, was elicited by situational cues that "fit" the student's socialization history. Kuhn states that for imitation, as for all psychological activity, "the organism always acts so as to conserve its own structure". Actually, this is a general principle which can incorporate Baron's specific version of the SRS. It can be paraphrased to say that a person's experiences become the standard against which new people and situations are compared and which are then assimilated to the extent that they are useful and consonant.

This "life history" conceptualization has support from diverse studies. Several investigators have reported that black Ss, with either generally low social reinforcement histories (Costello, 1968) or histories of low social reinforcement from whites (Baron, 1970; Baron, Jackson, and Fish, 1972) respond in ways which insure the receipt of low to moderate rates of reinforcement. College students with TAT-derived high-affiliation needs got better grades with instructors who cued low probability for affiliation-satisfaction (McKeachie et al, 1966). In another college student study, Ss were first given a psychoanalytically-oriented projective test to determine whether they were "oral characters" or "anal characters". On a later verbal conditioning task, "oral" Ss conditioned positively to approval,

but "anal" Ss conditioned positively to criticism. Both groups showed decreased responsiveness under "against-type" reinforcement conditions (Noblin, Timmons, and Kael, 1966).

That some Ss respond better to criticism is inexplicable by most alternative concepts of facilitated social responsiveness, with the exception of "anxiety-arousal". Similarly, only "anxiety-arousal" can be applied to the present results that S imitated a Model who withdrew nurturance. This concept will be fully examined in the next section. For now, the criticism of "anxiety-arousal" is that it can only explain enhanced social responsiveness under adverse conditions. It has to be supplemented with another explanation for enhanced responsiveness under favorable conditions. However, the cognitive-life history conceptualization can account for many types of social responsiveness under many types of conditions. It also underscores the role of situational cues and of maturational changes in cognition in determining which life-history variables become most salient for social responsiveness at any one time.

Incentive, Anxiety-Arousal, and Dependency

Incentive. Most theories of facilitated imitation lack parsimony, because they assume a "dual" process, two different incentive conditions depending on whether the Model is nurturant or nonnurturant. In addition, they fail to explain the present pattern of results. Much of this failure follows from the assumptions that: (1) Model-child relationship determines the type and amount of imitation and (2) amount

of imitation is modulated mostly by Observer characteristics.

According to Mowrer (1950), when a Model is nurturant, her behaviors and attributes acquire secondary reward value. Reproducing these behaviors, therefore, becomes a means of self-reward. This theory describes how a nurturant Model's positive or neutral behaviors will be imitated because of their acquired positive incentive value. A corollary to this theory is that the behavior of nonnurturant Models, or the negatively-valenced behavior of nurturant Models, would not acquire positive reward value. If imitation of such behavior occurs, it is mediated by another type of incentive process. This process is the arousal of anxiety, which generally enhances task performance (Hill, 1967). When the Model is nonnurturant, anxiety is hypothesized to result from frustration of dependency needs (Sears, 1957) or an expectancy (fear) that reinforcement will not be dispensed (Hartup and Coates, 1967).

There is supportive experimental evidence that Model nurturance facilitates imitation of neutral behaviors (Bandura and Huston, 1961; Mussen and Parker, 1965; Rosenblith, 1959) and has no or negative relationship to behavior that is nonnurturing, like self-denial (Bandura, Grusec and Menlove, 1967; Rosenhan and White, 1967). However, some of Hartup and Coate's Ss imitated the altruism (i.e., self-denial) of a rewarding Model, and in the present study Ss imitated the Model's nonindulgence to a childlike doll. Since all Ss preferred to indulge the doll originally, and since they did not readily extend their non-indulgence to "sweets" (see Appendix A, Table 10), it seems likely

that Ss identified with the doll and, therefore, were engaging in "self-denial" when imitating noncompliance.

The present data do not discredit the theory of acquired incentive value, but they indicate that it should be extended to include imitation of, at least some, nonnurturant behaviors and of, at least some, apparently nonnurturant Models. All mothers "nurture" to some extent, and, therefore, their behaviors and attributes acquire secondary reward value. Especially for younger children, who have not been exposed to many other women, "Mother" is synonymous with "good"; mother's attributes, even of low involvement, have a positive valence. Therefore, imitation of either a nurturant or a nonnurturant Model may have positive incentive value, depending only on the attributes of one's primary nurturer. Although mothers in the present study were considered nonnurturant because of their lack of involvement, perhaps even "punitiveness" as maternal nonnurturance can acquire some positive valence. Besides the Baxter, Lerner and Miller study (1965), there is some clinical evidence for this from punitively-raised children who equate the punitiveness with caring ("She did not want me to get into trouble").

Anxiety-arousal and dependency. There are several sources of data which cast some doubt on anxiety-arousal explanations of enhanced imitation with nonnurturant Models. Hartup and Coates (1967) predicted that a nonnurturant Model would provoke anxiety, because of the child's consequent expectancy for nonreward, and would especially exacerbate the anxiety of a chronically low-reinforced child. His

high- and low-reinforcement history Ss responded equally, however, to the low-nurturing Model. If low reinforcement evokes anxiety, then the latter Ss should have had higher rates of imitation. Three important predictions, which derive from dependency-anxiety theory, are not supported by data from Stein and Wright's (1964) study and the present study: (1) Children who come from high-nurturant homes have higher expectations for dependency-gratification, should therefore be more anxious with the nonnurturant Model, and should imitate her more than children from low-nurturant homes. (2) If a Model has been nurturant, then suddenly withdraws nurturance, children should be more anxious and imitate her more than a consistently nurturant Model. (3) Children who are high-dependent should respond more than low-dependent children when dependency-gratification is signalled and even more when it is threatened.

The present data show that Ss from high-nurturant homes who observed the nonnurturant Model (HMI-WI) had the worst rates of imitation for all Ss. Further, withdrawal of nurturance produced the same rates of imitation as consistent nurturance. In Stein and Wright's study, E rewarded both ingratiation and imitation, then modeled behavior while continuing or withdrawing nurturance. Some children did increase both types of social responsiveness with nurturance-withdrawal, but some both decreased ingratiation and failed to increase imitation. One can not assume that these Ss were the low-dependent children in this treatment condition. If certain Ss in the consistent nurturance condition also showed generally less social responsiveness, this might

have been a valid speculation; but consistent nurturance produced two groups which were distinct only in the type of social responsiveness (imitation or ingratiation) which decreased or failed to change. Therefore, nurturance-withdrawal did not consistently provoke dependency-anxiety, and consistent nurturance did not differentially affect high- and low-dependent children.

In the present study, at-home dependency behaviors were counted, but Ss were not distributed among treatment conditions by level of dependency. Nevertheless, correlational analysis shows that predictions for social responsiveness based on dependency-anxiety-arousal are not supported. First, it should be established that the dependency measures actually tapped a relatively consistent behavioral tendency. Dependency at home varied directly with maternal gratification, type of dependency at home was predictive of type of school dependency, and both of these were predictive of ingratiation with E. There was no relationship between dependency and imitation. It was discussed earlier that the present task did not elicit incidental imitation. Dependency has also been found to facilitate only incidental imitation (Goggin, 1972; Portuges and Feshbach, 1972; Ross, 1966). The present study does not, therefore, completely test the relationship between imitation and dependency-anxiety. Dependency did have a positive relationship with verbal disinhibition and ingratiation for first grade Ss, and independence had a negative relationship to ingratiation for kindergarteners. Ingmatiation, therefore, should have been generally higher for nurturance-withdrawal and highest for high maternal involvement Ss in that condition.

However, nurturance-withdrawal produced generally less ingratiation and verbal disinhibition, and first grade HMI Ss under nurturance-withdrawal showed the least ingratiation of all Ss, while kindergarten HMI-WI Ss showed the very least verbal disinhibition.

The present paradigm would have to be modified in two ways to better test dependency-arousal hypotheses: both incidental and task-related imitation should be included, and Ss should be distributed by levels of dependency behavior to assess its interaction with E involvement. The present study, nevertheless suggests several changes for current ideas about the facilitating effect of dependency on social responsiveness. It lends support to other findings that dependency has no effect on task-related imitation. It casts doubt on the facilitating effect of dependency-anxiety-arousal. Instead, what seems to facilitate dependency for all Ss is expectancy for dependency-gratification.

All children with low expectancies for reward of ingratiation (LMI) responded least, of all Ss, when E signalled low reinforcement-probability (WI) and ingratiated more when she signalled higher probability of reward (CI). Kindergarten mothers were generally more involved and, because they also had inconsistent involvement styles, they were more likely to reinforce some type of dependency-bid at any one time. HMI kindergarten Ss, therefore, had the most favorable histories for high expectancy of reward for ingratiation. Because E was involved to some extent in both experimental conditions, she signalled at least some probability for dependency-gratification to all Ss. Kindergarten HMI Ss, therefore, could consider their expectations

confirmed in either condition. Their high rate of ingratiation, equal for both conditions, suggests that this may have happened. First grade mothers were consistent in their involvement styles; therefore, first graders were better "trained" to use situational cues to modulate their expectancies for dependency-gratification. HMI first grade Ss ingratiated as much as LMI Ss when E signalled low probability of dependency-gratification, but increased more in ingratiation behavior, than did LMI Ss, when E signalled a higher probability. Their higher expectancy interacted with higher probability-cues to effect higher facilitation of ingratiation.

This last pattern of results suggests that "dependency", as an Observer variable, is not the best predictor of facilitated social responsiveness. Instead, predictions must be based on relevant social history variables which determine the amount of and eliciting cues for various dependency behaviors. This conclusion is supported by the finding that a kindergartener's dependency at school was related, not to general level of maternal involvement, but to the specific ways in which the mother used involvement to reinforce independence behavior. In sum, anxiety as an incentive operation for facilitated social responsiveness seems suspect. The incentive of dependency-gratification is a more plausible explanation, but only if the notion of a facilitative dependency trait is deemphasized in favor of social history variables which train dependency and of situational cues which determine when, with whom, and what type of dependency-behavior, if any, is facilitative.

Effect of Maternal Involvement

There are indications that having a history of low maternal involvement facilitated imitation for first grade Ss. Maternal involvement and all three measures of imitation had a moderate inverse relationship. Because LMI contrast differences were significant only for the nonmodeled "compliance" style, it is more accurate to state that low maternal involvement best facilitated comprehension of and willingness to conform with the maternal attitude exhibited by the Model. It has already been discussed why the separate effects of comprehension and willingness could not be partitioned and how the present paradigm can be modified to test their separate effects. It is nevertheless interesting to speculate that, since the differences were stronger for attitude than for exhibited behavior, attention and/or comprehension may have been more strongly affected. There are several explanations of how a history of low maternal involvement can facilitate cognition.

"Cognitive consonance". Yarrow and Scott (1972) found that children who had interacted with a nurturant Model were more likely to imitate her nurturant play with toy animals, while nonnurturant play was imitated most by children who had had a nonnurturant relationship with the Model. The authors offered an explanation of "cognitive consonance", whereby a child is most likely to selectively imitate those behaviors which are most "in character" for a Model, according to expectations derived from their interaction. Extending this idea, one would expect a child to be more ready to selectively imitate those behaviors which are characteristic for a Model if they are also con-

sonant with the nurturing behaviors characteristic of the child's primary nurturer, her mother. Since the present Model exhibited only nonnurturant behaviors, the "cognitive consonance" hypothesis would predict that imitation should have been greatest in the LMI-WI group and should have descended in the order of HMI-WI>LMI-CI>HMI-CI.

The actual ordering of results indicates, however, that it is only the consonance of the mother's and Model's nurturing characteristics which facilitates imitation, and that the extra boost for LMI first grade Ss must be explained by a different process. However, the present paradigm would have to be modified to give the Yarrow-Scott concept a fair test. The Model would have to present a nurturing style and a nonnurturing style with the doll (design: Model involvement X Maternal involvement X Modeled maternal style) which were both equally different from Ss' baseline responses.

Attention facilitated by dependency-anxiety-arousal. Walters and Parke (1964b) point out that arousal facilitates attention and that dependency, which has as its basis orienting to social cues, facilitates attention in social situations. Moreover, in stressful situations, dependent children attend more exclusively to social cues (Beller, 1958; Exline and Messick, 1965). There are two types of arousal which might be produced by histories of low maternal involvement: dependency-anxiety and social deprivation. Chronic frustration of dependency-needs is supposed to produce anxiety, which should be somewhat reduced when dependency-gratification is encountered. Also high-dependent children should be more affected. The present results

show no significant difference in imitation for LMI-WI and LMI-CI Ss, and also show no relationship between dependency and imitation. Dependency-anxiety, as the facilitator of LMI imitation, is not, therefore, supported by the data.

Attention facilitated by social deprivation. Social deprivation explanations (Gewirtz and Baer, 1958a; 1958b; Gewirtz et al, 1958; Landau and Gewirtz, 1967) are similar to that of dependency-anxiety in that lack of maternal involvement induces a motivational state. In this scheme, however, the level of an individual's arousal, and therefore her responsiveness, is determined only by the length and degree of her past deprivation for social reinforcement. That is, Ss with equal histories of low maternal involvement should respond similarly, so long as a social agent signals that social reinforcement is available and regardless of the amount of available reinforcement signalled. Since E was positively involved with all the children and, therefore, signalled the availability of social reinforcement, LMI Ss should have imitated at equal rates in both E-involvement conditions. These data support the predictions.

Gewirtz and his colleagues, however, have not fully tested the notion that it is only past social deprivation which facilitates responsiveness. That is, they manipulated only past rates of social reinforcement and then presented the same number of approval statements to all Ss. The present paradigm could test this notion by adding two Model-involvement conditions: (1) aloof Model-presence for the entire "relationship" period and (2) higher rates of Model reinforcement (e.g.,

positive statements at FI 20 seconds) for the period. LMI Ss in the former condition should respond less than present LMI-WI Ss, because the Model will have signalled that no social reinforcement is available. LMI Ss in the latter condition should respond no more than present LMI Ss, if only signalled availability, and not actual amount of social reinforcement, is important.

Social deprivation explanations are not contradicted by the present contrast data, and receive some support from correlational data. It should be noted that only LMI first graders, who have been more consistently deprived and for a year longer than LMI kindergarteners, showed facilitated imitation. There is some support for social deprivation hypotheses from kindergarten ingratiation data. LMI kindergarteners resisted their mothers' talk more, and "resistance to mother's talk" correlated positively with ingratiation of other women (E and teacher). The difference in imitation between first grade and kindergarten LMI Ss may mean that the older Ss were more attentive to the situational cues that imitation was the more "appropriate", more likely to be reinforced, socially responsive behavior. It would be significant to know whether the "enhanced attention" was facilitated by the year's worth of cognitive development or by the longer duration of "social deprivation". This could be tested by a longitudinal study of the same Ss, which would require yearly observation of mother-child interaction and testing of social responsiveness. One could not just add older Ss, because it could not be presumed that observed low maternal involvement was chronic, rather than a recent reaction to

developmental changes in the child.

Baron (1970) accepts social deprivation as a facilitator of social response. Thus, children with histories of low maternal involvement bias their SRS upward; that is, they prefer and respond best to rates of social reinforcement that are moderately discrepant from their usual rates. Greater discrepancies from their SRS, to high rates of social reinforcement, should provoke discomfort and social responsiveness should be somewhat reduced. Accordingly, social deprivation should facilitate responsiveness to low and moderate rates of reinforcement, but lose its effectiveness with higher rates. LMI Ss in the present study, and in another study (Epstein and Price, 1970), did not show the predicted decrement with high Model-reward. Baron (1970) states that SRS predictions for children with histories of low social reinforcement depend on "standards of appropriateness" which involve judgment that does not develop before age 8. Ss in the present study and the Epstein and Price study were younger than the critical age. According to Baron's explanation, then, the enhanced imitation of LMI Ss was partly facilitated by social deprivation and was partly an experimental artifact. That is, LMI performance averaged higher than HMI performance, because LMI Ss failed to discriminate between treatment conditions as a result of their cognitive development. If the sample had been selected from 8 year old girls, LMI Ss should have shown no significant differences in imitation from HMI Ss. Their only difference would be which E-involvement condition facilitated or decreased imitation. This prediction could be easily tested by adding second and third grade Ss to the present design.

Summary

The present study was primarily designed to test the effects of Model involvement, maternal involvement, their interaction, and a child's dependency on her social responsiveness, specifically on her imitation of maternal role-playing style and ingratiation behavior. Secondly, the author hoped to delineate what incentive and cognitive processes underlay the facilitation.

It was found that neither the characteristics of the Model's rewardingness or the child's dependency had any effect on the child's imitation of maternal role-playing. It was hypothesized that the present paradigm elicited task-related imitation; these results would then support prior findings that Model nurturance and Observer dependency facilitate only incidental imitation. If any Model characteristic facilitated imitation for this task, it was most likely her perceived competence in assuming the mother/adult-role. A child's dependency was somewhat predictive of her attempts to ingratiate E and her teacher. Ingratiation was better predicted, however, by the child's specific history of dependency-training and not by her overall dependency trait.

The facilitative interaction of Model-maternal involvement was unique for each type of social responsiveness: imitation was significantly enhanced by Model-mother similarity, and ingratiation was enhanced by the combination of consistent Model involvement with high maternal involvement. Despite the difference in interaction patterns, both instances of heightened social responsiveness were hypothesized to be facilitated by the incentive of positive reward. For imitation of

maternal-role behavior it was theorized that the acquired reinforcement value of imitating the nurturing mother generalized to a person with similar behavior patterns; for ingratiation, it was the expectancy for reward based on the mother's higher rate of reinforcement and the E's signalling a higher probability of reinforcement.

Low maternal involvement seemed to have some facilitative effect on imitation in first graders. It was unclear whether this was due to an arousing effect of social deprivation, or to kindergarteners' cognitive inability to discriminate between the two levels of social reinforcement provided by E, or to a combination of both. It was clear, from the patterning of results as a function of dependency and of the interaction of Model-mother involvement, that facilitated imitation did not result from arousal of anxiety or dependency-anxiety. That cognitive cues greatly determine facilitated social responsiveness was strongly suggested by several types of data: (1) Ingratiation, which was not directly elicited by the experimental task, was not facilitated strongly or reliably by experimental manipulations. (2) Model-mother similarity facilitated imitation. (3) Dependency-training was more predictive of both the amount and object of ingratiation than was overall dependency. It appears that a child's social responsiveness is mediated by situational cues that provide information about the appropriate type, amount, and object of social response and that confirm or disconfirm her unique expectancies for social reinforcement.

The present study suggests that predictions about a child's social responsiveness must be based on knowledge about her prior social

learning history. It advances a "conservative" model of social responsiveness which posits that children act in ways to insure that their expectancies for social reinforcement, which are determined by past relationships, are met in the present relationship. In addition, cognitive development probably mediates both the child's expectancies and her perception about a social agent's ability to meet those expectancies. These are issues that warrant further investigation, and several suggestions for research have been offered.

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APPENDIX A

Table 1

Intercorrelations Among Imitation and Ingratiation, for First Grade and Kindergarten Ss.

	Imitation			Ingratiation		
	Compliance 1st	Kg	Noncompliance 1st	Kg	Verbalization 1st	Kg
Compliance	--	--	.55***	.65***	.12	.05
Noncompliance					.56***	.53***
Verbalization					-.20	-.01
Tower					--	--
Supermarket					--	--

* $p < .05$ ** $p < .02$ *** $p < .01$

APPENDIX A

Table 2

Correlations Between Nine Maternal Involvement Measures and Imitation and Ingratiation of
E, for First Grade and Kindergarten Ss.

	Imitation					
	Compliance		Noncompliance		Verbalization	
	1st	Kg	1st	Kg	1st	Kg
Initiates Conversation	-.34*	-.10	-.41**	-.16	-.25	-.16
Responds to Child ¹	-.15	-.32	-.18	-.14	-.29	-.14
Plays with Child	-.13	-.14	-.26	-.07	-.01	.03
Has Own Activity	.55***	-.23	.39**	-.27	.21	-.12
Leans Toward Child	-.27	-.02	-.22	.04	-.17	.22
Is Within 3' of Child	-.16	-.37	-.23	-.15	-.14	.16
Approves/Positive Talk	-.27	-.10	-.41**	-.03	-.35*	-.05
Smiles	-.35*	.10	-.37*	.38*	-.15	.32
Transformed Summed Involvement	-.42***	-.10	-.47***	.05	-.35*	.04

¹ This score expressed as percentage; all others are frequency scores

* $p < .05$

** $p < .02$

*** $p < .01$

APPENDIX A

Table 2 - continued

	Ingratiation			
	<u>Tower</u>		<u>Supermarket</u>	
	1st	Kg	1st	Kg
Initiates Conversation	-.05	.24	.25	.38*
Responds to Child ¹	.17	.15	.05	.05
Plays with Child	.39**	.26	.46***	.18
Has Own Activity	-.06	-.11	-.21	-.09
Leans Toward Child	.14	.30	.29	.15
Is Within 3' of Child	-.22	-.11	-.12	.22
Approves/Positive Talk	.21	.34	.50***	-.04
Smiles	.13	.26	.40**	-.28
Transformed Summed Involvement	.17	.28	.40**	.16

APPENDIX A

Table 3

Correlation Between Acceptance of Maternal Talk and Imitation and Ingratiation of E, for First Grade and Kindergarten Ss.

Reaction to Mother	Reaction to <u>E</u>									
	<u>Imitation</u>			<u>Ingratiation</u>						
	<u>Compliance</u>	<u>Noncompliance</u>	<u>Verbalization</u>	<u>Tower</u>	<u>Supermarket</u>					
Ignores Talk	.10	-.12	.05	.06	.12	.11	-.19	.10	-.22	.18
Resists Talk	-.31	-.17	-.12	-.45**	.06	-.38*	.22	.02	.23	.42*

* $p < .05$

** $p < .02$

APPENDIX A

Table 4

Correlation Between Measures of Dependency at Home and at School, for First Grade and Kindergarten Ss.

Home Dependency	School Dependency					
	Suggestibility		Likes Involvement		Seeks Praise	
	1st	Kg	1st	Kg	1st	Kg
Ignores Maternal Talk ¹	.46**	.28	-.21	-.14	-.02	-.04
Resists Maternal Talk	.58***	-.03	.27	.49**	.45**	.40*
Initiates Talk	.01	.19	.41*	.32	.31	.45**
Seeks Help, Approval, Attention/Difficulty	.30	.39*	-.13	.24	-.04	.29
Rewards Self	.09	-.21	-.27	.06	-.32	-.15
Makes "I" Statements	.10	.10	-.60***	.15	-.41**	.11

* $p < .05$ ** $p < .02$ *** $p < .01$

¹ In this context, not accepting maternal talk is viewed as involving some independence, i.e., having a sufficiently strong sense of self to ignore or resist.

APPENDIX A

Table 4 - continued

Home Dependency	School Dependency				
	<u>Seeks Help</u>	<u>Self Sufficiency</u>	<u>Sum</u>		
Ignores Maternal Talk	-.07	.01	-.17	.02	-.01
Resists Maternal Talk	.38*	.49***	.26	.42*	.53***
Initiates Talk	.48**	.31	.61***	.21	.57***
Seeks Help, Approval, Attention/Difficulty	-.05	.34	-.31	.20	-.08
Rewards Self	-.26	.02	-.07	-.16	-.22
"Makes "I" Statements	-.59***	.09	-.35*	-.09	-.54***

APPENDIX A

Table 5

Correlation Among Measures of Maternal Styles of Instruction and a Child's School
Dependence, for First Grade and Kindergarten Ss.

Maternal Instruction	School Dependency					
	Suggestibility		Likes Involvement		Seeks Praise	
	1st	Kg	1st	Kg	1st	Kg
Gives Control Mands and Suggestions ¹	.02	.30	-.20	.10	-.05	.10
Urges Control on Child	-.42*	-.10	.23	-.24	.21	-.13
Prompts	-.49*	-.18	.30	.07	.42	-.08
Gives Information	.10	-.31	-.10	-.27	.03	-.23
Gives Help	-.50*	.07	-.18	-.43	-.30	-.60**

* $p < .05$

** $p < .02$

¹ Parent-controlled and shared control mands are combined in this score.

APPENDIX A

Table 5 - continued

Maternal Instruction	School Dependency				
	Seeks Help		Self Sufficiency		Sum
	1st	Kg	1st	Kg	
Gives Control Mands and Suggestions ¹	-.08	.17	-.26	.25	-.17 .22
Urges Control on Child	-.16	-.30	-.17	-.31	-.12 -.27
Prompts	.04	.07	-.31	-.03	-.09 -.08
Gives Information	.03	-.31	-.01	-.35	.01 -.24
Gives Help	-.30	-.35	-.18	-.13	-.37 -.38

APPENDIX A

Table 6

Correlations Between Dependence/Independence at Home and School and Imitation and Ingratiation of E, for First Grade and Kindergarten Ss.

Dependence/ Independence Measures	Imitation				Ingratiation			
	Compliance		Noncompliance		Verbalization		Tower	
	1st	Kg	1st	Kg	1st	Kg	1st	Kg
Home ¹								
Initiates Talk	-.13	-.21	-.31	-.07	-.06	.17	.39**	-.28
Seeks Help, Approval, Attention/Difficulty	.13	-.11	.36	-.21	.48***	-.08	-.04	-.22
Rewards Self	.35	.27	.31	.29	.25	.29	.23	-.61***
Says "I"	.29	-.22	.29	-.09	.03	.25	.18	-.12
								-.12

* $p < .05$

** $p < .02$

*** $p < .01$

1

Measures in form of frequency scores.

2

Measures in form of ranked scores (high is dependent).

APPENDIX A

Table 6 - continued

Dependence/ Independence Measures	Imitation				Ingratiation			
	<u>Compliance</u>		<u>Noncompliance</u>		<u>Verbalization</u>		<u>Tower</u>	
	1st	Kg	1st	Kg	1st	Kg	1st	Kg
<u>School ²</u>								
Suggestibility	-.11	.18	-.01	.20	.01	.19	.29	.00
Likes Adult Involvement	.14	-.01	.07	-.21	.16	-.10	-.15	-.31
Seeks Praise	.06	-.01	.02	-.11	.12	-.06	-.06	-.17
Self-Sufficient	-.18	-.16	-.25	-.25	-.17	-.10	.49***	-.19
Seeks Help	-.01	-.07	-.07	-.29	.21	-.14	.08	-.23
Sum of Scores	-.04	-.02	-.09	-.16	.09	-.05	.23	-.22
							-.41**	.00
							.57***	.03
							.38**	.21
							.50***	.13
							.44***	.07
							.44***	.10

APPENDIX A

Table 7 - continued

Child Dependence/ Independence	Maternal Involvement/Positive Contact									
	Leans Forward		Within 3'		Approval Says		Smiles		Transform Sum	
	1st	Kg	1st	Kg	1st	Kg	1st	Kg	1st	Kg
<u>Home</u>										
Initiates Talk	.35*	.03	.28	.36	.42**	-.12	.32	-.36	.48***	-.15
Seeks Help, etc.	-.03	.37	.25	.46**	-.41**	.33	-.11	.38	-.07	.45**
Rewards Self	-.40	.02	-.43	.24	-.10	.17	-.38	.07	-.55**	-.18
Says "I"	-.20	-.07	-.42**	.18	-.26	-.52**	-.31	.12	-.46**	-.01
Resists Maternal Talk	.07	-.03	.14	.23	-.14	-.02	.18	-.39	.05	-.13
<u>School</u> ¹										
Suggestibility	-.02	.18	-.05	.17	-.02	-.09	-.20	.03	.02	.14
Likes Involvement	.15	.15	.19	.38*	.03	-.24	.37*	-.10	.28	.12
Seeks Praise	.35*	.14	.26	.39*	.17	-.11	.43***	.09	.43**	.22
Seeks Help	-.04	.04	.11	.30	-.08	-.15	.22	-.16	.15	.05
Self Sufficiency	.26	.08	.12	.21	.41**	-.13	.42***	-.14	.48***	.07
Sum of Scores	.19	.13	.18	.34	.16	-.17	.36*	-.08	.39**	.14

APPENDIX A

Table 8

Correlations Between Maternal Involvement in Own Activity and Other Indices of Maternal Involvement, Control, and Instruction, for First Grade and Kindergarten Ss.

Maternal Behavior	Has Own Activity	
	1st	Kg
<u>Involvement</u>		
Initiates Talks	-.57	-.47
Responds to Child	-.30	.57
Plays with Child	-.22	-.16
Leans Forward	-.80	-.45
Within 3 Feet	-.42	-.03
Approval Statements	-.47	-.23
Smiles	-.56	-.41
Total Involvement	-.83	-.62
<u>Control</u>		
Orders or Suggests ¹	.36	-.66
Urges Control on Child	-.16	-.06
<u>Instruction</u>		
Prompts	.18	-.45
Gives Information	-.13	.66
Helps	.50	.39

1

Parent-controlled and shared control mands are combined in this score.

APPENDIX A

Table 9

Intercorrelation Among Measures of Maternal Involvement, for First Grade and Kindergarten Ss.

	Responds 1st	Plays 1st	Own 1st	Leans 1st
Parent Talks	.62	.27	-.57	.44
Responds to Child		.22	-.30	.44
Plays with Child			-.22	.33
Own Activity				-.80
Leans Forward				
Within 3'				
Approves				
Smiles				

APPENDIX A

Table 10

Average Number of Three (3) Requests for "Sweets" Granted (C) or Denied (NC) by Ss in Role of Mother and their Proportion of Overall Compliance and Noncompliance Statements

E Involvement	High Maternal Involvement			Low Maternal Involvement		
	C	NC	% \leq C	% \leq NC	C	NC
<u>1st Grade</u>						
WI	1.8	1.3	16	15	1.3	1.7
CI	2.1	0.9	24	8	1.3	1.7
C	2.0	1.0	18	11	0.7	2.3
Group \bar{X}	2.0	1.1	19	11	1.1	1.9
<u>Kindergarten</u>						
WI	2.5	0.5	29	6	2.4	0.6
CI	1.0	2.0	14	17	2.0	1.0
C	1.7	1.3	15	17	2.3	0.7
Group \bar{X}	1.7	1.3	19	13	2.2	0.8

I If Ss had answered these requests by chance, their proportion of the total (3/20) would be 15%.

APPENDIX B: I

CODING MANUAL FOR SCORING PARENT-CHILD INTERACTIONS

NONVERBAL BEHAVIOR

Only maternal nonverbal behavior is scored, although child behaviors may aid the decision to score a behavior. At the beginning of a scoring interval, the Observer should look up, silently count to 5, then recall all the behaviors noted during that period. The Observer should not look at the parent or child again until the beginning of the next scoring interval. An entire scoring interval lasts 20 seconds.

Symbol	Name	Definition
PLAY	Plays with child	Mother (<u>M</u>) plays with or physically helps her child (<u>C</u>).

Any helping behavior, whether spontaneous or solicited, implies maternal help with C's activity. If M is playing the game, it does not have to be within the framework of C's conception of the activity; i.e., M can modify C's suggestions for play to suit her own preferences. Her playing, however, either must be initiated by C's request or must be done with C's consent or tacit compliance. If M plays after C protests or refuses permission, then M's playing indicates maternal involvement in her own activity.

If M is looking through the pegs or templates to satisfy her own curiosity, she should be scored as involved in her own activity. Clues for scoring this behavior as "own activity" are that C has not questioned or commented prior to M's looking, and M makes no comment to C following her looking.

OWN	Involved in Own Activity	<u>M</u> pays no attention to <u>C</u> .
-----	--------------------------	--

M may be reading, doing a household chore, staring out the window, or looking through the game equipment. The criteria for scoring this category are that M's activity shows no attention to C's activity and that M is engaged in her activity voluntarily. If M is folding laundry but maintains eye contact with C (looks up during 5 second observing sequence), do not score "own activity". If M is "looking" at C, but seems to be lost-in-thought, be conservative and do not score "own activity".

If M is distracted by the phone, another child, a kitchen timer, etc., stop scoring all interaction behaviors until she returns. If, however, M converts this distraction into activity - does not tell the

caller it must be brief, decided to check on third child, etc. - begin interaction sequence and score "own activity" every 20 seconds until M returns.



Leans Forward
Leans Backward

The number of times M bends from her waist to orient her body towards C, minus the number of times she is oriented away from C.

Those times when M is standing or sitting with erect posture are not scored. If M is facing away but leans back from the waist, so that she is closer to and oriented towards C, she is credited for "forward lean".

3'

Is Within 3 Feet

M stands or lies so that some part of her body is within 3' of C's body.



Smiles

M smiles directly at C, or her expression changes toward a smile following something C says or does.



Frowns

M frowns or scowls at C, or has a disapproving facial expression following something C says or does.

VERBAL BEHAVIOR

Each verbal interaction between the mother and child will be analyzed for indications of who initiated the interaction, the content of the verbalization of the initiator and the respondent, the affect of the verbalization of the initiator and the respondent, and the sequence of the verbalizations. Initiation of interaction is an index of control of the relationship and activity. Affect will be used only as a measure of the affectional quality of the relationship. Content analysis of the verbalizations provides information about control, techniques for involving the other person, and styles of responding that would indicate or encourage independence and autonomy in the child. Sequence, or patterning of verbalizations, yields information about the consequences to the child's dependency behavior and to each person's attempts to control, initiate conversation, and show approval or disapproval.

SCORING

Initiator of Interaction

If more than 5 seconds of silence elapses between the beginning of an interval and the first audible, scorable verbalization, then no

interaction is scored for that interval. Non-words, like grunts, are considered unscorable. Whomever utters the first complete, recognizable statement is considered to be the initiator of the interaction. If, however, that statement seems to be only a clarification of a previous statement ("What?", "You mean her dress?"), consider the next speaker to be the initiator of the interaction. Begin a new observation interval every 25 seconds.

Content of Verbalizations

In general, verbalizations are in the form of a MAND or a TACT.¹ A mand requires a response of the listener; questions, orders, and suggestions are mands. A tact does not require a response; declarative statements, laughing, exclamations, problem-solving movements, and acts of affection or aggression are considered tacts.

For certain types of response, however, these general rules will not apply. Since mands are used by people to direct another's activity, "superficial mands" - like rhetorical questions or asides ("let me see"), whose major thrust is not control - should be scored according to their obvious intent. Thus, "What's wrong with you?" is scored like "You're doing it wrong," a tact of disapproval. Similarly, "Isn't that nice?" equals "That's nice," an approving tact. A few mands are actually directing statements but have as their aim avoiding control and urging self-direction on the child. Such mands (like "Look at the picture" or "What do you think?") will follow a request for help; they should be considered as prompting statements.

Converseley, certain declarative statements or sentence fragments, are said in order to direct another's behavior; they should be scored as mands, not tacts. Examples are "The green is next", meaning "Do the green one next", and "When you're finished", which places a restriction on (controls) the other's behavior. In summary, syntactical construction of a verbalization usually determines its scoring. If, however, the thrust of a verbalization is different from its syntax, it is scored according to its obvious intent.

In samples of speech, in which multiple verbalizations occur, several rules govern the selection of the verbalization to code. If both a mand and a tact occur, score the last verbalization of an initiator's speech and the first verbalization of a respondent's speech.

1

The general format for coding verbal interactions, as well as the definitions of "mand" and "tact", were adapted from Veit (1973).

Since there are several types of mands and tacts, a confusion results if any verbalization contains multiples of mand or tact responses. The rule of selection is, as long as different mands or tacts represent changes of mind or paraphrasing, the last phrasing is scored.

The general categories can be further classified to yield more information about patterns of parent-child interaction. All mand behaviors will be coded as one or another specific type. The general category of TACT(Ta), however, will be scored if a tact occurs and it does not conform to a specific type.

Child

MANDS

Symbol	Name	Definition
S Hlp	Seeks Help	Asks for help, information, guidance, or permission. Only questions are scored.
S App	Seeks Approval	Asks for praise, reassurance ("Isn't this pretty?"), or confirmation of task completion or correctness. Only questions are scored.
S Att	Seeks Attention	Requests or explicit demands for attention. Any sentence beginning with "Look" or "See" is scored Att. "Mom!" is scored Att; "Mom, .." is scored according to the content of the rest of the sentence.
Cnt	Control Mand	Orders or questions that attempt to direct another's behavior or to gain submission or compliance ("Gimme that", "Wait!", "You can put the greens in now").
Soc	Social Mand	Questions geared towards initiating conversations, gathering information about the other person or about life events. The content of questions <u>may</u> allude to the task, but the focus is the other person in relation to the task ("Do you like this game?", "Why are you making the sun square?").

TACTS

Symbol	Name	Definition
Dif	Difficulty	<p>All statements in which the child points out her experience of difficulty ("It's hard to push"), inability ("I can't"), or lack of knowledge ("I don't know").</p> <p>Also, statements in which she points out a setback in completing the task or performing in the manner she wishes ("No more yellows!", "This doesn't go here", "Oh, no. Not this again", "Ma, I don't like to (have to) skip (spaces)"). The criterion for scoring these latter types of statement as Dif, and not Ta or I, is whether the child seems to be concerned, disappointed, or complaining. The mood can be determined by the intensity and/or whining intonation of the statement.</p> <p>Statements of task-unrelated difficulties ("I'm going to sneeze", "I'm thirsty", "The chair is too low") are also scored Dif.</p>
SR	Self-Reinforcement	<p>Statements by which a child indicates pleasure with or approval of the quality or completion of her activity. If the child's tone is neutral but her words are approving ("nice", "pretty"), score SR. If the child points out a stage of completion, her tone must indicate pleasure to be scored SR.</p> <p>If the mother compliments the child and the child says "I know", "It sure is", etc., score SR.</p> <p>A child giving herself guidance is not scored SR.</p>

"I" Ego Statements

Statements of a child's opinion, preferences, actions, or intentions. These will always contain the word "I", are generally task-related, and describe ideas or actions as controlled by the child ("I'm going to do greens" is I; "I'm going to sneeze" is Dif).

Statements which contain the word "I" and are directed at the mother's activity will most likely be compliments or criticisms (score App or Dsp). Statements which contain "I" and a preference, but are delivered as complaints or disappointments, are scored Dif.

Ta Tact

Reserved for declarative sentences which do not meet the criteria for more specialized tacts. Comments aloud, giving oneself guidance, singing, descriptions of the task or environment, relaying incidental information, will usually be scored Ta, especially if the tone of delivery is neutral.

Mother

MANDS

Symbol	Name	Definition
Cnt	Control Mand	Orders or questions that attempt to direct another's behavior or to gain submission or compliance.
(1) Pa	Parent-Controlled	<p>Parent attempts to direct the child's behavior and intends that the child submit.</p> <p>Any <u>instructions</u> to the child, solicited or unsolicited, are scored Pa (Ch-"Where does this go?" Mo-"Here" <u>means</u> "Put it here"; "Now the greens").</p> <p>Whenever the parent tries to <u>constrain</u>, <u>modify</u>, or <u>impel</u> the child's behavior ("Wait!", "Slow down", "Go ahead"), regardless of whether the syntax is an order, sentence, or phrase score Pa.</p>

(1) Pa Parent-Controlled

If the parent begins an interaction with a "teaching question", and the child has not asked for information, score Pa. The reason is that the parent is imposing conditions on the child's play. At times, the parent may answer a request for information with a "teaching question." If it's aim is to make the child think for herself, by fielding her question or providing a clue, score Pr.

(2) Sh Shared-Control

Parent attempts to direct or influence the child's behavior, but intends that the child can dissent.

Any suggestions made, whether in the form of a question or a sentence fragment, are scored Sh. This includes questions which are phrased as if the entire control of a future action is the child's, but actually the parent inserts a suggestion ("Do you want to do/want me to do the grass now?").

Any orders which are tempered by the parent seeking consent (ends with the "OK?" or questioning intonation) are scored Sh.

(3) Ch Child-Controlled

Parent attempts to have the child assume control of her own activity or of the interaction. Although the parent "orders" the child to take over, her intent is to transfer control.

Any urgings toward independent action ("Try it yourself", "You decide") are scored Ch. These are to be distinguished from impelling activity ("Try it again", "Go ahead", regardless of whether the syntax is an order, sentence, or phrase, score Pa.

(3) Ch Child-Controlled

Any questions about the child's intentions for activity ("What will you do next?", "What color are you going to do now?") are scored Ch. While it may be argued that these are conversational questions (Soc mands), the implied message is a recognition and sanction of the child as a controller of her activity. These are to be distinguished from questions about the child's opinions or preferences ("Which is your favorite color?") or requests for justification of her activity ("Why did you make it green?") which are Soc mands.

If the parent asks to be directed by the child, and suggests nothing about the activity ("What should I do now?" but not "Shall I do green now?"), score Ch.

Soc Social Mand See description in Child-Mand section.

TACTS

Symbol	Name	Definition
--------	------	------------

Hlp	Gives Help	<p>Parent <u>does</u> part or all of task <u>for the child</u>. Hlp is scored whenever given, whether it was solicited or not.</p> <p>Hlp can be scored for task-irrelevant behavior like getting Kleenex for the child or finishing her sentences.</p>
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Inf	Information	<p>Parent provides a <u>complete answer</u> or <u>demonstration</u> so that the child is able to master a task with little or no problem-solving effort. If the answer contains an instruction ("Here", "Next to the other one") score Pa mand, not Inf.</p>
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Inf Information

If the parent gives unsolicited task-oriented or generally educational information ("The sun is gold too", "Did you know that P stands for purple too?"), score Inf, not Ta or Soc mand.

If the parent gives confirmation ("yes", "That's right") in a neutral tone of voice, score Inf. If the tone of voice indicates pleasure with the child or excitement, score App.

Pr Prompting

Giving the child a partial answer, a hint, or a clue which forces her to do more problem-solving before she can master the task, (CH-"Where does the pink go?", MO-"That's not pink" or "With the P's "), score Pr.

Throwing a child's questions back at her or asking a question with the purpose of forcing the child to think further about the task (CH-"Where does the pink go?", MO-"Where does the pink go?" or "Where would a flower have pink?") is scored Pr.

The scorer should not be misled by the commanding or questioning syntax, but should consider the intent of this "mand". Some orders ("Look at the picture") that follow a request for help are actually only hints or persuasion towards self-reliance, and they should be scored Pr, not Pa control mand.

Ta Tact

See definition in Child-Tact section.

When the parent provides unsolicited "lessons", score Inf not Ta.

Affect of Verbalization

Affect is to be scored only when it applies to the relationship between the parent and child. It will include terms of endearment, compliments, and standard phrases of approval and disapproval as well as other indications of one person's acceptance of and enjoyment of the other. Enthusiasm for the game, other people, or other events will be scored only for content of the verbalization, not the affect. Com-

plaints, anger, or frustration about the task or situation should be scored Dif, if applicable; otherwise only the content will be scored.

If the tone of voice is the only indication of the affect, be conservative in scoring affect. Since the absence of facial cues, etc., hampers judgement of affect, score neutral affect if in doubt.

Except for laughing, no non-words will be scored.

Symbol	Name	Definition
App	Approval	<p><u>Compliments</u> of the other person's activity and statements of "like" or "love" of the other person or her activity, are always scored App, even if the delivery is neutral. ("I like the color you chose" is scored App; "I like that color" is scored I for the child, Ta for the parent).</p> <p>Comments like "That's some cloud you made" are scored App, if the delivery is lilting or accompanied by pleasant laughter.</p>
Dsp	Disapproval	<p><u>Derogatory remarks</u> about the other person or her activity and statements of "dislike" or "hate" of the other person or her activity, are always scored Dsp, even if the delivery is neutral.</p> <p>"Why did you do that?" is a form of disapproval and should be scored Dsp only if the intonation is tense or annoyed. However, since this question may be a way of gaining information or showing interest, a score of Soc mand, the coder should be conservative in assigning affect.</p>
+	Positive Affect	<p>All pleasant <u>laughing</u>, if it accompanies a remark made to another person, is scored +.</p> <p>A neutral tact said with a <u>lilting intonation</u> may show enthusiasm for the other person, and therefore may be scored +, but be conservative.</p>

+ Positive Affect

Names of endearment, regardless of the content of the verbalization or the neutral delivery, add a + to the content code. If the tone is angry or sarcastic, however, do not score +.

Any reassuring statements ("It's alright", "You got it"), despite neutrality of tone, are scored +.

Any verbalizations that show concern or sympathy ("OK?", "That was hard, huh?") are scored +.

Any verbalizations that show empathy with the child ("You looked like you enjoyed that", "Why the frown?") are scored +.

- Negative Affect

Any sarcastic remarks or name-calling, despite a neutral tone, should be scored -.

Intonation that conveys annoyance, anger, or frustration with the other person should be scored -. Be conservative in ascertaining both the object and the existence of any annoyance.

Any interference with the other person's activity, by forbidding or restricting is scored -, as well as Cnt. This shows a lack of acceptance for the other person.

Any mocking, distorted imitation (MO - "This goes here", CH - "Goes shere, goes shere") is scored -. The coder should look for intonation clues to ascertain whether the person is mocking or just playing with the words for self-stimulation.

All threats of punishment are scored.

SEQUENCE

Symbol	Name	Definition
C	Compliance	<p>Compliance with a command or the answering of a question.</p> <p>"NO" to an information-seeking question is C; "no" to a suggestion or a mand is resistance, R.</p> <p>Compliance to a social mand is responding with conversation on the <u>same topic</u>.</p>
Ig	Ignores	<p>To not attend to a mand or tact. Behavior occurs but is not relevant to the initiating response.</p> <p>Responding to conversation with conversation that <u>changes the subject</u> is Ig.</p>
R	Resistance	<p>To refuse to comply with a mand or to protest or deny a tact. Resistance ranges from a matter-of-fact "no", to a suggestion or mand, to more active protests ("NO!", "I don't want to", "That's <u>not</u> green!").</p> <p>Although a suggestion implies that the other person has a choice, the answer "no" still implies resistance to that suggestion or to the other's attempt at control.</p>

APPENDIX B: II
SCHOOL DEPENDENCY SCALES

I have defined several areas I would like the girls rated in. The areas I selected may seem to overlap, but I think a person can seem highly independent in one area and middling or highly dependent in another. Please try to rate each girl in each area as if you do not remember how you rated her in others.

Rate each child in relation to the other girls in your class as well as in relation to other girls her age with whom you have had similar contact. Just place a number from 1 (high independence on that factor) to 5 (high dependence on that factor) behind each girl's name. Since these children have probably changed throughout the school year, rate the girls on these behaviors just from before Easter vacation until now.

Self-Sufficiency

The child does tasks on her own, tends to initiate them, and persists at them. (Do not rate on the child's competence or whether she does tasks constructively, just whether she attempts to be self-sufficient).

A rating of 5 means the child rarely initiates or persists at tasks without your urging, and 4 means she only occasionally does. A rating of 3 means she sometimes does, about average. A rating of 2 means she only occasionally needs prompting, structuring, or overseeing. A rating of 1 means the child rarely needs these.

Suggestibility

A rating of 5 means that the child is very willing to take suggestion and direction and to be influenced by an adult. If this child has her own opinions and ways of doing things, she easily switches with suggestion or pressure from an adult. A rating of 1 means that a child resists (ignores, protests) suggestion and direction and is not willing to be influenced by an adult, at least not without active persuasion.

In assigning a rating between 1 and 5, consider the difference between a child who will do something just because an adult asks (5), those who ask for some explanation or demonstration before they accept suggestion (3), and those who ask for a lot of explanation or justification before accepting suggestion or who reject it by subtle, passive or active methods (1).

Help-seeking

The frequency (5 is high, 1 is low) with which a child seeks direction, structure, and help in overcoming obstacles from an adult. Try to eliminate "bogus" help-seeking for attention in considering this answer; rather rate this according to a child's willingness to tackle a task. Try to adjust your thinking for a child's competence, so that if a more competent and a less competent child both ask for help 4 times in a day, the former would be rated as more dependent. Try to eliminate seeking help from other children in the form of copying, soliciting answers, etc., when rating this category.

Likes Adult Involvement

This is a measure of how much sociability from adults a child likes, despite what she is doing. Behaviors to consider in your rating involve all the tricks a child can employ: bogus "help-seeking", tattletelling, seeking nearness or touching, making conversation, eye contact, and "negative attention" behaviors. Three factors should be involved in this rating: the amount of involvement a child seeks, the range of situations in which she seeks it, and how she responds when adult attention is offered.

A high rating of 5 would describe a child who seeks a great deal of attention, whenever (and from whomever) she has a chance, and enjoys what adult attention is offered. A medium rating of 3 describes a child who seeks an average amount of attention, is selective so that she tends to seek less attention when involved in a task, and is usually comfortable when adult attention is offered. A low rating of 1 describes a child who rarely seeks attention, restricts her attention-seeking to a few situations, and is uncomfortable when adult attention is offered.

Requires Praise

Child seeks praise, reassurance, and/or confirmation from others. She seems to perform tasks at least as much for the potential comments as for the pleasure or challenge of doing it.

A high rating (5) means that a child seeks a lot of praise and for many types of behavior (task and non-task). A medium rating of (3)

means a child seeks an average amount of praise and does it discriminately (for new tasks, at task-completion, for special behaviors). A low rating (1) means a child rarely seeks praise and may be uncomfortable when it is offered.

APPENDIX B: III

CODING OF VERBAL RESPONSE CATEGORIES

A response is considered all verbalizations in reply to a single request. A single statement can be double-scored. Two statements having the same coding content are scored only once. For example, "No, I'll do it", as an answer to "Can I do it?", is scored only once as noncompliance. Some verbalizations consist of self-direction or verbal asides and are not scored.

Compliance (C).

A verbalization that shows assent to or compliance with the request of the doll. These verbalizations include the usual phrases of assent ("Yes", "OK"), permission ("You may"), statements of explicit positive intent ("I'll get them for you"), or repetition of the request that show implicit positive intent ("Carrots").

Noncompliance (NC).

A verbalization that shows dissent from or noncompliance with the request of the doll. These verbalizations include the usual phrases of dissent ("No"), forbidding ("You may not"), statements of explicit negative intent ("We'll get another kind"), or statements showing implicit negative intent like choosing a product different from that in the request ("I'll get peas").

Mand (Ma).

This is scored when an explicit request or command is made to another person. Questions are also considered mands, because they are understood to mean "Tell me what...". Statements like "Just one..." are understood to mean "You take only one..." and are scored as mands.

Explanation (Ex).

This is scored when the child makes some attempt to explain or expand on her decision to the doll. These elaborations add something more than a simple repetition of the original request; for example, "no" and "no carrots" are both scored NC, while "No. You can't have any carrots" is scored NC and Ex. (Although this statement gives no actual explanation, it does show that the child is trying to expand on her decision. The implied message is that there is a reason behind the decision.)

Explanation involves the attempt of the child to orient herself to the doll. This includes any attempt to relay information, description of intent or feeling - in other words, any statement, not necessarily in response to a request, that shows that the child is aware of the doll as a "thinking individual". It also includes attempts to instruct or persuade the doll.

APPENDIX C: I

DOLL'S SCRIPT

1. "Mom, let me shop with you. I could do it real good. Ok?
 2. Can I hold on to the money?
 3. Oh, look at the pretty basket. You could put food in the basket and I could hold it. Will you let me please?
 4. Yum! Soda! I'm thirsty. Can we get soda?
 5. There's the cereal we always get. I'm so tired of it. Do we have to get it again?
 6. Let's get corn.
 7. There's peaches. I want peaches. Ok?
 8. There's coffee and tea. Don't you need to get some more?
 9. Oh, mommy. Can I get some candy or gum?
 10. There's potato chips and cookies. I want a treat? Can I get one?
 11. Oh, grapes. You have to get grapes.
 12. Get carrots.
 13. Corn-on-the-cob is my favorite. Can we get some?
 14. You have to get something for salad. What do we need?
 15. Look. There's a scale. I want to work it. Can I put something on it?
 16. Let's get some stuff for peanut butter and jelly sandwiches.
 17. Our toothpaste is all squished. Can we get a new one?
- (Now we have to wait in line)
18. I'm tired of waiting in line. Tell the people to hurry up.
 19. I want to give the money to the woman. Can I?
 20. Let me carry a bag to the car. I can do it by myself".

APPENDIX C: II

E's SCRIPT WITH ELABORATIONS AND FOOD CHOICES

1. SHOP - No thank you. I'll do it. Shopping is for grown-ups to do.
2. MONEY (PURSE) - I'll take care of it. You might lose it.
3. BASKET (BASKET) - No, I'll hold it. It's going to be too heavy for you.
4. SODA (OJ) - Soda is bad for your teeth. Let's get this good orange drink.
5. CEREAL - I think the old kind is the best kind. Let's try it again.
6. CORN (BEANS) - No. We already have plenty at home.
7. PEACHES (FC) - You know. Fruit cocktail has all kinds of fruit in it. Everyone will like that....GOOD, HERE'S TUNA FISH.
8. COFFEE and TEA (SUGAR) - No, we have enough coffee and tea. But we do need sugar.
9. CANDY OR GUM - It's too close to dinner. Come on. We have to go.
10. TREAT (RAISINS) - Not those. Get raisins. They taste good and they're healthy for you to eat.
11. GRAPES (APPLES) - Grapes are so expensive. We'll get apples instead.
12. CARROTS - You've been eating so many carrots lately. If I buy you anymore, you might turn into a rabbit.
13. CORN COB (PEAS) - Please stop asking for corn. I told you we have plenty at home.
14. SALAD - I don't feel like making salad tonight. We'll get it another day.
15. SCALE - No, let the manager do it. He's the one who's supposed to weigh things. (PRETEND TO HAND IT TO SOMEONE)
16. SANDWICHES - I already bought some tuna fish for sandwiches.

17. TOOTHPASTE - It may be squished but there's lots of toothpaste left in it. We don't need a new one yet. (SAY "THAT'S RIGHT" TO "WAIT IN LINE")
18. HURRY UP! - I can't do that. They were first and they have to get their turn too.
19. MONEY - It's better if I do it. I can count it right.
20. BAG - You know. I think I'll buy this basket to keep. Then we could carry our food right in here and never have to waste paper bags. (HAND MORE MONEY TO CLERK) So I'll carry it to the car. (WALK TO SHELF)

Now we're at the car. OK, I'm finished. You can play as soon as I put things back.

APPENDIX C: III

E's SCRIPT WITHOUT ELABORATIONS AND WITH FOOD CHOICES

1. SHOP - No thanks.
2. MONEY (PURSE) - Uh Uh.
3. BASKET (BASKET) - No, dear.
4. SODA (OJ) - I don't think so.
5. CEREAL - Yes, we do.
6. CORN (BEANS) - Corn? Ummmm, no corn.
7. PEACHES (FC) - Not peaches.....GOOD, HERE'S TUNA FISH.
8. COFFEE AND TEA (SUGAR) - Umm, no coffee or tea.
9. CANDY OR GUM - Nope.
10. TREAT (RAISINS) - Not today.
11. GRAPES (APPLES) - Grapes? Uh Uh.
12. CARROTS - No. Not carrots.
13. CORN COB (PEAS) - Nooooo, corn!
14. SALAD - Not a thing.
15. SCALE - No.....(PRETEND TO HAND IT TO SOMEONE)
16. SANDWICHES - Hm. P B and J.....Nope.
17. TOOTHPASTE - No, we can't.....(SAY "THAT'S RIGHT" TO "WAIT IN LINE")
18. HURRY UP! - No, honey.
19. MONEY - I will.
20. BAG - Not today. (WALK TO SHELF)

Now we're at the car.

OK, I'm finished. You can play as soon as I put these things back.

APPENDIX D: III
DATA SHEET FOR SCORING IMITATION IN
SUPERMARKET GAME

C NC Ex Ma

1. shop?
2. money?
3. basket?
4. soda?
5. cereal?
6. corn?
7. peaches?
8. coffee and tea?
9. candy or gum?
10. treat?
11. grapes?
12. carrots?
13. corn cob?
14. salad?
15. scale?
16. sandwiches?
17. toothpaste?
18. hurry up!
19. money?
20. bag?

