

Delay of Gratification in Infancy : Effects of Infants' Temperament and Parenting

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Abstract : The purpose of this study was to extend our understanding of the developmental antecedents of delay of gratification in infancy. The first goal was to examine direct effects of one feature of an infant's temperament and of positive and negative parenting assumed at age one on children's delay of gratification six months later. The second goal of the study was to test the interactive effect of early infant temperament and parenting on children's delay of gratification. It was hypothesized that 1) less negative infants at 12 months would delay gratification longer six months later, 2) children of parents who provided more positive and sensitive feedback would delay gratification longer than children with parents who were more negative and less sensitive, and 3) there would be differential prediction of parenting for children who scored high and low in negative emotionality as infants.

Toward this end, 81 infants were observed interacting at one year of age with their mothers and fathers during laboratory assessments to obtain measures of parenting and infant negative emotionality. At 18 months of age, the child's capacity to delay touching attractive objects was measured. The main effects of infant negative emotionality and of mothering on children's delay of gratification were not detected at standard levels of significance. Differential effects of parenting on children's delay of gratification for infants with low or high negative emotionality, too, were not detected. However, the anticipated effect of fathering on delay of gratification was found in some analyses, indicating that the more positive fathering children received, the longer they could delay gratification in the laboratory six months later.

Key Words : delay of gratification, infant's temperament, parenting.

I. INTRODUCTION

Delay of gratification, one aspect of self-control, is a complex process involving resistance to immediate temptation and the regulation of impulsive behavior typically to gain more

rewarding long-term goals. Those persons who can control and contain impulses would be expected to delay gratification. Without the basic ability to postpone immediate gratification for the sake of eventual rewards, people could not plan for the future, work for distant goals, or sacrifice personal indulgences for the good of the group (Funder, Block, & Block, 1983).

Some research on children's delay of gratification addresses the developmental consequences of earlier self-regulatory competencies. Indeed, some data show that preschool children who develop effective self-regulatory strategies during self-imposed delay situations have a distinct advantage in the early school years, including higher levels of intelligence and better social skills (Mischel, 1978; Mischel, Shoda, & Rodriguez, 1989). Moreover, the preschoolers who could delay longer were rated by their parents in adolescence as being better able to cope with social and personal problems, as having higher achievement goals and more ego-control, and as being more socially responsible, trusting, and mature than did those children who could not delay (Mischel, 1978; Mischel et al., 1989; Silverman & Ippolito, 1995). Such findings suggest that the positive effects of preschool delay time extend beyond mere school-related competencies.

Deficiency in such an important aspect of self-control in some cases leads to the development of criminal and antisocial behavior (Mischel, 1974; Funder et al., 1983). Recent studies show that children who are unable to postpone gratification early in life are more susceptible to depression or aggressive behavior later on (Rodriguez, Shoda, Mischel, & Wright, 1995; Rodriguez, Flores, & Gutbrod, 1995). The excessive self-imposed frustration that results from the failure to learn proper delay patterns and restraint is indicative of personal and social problems, such as dropping out of high school (Mischel, 1974). In more extreme cases, social maladjustment, physical aggression, criminal behavior, and a variety of psychological problems, such as depression and conduct disorders, have been assumed to be related to an inability to delay gratification (Kashden, Fremouw, Callahan, & Franzen, 1993; Newman & Wallace, 1993).

What causes individual difference in the development of delay of gratification? In previous literature, the immediate situation, children's personal characteristics, and social influences have been discussed as possible determinants of individual differences in self-

control. The situational and cognitive processes influencing effective delay of gratification have been the most investigated topics in the past, and cognitive-attentional mechanisms have been found to play a major role in the effective self-regulation of preschool children (Mischel et al., 1989). For example, delaying gratification is more difficult when the reward that is in sight rather than out of sight. Attending to the reward, rather than focusing attention away from it, also makes delay more challenging. Finally, thinking about the reward also undermines the child's capacity to delay (Mischel, 1974; Toner & Smith, 1977).

As much as the immediate task situation affects a child's ability to delay gratification, personal characteristics of the individual child, especially the temperament as the earliest indication of the child's personality, have also been found to play crucial roles in the development of self-control. Silverman and Ragusa (1990), one of a limited number of researchers to investigate the relations between temperament and delay of gratification, discovered that the greater children's level of negative emotionality, the poorer children performed on delay tasks. That is, they would be more active, impulsive, and readily distressed.

How children are raised and the type of developmental environments they are exposed to may also affect their ability to manage impulses. Rodriguez and colleagues (1995) argued that hostile, inconsistent parenting may hinder a child's ability to control impulsive behavior and to regulate his/her own negative emotions and frustrations. In several studies, mothers who are highly responsive and attentive, exert little control, and encourage independence and responsibility, are better able to promote the development of delay ability or self-regulation skills (Silverman & Ippolito, 1995; Raver, 1995).

In spite of all the work on the sequelae and antecedents of individual differences in capacity to delay, previous research on the topic has been somewhat limited. All investigations of parenting and delay of gratification have focused upon mother-child interactions (Jacobson, Huss, Fendrich, Kruesi, & Ziegenhain, 1996; Silverman & Ippolito, 1995; Raver, 1995; Rodriguez & Mischel, 1995), with the exception of Mischel's (1961) early study of father absence, which only examined father's presence in the home, not the everyday activities of fathering, and only studied self-reports of delay. Also, most of the aforementioned studies focused on school-aged children (Rodriguez et al., 1995) and

preschoolers (Jacobson et al., 1996). Although some work has been carried out on toddlers, virtually none has addressed infants (i.e., first 18 months of life).

This study represents an effort to extend our understanding of the developmental antecedents of self-control as evidenced by 18-months-olds toddlers' capacity to resist temptation. Observed mothering and fathering, as well as infant's negative emotionality at 12 months, will be used to predict children's delay of gratification at 18 months.

All work to date on the influence of parenting on delay of gratification, like much other work on socialization influences on infant, toddler, and child development, more generally, has been based, implicitly if not explicitly, on the assumption that children are equally susceptible to rearing influence. Thus, most studies have examined relations between rearing experiences and children's functioning irrespective of infants' early emotionality or children's later temperament. Yet there seem to be both theoretical and empirical reasons to believe that children vary in their susceptibility to parental influence.

From the perspective of evolutionary theory, because the future is uncertain, parents could not know what developmental characteristics would prove best for fostering their offspring's well being and reproductive viability in the world in which human behavior evolved (or even perhaps today) (Belsky, 1997; Belsky, Hsieh, & Crnic, 1998). Thus, their efforts to shape their children's development in all likelihood proved misguided in some cases in terms of the circumstances their children ultimately faced as reproductive agents in adulthood. This suggests that there would have been reproductive payoffs for not being responsive to parental influence efforts, and this leads to the proposition that evolution shaped human developmental processes so that some children would prove more and some less responsive to parenting. Thus, one might think in terms of more and less fixed and plastic types of children. A similar view, but for different reasons, has been advanced by Wachs and Gandour (1983). Their organismic-specificity hypothesis predicts differential reactivity by different individuals to similar environmental experiences. From this perspective, one could expect the same parenting behavior to have predictably different effects on temperamentally different children.

Interestingly, recent empirical evidence provides some support for the assumptions of differential susceptibility to rearing influence and the organismic specificity hypothesis. In a

series of empirical studies, Kochanska (1991; 1995; 1997) examined relations of temperamental fearfulness/anxiety proneness, attachment security, and maternal discipline with emerging internalization in toddlers and discussed diverse pathways to internalization for children with different temperaments. It was established that only for those children who were relatively fearful and prone to anxiety, maternal gentle discipline proved conducive to internalization. Similarly, Belsky et al.'s (1998) study indicated that high maternal and paternal negativity in a child's 2nd and 3rd years of age forecast less inhibition, but only in the case of children who scored high in negativity as infants.

In light of such results, it is first hypothesized that infants with lower negative emotionality will delay longer and second, that children of parents who provide more positive feedback and who are highly sensitive will delay longer than children with parents who are more negative and less sensitive. Finally, it is hypothesized that parenting will predict delay more strongly for infants who score high in negative emotionality than for those who score low in negative emotionality.

II. METHODS

1. Subjects

The subjects of this investigation are 81 intact middle class families with 12 month old infants from a small city in the U.S.A. who volunteered for a longitudinal study of parenting and infant development. The majority of the mothers (94%) and fathers (89%) were Caucasian. Mothers' age ranged from 20 to 40 ($M = 31.52$, $SD = 4.53$) and fathers' age ranged from 21 to 58 ($M = 34.10$, $SD = 9.24$). About 61% of the mothers and 91% of the fathers were employed outside the home. Mothers' work hours ranged from five to 50 hours per week ($M = 16.44$ hours, $SD = 16.01$) and fathers' work hours ranged from four to 80 hours a week ($M = 41$ hours, $SD = 15.70$). Parity ranged from one to five with the majority of families having one to two children including the target child (68%). About 18% of the infants in the study were only children.

2. Procedures

Data were gathered during a 6-month period, ranging from the time the child was 12 months of age until s/he was 18 months of age. Although families agreed to the longitudinal aspects of the study, 9% declined to participate in the second assessments. When each infant was 12 and 13 months of age, the mother and the father, respectively, brought the child into the laboratory for a procedure designed to elicit negative emotional reactions followed by a 10-minute structured play interaction. Mothers were asked to visit the laboratory once again with their children when infants were 18 month-olds to participate in a brief experimental procedure to measure children's delay of gratification. The entire procedure was videotaped.

3. Measures

1) Infant Negative Emotionality

The standard Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978), which involves numerous opportunities for children to express negative affect (separation episodes) was used to measure infant negative emotionality at 12 months. Separate teams of coders rated, from videotape, the extent and intensity of the negative emotion expressed (in face, voice, and body) by the infant every 10 seconds, using 5-point scales ranging from 0 (no negative emotion expressed) to 4 (intense negative emotion expressed). Thus a high score in negative emotionality means that infants expressed a lot of negative emotions such as crying and fussing, while a low score in negative emotionality means that infants did not express any sign of negative emotion. A minimum criterion of $r = .80$ (Pearson r , exact agreement) on five-point rating scale was used as the training and reliability criterion. The interrater agreement for emotionality coding was calculated using Cohen's kappa and yielded a mean standard kappa of .85.

To composite negative emotionality data, a series of data reduction steps were undertaken. First, negative emotionality ratings on infant behavior during the Strange Situation were averaged within episode, yielding two sets of mean negative emotionality

scores for each child for each of the seven episodes of the Strange Situation that were coded (i.e., Episodes 2-8): one set with mothers and one with fathers. These scores were subsequently subjected to two separate exploratory factor analyses and thus two factors emerged. For each factor, the variables loading at the level of .40 or higher on each factor were summed together. These two composite scores were standardized and summed to produce a single indicator of negative emotionality.

2) Parenting Behavior

Mothering and fathering were assessed separately during identical 10-minute structured play assessments involving three different tasks using age-appropriate toys: a set of blocks, a peek-a-boo stacker, and a nail and hammer bench. The parents were instructed to play with their infant using each set of toys for about 3 minute and were signaled at the end of each 3-minutes period. At the end of the play session, parents were asked to elicit their infant's help in putting the toys away into a box. The videotaping began immediately after instructions were given and then continued without interruption for 10 minutes.

The observations of parenting behavior during these interactions were rated on 29 sub-scales adapted from the Parent-Child Early Relational Assessment (PCERA) by Clark (1985). Each sub-scale was designed to rate parenting behavior on a 5-point rating scale (from negative parenting: 1 to positive parenting: 5). Thus a higher score on parenting signifies more positive parenting. Separate teams of coders, blind to all other data on the families, coded maternal and paternal behavior from videotape. A minimum criterion of $r = .80$ (Pearson r , exact agreement) on five-point rating scale was used as the training and reliability criterion. Interrater reliability (Pearson Product-Moment correlations) on each of the maternal behavior ratings ranged from $r = .81$ to $r = .97$.

The 29 ratings of parenting behavior were factor analyzed for mothers and fathers separately. The results of each factor analysis on mothering and fathering were very similar. Four factors emerged; 7 ratings were dropped from the analysis (factor loadings lower than $= .50$). The four factors identified as the result of factor analysis were labeled (a) parent negative affect, (b) parent positive affect, (c) parental sensitivity, and (d) physical contact. Internal consistency of composite scores based on the items loading heavily on each of the

four factors revealed three of them to be highly reliable: parent negative affect (mother $\alpha = .90$; father $\alpha = .92$), parent positive affect (mother $\alpha = .88$; father $\alpha = .90$), and parental sensitivity (mother $\alpha = .89$; father $\alpha = .88$). The physical contact composite measure, which had only two items, proved not to be especially reliable (mother $\alpha = .69$; father $\alpha = .67$) and, as a result, was dropped from further analyses.

3) Delay of Gratification

The lab assessments of delay of gratification at 18 months proceeded with the child sitting at the end of a table in the laboratory. An experimenter then placed an attractive toy in front of the child while demonstrating, both verbally and physically, the attractive aspects of the toy. The experimenter then directed the child not to touch the toy until permitted to do so: "Oh, I forgot to bring a part of the toy. Now I will go to the next room to get it. Don't touch the toy until I come back. When I come back we will play together and have fun." The experimenter made sure that the child understood the direction by repeating it several times if necessary. Following this directive, the experimenter left the child in the room for approximately one-minute. The experimenter returned to the room sometime after the child touched the forbidden toy ($M = 30$ seconds, $SD = 23$) and the delay experiment was terminated. If the child did not touch the toy after 1 minute, the experimenter returned to the room and terminated the experiment.

The time until the first touch and time spent for different delay strategies (i.e., hot and cold) were coded from videotapes. Coding was initiated at the exact point at which the experimenter finished giving the delay instructions. The coding of child behavior was terminated when the delay period ended which was defined by the experimenter's return to the room. Four aspects of children's delay of gratification were coded: a) the latency to touch, that is the number of seconds elapsed until time spent even minimal engagement with the forbidden toy, b) hot cognition: total time looking directly at the forbidden toy, c) cold cognition: total time used for looking away from the forbidden toy and d) total contact time: total time the children touched the toy during the entire experiment. The interrater agreement for each of delay of gratification coding ranged from $r = .78$ to $r = .92$.

Internal consistency of the four measures of delay of gratification was quite high ($\alpha = .91$).

The correlation between hot cognition and cold cognition was especially high ($r = .99$), indicating that these two variables were virtually indistinguishable. Therefore, one composite score labeled "cognition" was created using these two measures by subtracting hot cognition from cold.

III. RESULTS

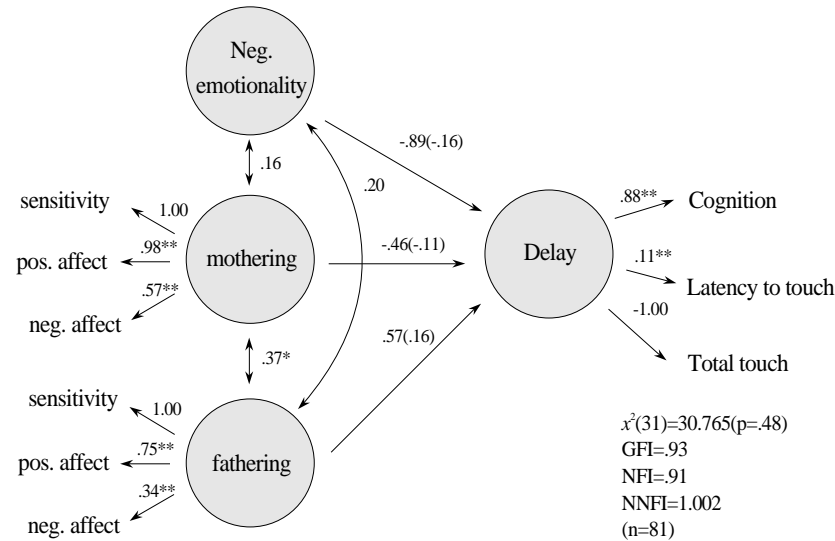
1. Primary Data Analyses: Structural Equation Modeling

Three stages of analysis were carried out and the results are reported in three sections. First, the effects of emotionality and parenting at 12 months on children's delay of gratification at 18 months were tested as main effects. Second, tests of parental influence were conducted separately for high and low negative emotional infants to evaluate the differential susceptibility hypothesis.

2. Main Effect

To test the effect of infant emotionality and parenting on children's delay of gratification, three latent variables — infant negative emotionality, mothering and fathering — were used to predict delay of gratification in Structural Equation Model using LISREL VIII-3 program. Figure 1 presents the LISREL estimates for the hypothesized path model in which the indicators for each construct and path coefficients were listed. All indicator loadings for the infant negative emotionality, mothering, fathering, and delay constructs were significant at the .01 level and the correlation between mothering and fathering was .37 and was significant at the .05 level.

For the entire model, the chi-square with 31 degrees of freedom was 30.76 and thus was not significant at .05 level ($p = .48$). The goodness of fit index (GFI) was .93 and the Non Norm Fit Index (NNFI) was 1.00, suggesting that this model provided a very good fit to the data. Finally, the modification indices for all estimates were smaller than 5.22. Despite the

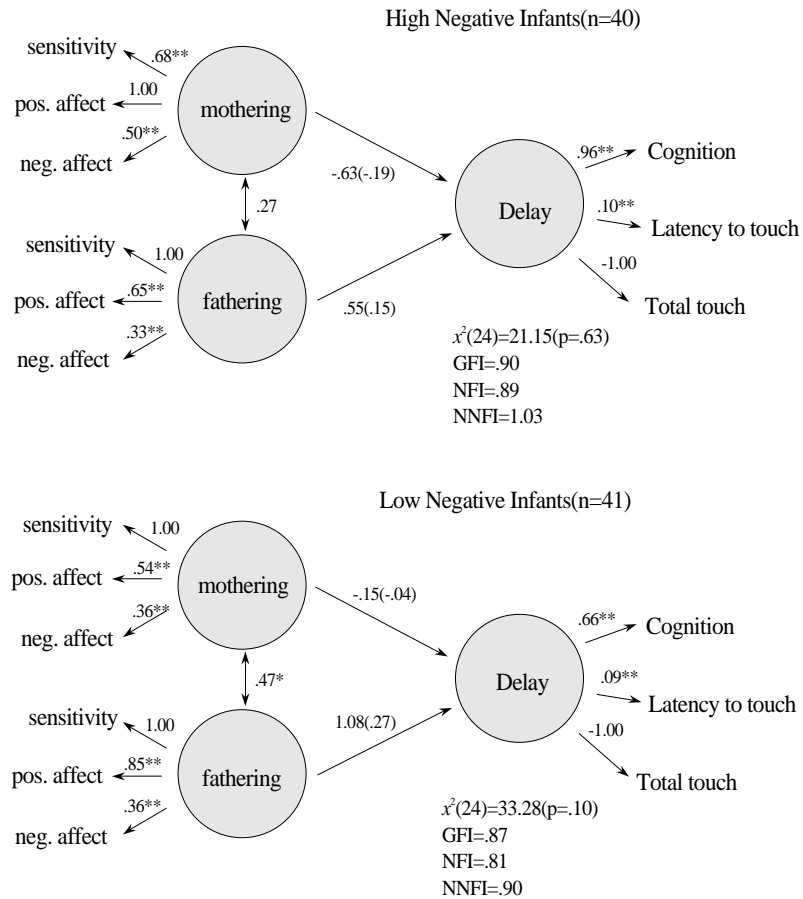


<Figure 1> Main Effect Path Model

goodness of fit of the entire model, none of the structural coefficients from negative emotionality, mothering, and fathering to delay were significant at the .05 level. This indicates that there are no direct (i.e., main) effects of early infant negative emotionality, mothering, or fathering on children's delay. The main-effect hypotheses of the present study — that infants with lower negative emotionality and that children whose parents provided more positive feedback and who were highly sensitive — would delay longer than children with parents who were more negative and less sensitive were thus not supported.

3. Differential Effects for High and Low Negative Emotionality

To test the differential susceptibility of children with low and high negative emotionality to parenting, the effects of mothering and fathering on the delay of gratification were tested separately for children with high negative emotionality and with low negative emotionality (defined by median split: top half [n=40] and bottom half [n=41] of the sample). Figure 2



<Figure 2> Differential Effect Model

presents the LISREL VIII-3 estimates for the hypothesized path model of mothering and fathering predicting delay separately for children with high negative emotionality and for children with low negative emotionality.

To test empirically which of the two models (for the high and low emotionality groups) better reflect the relationship between the parenting and delay of gratification, the chi-square difference test that evaluated the statistical significance of the parameters that

differentiate between two competing models were applied. Toward this end, two hypothetical models were created. The first model sets the two sub-models for low and high negative emotionality to be unequal by entering all parameters just the way they are. The second model sets the models for low and high negative emotionality to be equal by making the two paths the same by specifying all of the loadings and coefficients to be the same. The result of a formal χ^2 difference test on the non-equal and equal models revealed that there was no significant difference between the two models (χ^2 difference = .06, $df=1$), indicating that the structural paths for the two models were not significantly different. In other words, the hypothesis of differential susceptibility was not supported.

In sum, the analyses using Structural Equation Modeling revealed that there were no main or interaction effects of infant negative emotionality, mothering, or fathering on delay. It was suspected that these negative results of the analyses might be a function of using Structural Equation Modeling with too modest a sample. Therefore, to insure that the absence of effects hypothesized were not a simple byproduct of reliance upon Structural Equation Model, regression analyses were run to assess the main effects of parenting and temperament, and their interaction effect on children's delay of gratification.

4. Secondary Data Analyses: Regression Analyses

In order to re-examine relations between infant emotionality, mothering, and fathering on later delay, two sets of regression analyses were conducted. First, the influences of infant negative emotionality and parenting on delay were examined, using separate equations for mothering and fathering. A joint equation with both mothering and fathering was then tested. More specifically, in the first equation, the delay composite score (Latency + Cognition-Total touch) was regressed upon infant negative emotionality, mothering, and the interaction of negative emotionality and mothering. In the second equation, this was repeated with fathering replacing mothering. Finally, both mothering and fathering were included together in a single equation, along with relevant interaction terms. The results of these hierarchical regression analyses (including standardized regression coefficients [beta]) are displayed in <Table 1> and <Table 2>.

First in no instance did the total equations account for significant variance in delay. Moreover, neither main nor interaction effects proved significant. In view of this, analyses of parenting effects were rerun without controlling for negative emotionality (in order to increase the power of the tests). <Table 3> presents the results of this final analysis. Inspection of <Table 3> indicates that when power is increased by reducing the number of predictors, the effect of fathering achieves conventional levels of statistical significance. The

<Table 1> Predicting delay from infant emotionality and mothering and from infant emotionality and fathering separately (n=81)

Predicting delay from emotionality and mothering						Predicting delay from emotionality and fathering					
•	β	R ²	ΔR^2	F ΔR^2	df		β	R ²	ΔR^2	F ΔR^2	df
Neg. Emot	-.20	.04	-	3.36	79	Neg. Emot	-.15	.04	-	3.36	79
Mothering	.04	.04	-	.13	78	Fathering	.20	.08	.04	3.50	78
Neg.Emot xMothering	.00	.04	-	.00	.77	Neg.Emot xFathering	.01	.08	-	.00	77

<Table 2> Predicting Delay from infant emotionality, mothering and fathering

	β	R ²	ΔR^2	F ΔR^2	df
Neg. Emot.	-.04	.04	-	3.36	79
Mothering	-.06	.04	-	.13	78
Fathering	.22	.08	.04	3.35	77
Neg. Emot.x Mothering	.17	.08	-	.03	76
Neg. Emot.x Fathering	-.03	.08	-	.00	75

<Table 3> Predicting Delay from mothering and fathering (n=81)

	β	R ²	ΔR^2	F ΔR^2	df
Mothering.	.59	.00	-	.39	79
Fathering	.83	.06	.06	4.24*	78
Mothering X Fathering	-.95	.06	-	.66	77

* p < .05

more positive and sensitive fathering that children received at age one, the longer they could delay six months later.

In sum, the secondary analyses involving regression indicated that, in the main, the results found in primary analyses using Structural Equation Modeling were, for the most part, not a byproduct of reliance upon such a powerful analytic approach with a modest sample. That is, in neither set of analyses did mothering nor the interaction between either mothering/fathering and infant negativity prove significant. However, in the final regression analyses, which deleted one predictor to increase statistical power, evidence did emerge that toddlers delayed for longer time when they received more positive, sensitive care from their fathers six months earlier.

IV. DISCUSSION AND CONCLUSION

This study was guided by three general hypotheses. The first was that infants who have less negative temperaments at 12 months would delay for longer periods of time 6 months later. As presented in the results section, in none of the analyses did the direct (i.e., main) effect of early infant negative emotionality on children's delay prove significant. In other words, the hypothesis could not be confirmed. Consideration of all beta weights raises the prospect, however, that with a larger sample or with better measurements, the anticipated association between infant negative emotionality and children's delay might have achieved conventional levels of significance. This is because all associations, even though not significant, were negative in direction. In light of such speculation, it would be a mistake to embrace the null hypothesis that infant negative emotionality does not account for children's ability to delay touching attractive toys. Therefore, as for conclusions pertaining to the first hypothesis of the study, it is safe to say that the main effect of infant negative emotionality on children's delay six months later was not detected at standard levels of significance in the present research.

The second hypothesis tested that parents who provided more positive feedback and who were highly sensitive while interacting with their infants would have children who

delayed touching the forbidden toy for longer periods than would children of parents who were more negative and less sensitive. For mothers this anticipated effect was not detected in any analyses. Once again, the conclusion that should be drawn is that the anticipated effect of mothering on children's delay of gratification was not detected at standard levels of significance in this inquiry.

With respect to the effects of fathering on toddler's ability to delay gratification, the results are somewhat more ambiguous than was the case with respect to mothering. This is because once the other predictor was dropped from the analyses - to increase power - significant effects of fathering were discerned. Recall that under these conditions, and as anticipated, more positive and sensitive fathering predicted greater delay ability. Obviously, such results need to be interpreted with caution. The effect was not large and it only emerged when the measure of negative emotionality was dropped from the analysis. This leads to the tentative conclusion that the anticipated effect of fathering on delay of gratification was found because more positive and sensitive fathering promotes the capacity to manage impulses.

Although it was speculated that the mechanisms and means by which fathers influence their children appear similar to those that mediated maternal influences on children, in the previous literature it was found that the nature of mothering and fathering differ in several ways. Both observational and survey data suggest that mothers and fathers engage in different types of interaction with their children (Lamb, 1997; Lewis, 1997). When observed at home with infants over six months of age, fathers tend to engage in more physically stimulating and unpredictable play than mothers do (Clarke-Stewart, 1978; Crawley & Sherrod, 1984), especially (but not only) in relation to infants. Fathers and mothers do not simply play differently; play is a more salient component of father-infant relationships. This unique relationship between fathers and their children seems to mediate a father's influence on his children especially in terms of socialization and emotion regulation (Carson and Parke, 1996). Children of fathers who became distressed by their children's negative emotions used anger as a coping strategy. In contrast, fathers' constructive problem-solving reactions to negative emotions was linked to less aggression by their children (Lewis, 1997). In this context, the observed association between fathering and children's delay of gratification and inability to detect the association between mothering and children's delay

could be explained.

The final hypothesis of the study was that there would be differential prediction of parenting for children who scored high and low in negative emotionality as infants. However, in neither set of analyses did it prove to be the case that the links between parenting and delay were different for children who scored high and low in negative emotionality as infants. Once again, it is risky to embrace the null hypothesis, for the tests of the differential susceptibility hypothesis were especially limited by the modest sample size. Conceivably, had we not been forced to rely upon a median split, because of such a limited sample size, and thus been able to contrast the top and bottom third or quartile with a larger sample, different findings might have emerged. Thus, we must conclude that any differential effect of parenting as a function of infant negative emotionality on children's delay of gratification could not be detected at standard levels of significance in this study.

In sum, the main effects of infant negative emotionality and of mothering on children's delay of gratification were not detected at standard levels of significance in this study. Differential effects of parenting on children's delay of gratification for infants with low or high negative emotionality were also not detected. However, the anticipated effect of fathering on delay of gratification was found in some analyses indicating that the more positive fathering children received, the longer they could delay gratification in the laboratory six months later.

There are some limits of this work to be considered. First, there is the issue of limited sample size. The total sample consists of 81 families and this is a rather modest sample size to be used in conjunction with Structural Equation Modeling, especially for the test of the final hypothesis of the study — children's differential susceptibility of parenting — the sample had to be subdivided, thereby reducing statistical power.

A second limitation involves the measurement of delay of gratification. All latency-to-touch data was truncated at 60 seconds as the maximum. Thus, even though there are some children who delayed longer than 60 seconds, they had to be treated the same as the children who only waited for 60 seconds. Also in this study, children's ability to understand the instructions given to them — that is individual differences in communication skills — is not controlled. Even though efforts were made to ensure that the instructions given were

understood by the children, it proved impossible to distinguish between contact behaviors caused by lack of understanding the instructions and lack of ability to delay.

Third, the parenting measurements are also limited in terms of the amount of interaction observed and coded. Quite possibly the 10-minute samples of parenting during the play session in the laboratory were limited in terms of capturing stable individual differences in parenting. Feasibly, then, had children's delay been measured differently and/or a broader assessment of parenting involving various situations been available for analysis, the results of this dissertation might have been stronger.

While not so convincing, these data certainly raise the possibility that there may be something special about the role fathers play in fostering children's impulse control and delay of gratification. Until now, most work dealing with children's delay of gratification that has looked at the antecedents of children's ability to delay has focused exclusively on mother-child interaction and the role of mothering. So even where findings support maternal influences, there is no way of knowing whether these effects are redundant with father influences (Raver, 1995; Rodriguez & Mischel, 1995; Silverman & Ippolito, 1995). It will be intriguing in future work to seek whether a unique role of fathering emerges in studies of the development of children's self control.

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