

Delay of Gratification: Some Longitudinal Personality Correlates

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Two brief laboratory tasks measuring delay of gratification in different ways were administered to 116 four-year-old children. Personality data were available on these children separately at ages 3, 4, 7, and 11 years in the form of California Child Q-Set ratings by independent sets of teachers and examiners. The two delay-of-gratification measures were standard scored and composited to generate a more broadly based index of delay of gratification, and this index was correlated with the personality ratings available at the four ages. Boys who delayed gratification tended to be independently and consistently described as deliberative, attentive and able to concentrate, reasonable, reserved, cooperative, and generally manifesting an ability to modulate motivational and emotional impulse. Boys who did not delay gratification, by contrast, were irritable, restless and fidgety, aggressive, and generally not self-controlled. Girls who delayed gratification were independently and consistently described as intelligent, resourceful, and competent. Girls who did not delay tended to go to pieces under stress, to be victimized by other children, and to be easily offended, sulky, and whiny. These findings were interpreted in terms of the constructs of ego control and ego resiliency and the differential socialization of the sexes.

Unfortunately, it is rarely practical to translate one's desires, urges, and impulses immediately and directly into action. Often, the behaviors that would be most immediately gratifying are prohibited by higher authority or by society at large. The developing child simply must learn to wait—reward may indeed be forthcoming, but often only after a delay. A key ability for persons in society to develop, therefore, is the ability to delay gratification. Individuals differ in the degree to which they possess this capacity (J. Block, 1950; J. H. Block, 1951; J. H. Block & Martin, 1955; Mischel, 1966, 1974).

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Conceptually, the notion of delay of gratification can be subsumed by (but, in turn, cannot subsume) the more general construct of "ego control" (cf., e.g., J. Block, 1950; J. Block, 1965; J. Block & Turula, 1963; J. H. Block, 1951; J. H. Block & J. Block, 1980; J. H. Block & Martin, 1955). Ego control refers to the threshold or operating characteristic of an individual with regard to the expression or containment of impulses, feelings, and desires and has been demonstrated to be a widely implicative aspect of personality structure (see preceding illustrative references). As conceptualized, ego control is associated with the differentiation of psychological subsystems within the individual. These subsystems are posited to be separated by boundaries that can be more or less permeable (see Lewin, 1935, 1951), that is, that can allow more or less communication across them. This permeability property has several generative implications, including the implication that more boundary permeability leads

to greater susceptibility to environmental demands and distractions and to more immediate and untransformed manifestations of internal need states in behavior. Extreme boundary permeability produces the behavioral syndrome of ego undercontrol; extreme impermeability, by contrast, leads to ego overcontrol.

Predictions for the personality characteristics of ego undercontrollers and overcontrollers follow directly from this theoretical formulation. The ego undercontroller should tend to translate needs and impulses directly into behavior—readily manifesting feelings and emotional fluctuations; being distractible; having a high level of behavioral activity and many but relatively short-lived relationships, enthusiasms, and interests—and should be relatively unable to delay gratification. The ego overcontroller, by contrast, would be expected to manifest clear and even excessive separation between need states and behavior—tending to be relatively constrained and inhibited; to show minimal expression of emotion; to be perseverative, nondistractible, less exploring, relatively conforming, with narrow unchanging interests; to be relatively planful; and to be organized—and should be relatively able to delay gratification.

A second conceptual property posited by J. H. Block and J. Block (and Lewin) to characterize the boundaries that separate psychological subsystems is their elasticity. Elasticity refers to the capacity of a boundary to change its characteristic level of permeability—impermeability depending on temporary situational demands. The formal property of boundary elasticity underlies ego resiliency, the dynamic capacity of the individual to modify his or her modal level of ego control as a function of the demand characteristics of the environment. Such resiliency is behaviorally useful: The ego-resilient individual is characteristically described as competent, effectively intelligent, resourceful, and adaptive under stress.

Ego control and ego resiliency are both relevant to delay of gratification. The relevance of ego control is obvious: Those individuals who characteristically control and contain impulse (perhaps even to excess) would be expected to delay gratification;

those who characteristically allow the expression of impulse (perhaps to excess) would not. The relevance of ego resiliency is more indirect and likely to depend on specific, situational factors: Particularly resilient individuals might be able temporarily to increase their level of ego control in response to perceived situational demands and thus delay gratification in certain directive or compensating contexts, even if their characteristic level of control is not high.

The purpose of the present study was to examine the relation between delay of gratification, as measured by two brief and different experimental procedures, and the independently assessed personality characteristics and home environments of a sample of children studied over time. The broad guiding hypothesis was that a child's orientation to delay or not to delay gratification even as measured in an abstracted laboratory situation has useful and implicative connections with his or her personality characteristics concomitantly, earlier, and subsequently. Of particular concern was the relation between delay of gratification and the constructs of ego control and ego resiliency outlined above. Each construct was carefully specified independently and beforehand via "criterion" Q-sort personality descriptions of the prototypical ego undercontroller and of the prototypical ego-resilient individual. The present study used these prototype descriptions to assess the relevance of each construct to experimentally evaluated delay-of-gratification behavior.

Past empirical research afforded hypotheses regarding the environmental concomitants of delay of gratification. The data collected over many years in the University of California, Berkeley longitudinal studies (J. Block, 1971) suggests that ego control manifested by adults in their mid 30s was positively associated with childhood family environments emphasizing structure, order, and conservative values and was negatively associated with conflict in the home. The data gathered for the present study allowed further assessment of these relations between aspects of the home environment and delay-of-gratification behavior in a historically different and younger cohort.

Method

Subjects

The subject sample included 116 children—59 boys and 57 girls—participating in an ongoing longitudinal study of ego and cognitive development conducted at the University of California, Berkeley by the second two authors. The exact number of subjects in any given analysis varies somewhat. The children live in an urban setting and are heterogeneous with respect to the socioeconomic and educational levels of their parents. Data collection began when the children were 3 years old. Subsequent data were gathered when the children were 4, 5, 7, and 11 years of age.

Delay-of-Gratification Tasks

When the children were 4 years old, two procedures assessing ability to delay gratification were administered in separate sessions at least 1 week apart. Testing sessions included, as well, a variety of other procedures tapping different areas of functioning.

The gift-delay situation. The experimenter displayed a gift-wrapped package to the child and exclaimed, "Look what I found over here! It's a present for you! I wonder what it could be? I'll put it over here [to the right of the child, just out of his or her reach], and you can have it as soon as you finish this puzzle." The experimenter then proceeded to describe a "circus puzzle," which was difficult and entailed loading animal figures into a toy cart. For the first 2 minutes, the child worked on this puzzle unaided; during the next 2 minutes, the experimenter worked with the child to ensure completion of the circus puzzle by the end of 4 minutes. When the puzzle was completed, the examiner busied herself with papers for a 90-sec period. If the child did not take the present spontaneously during the 90-sec delay following completion of the puzzle, the examiner put her papers aside and told the child, "Okay, you can have your present now." Both during the 4 minutes the child was engaged with the puzzle and during the postcompletion delay period, the examiner noted all verbal behaviors (e.g., talking about the present, wondering about its contents) and physical behaviors (e.g., reaching toward present, placing hand over present) directed toward the present. The delay score represented a composite of four standardized behavioral indexes: (a) delay time (time until child reached for and took present), reflected; (b) number of verbal behaviors directed toward the present; (c) number of physical behaviors directed toward the present; and (d) delay in present opening (whether child opened the present immediately, on way back to nursery school, or put it in a locker to take home), reflected.

The resistance-to-temptation situation. For this situation the child was brought into a small experimental room in which a set of attractive toys (including a doll house, doll and animal figures, a toy marina with boats and a gas pump, and a tow truck) was laid out on the floor. A set of unattractive toys (including a broken car, a comb, and a small, bent, green, plastic tree) was placed on a table, and the child's chair was arranged along the side of the table nearest the attractive toys. As they entered the room together, the experimenter explained to the child, "Today we have to use this room. See all of

these toys over there (indicating the attractive toys)—they belong to a lady who is playing some different games with children and we can't play with them." The child was then asked to sit. When the experimenter was sure the child had seen the toys, she announced that she had "forgotten" some materials in the next room and had to leave for a few minutes. The experimenter told the child that he or she could play with the (unattractive) toys on the table while she was gone and added, "While I am out, I'll see if I can find the lady who owns these toys (the attractive ones) and ask her if you might play with them."

The experimenter then left the room but observed the child's behavior through a one-way mirror. The nature of the child's approach to the forbidden toys during a period of up to 6 minutes was recorded on a 6-point scale, where, for example, a score of 1 indicated that the child completely ignored the attractive, forbidden toys; a score of 3 meant that the child moved toward the toys but did not touch them; and a score of 6 indicated that the child actually reached to pick up one of the toys. At the end of the 6-minute interval, or as soon as the child reached for one of the toys, whichever was first, the experimenter reentered the room and announced that permission had been received. The child was then allowed a few minutes to play with the attractive toys.

Intelligence Measures

The Wechsler Preschool Scale of Intelligence (WPPSI) and the Raven Progressive Matrices were administered to all subjects by examiners who did not participate in the collection of the delay-of-gratification data.

Personality Characteristics

Personality characteristics of the children were described by two independent sets of their nursery school teachers at ages 3 and 4 years, by their public school teachers at age 7 years, and by their (different) public school teachers at age 11 years, using the standard vocabulary of the California Child Q-Set (CCQ; J. Block, Block, & Harrington, 1974; J. H. Block & J. Block, Note 1). The CCQ, an age-appropriate modification of the California Q-Set (J. Block, 1961/1978), consists of 100 widely ranging statements about the psychological characteristics of children. At age 3 years and again, and independently, at age 4 years, each child was described by three nursery school teachers who had worked every day with the children for at least 5 months before formulating their personality descriptions and who had received special training and calibration in the use of the CCQ. When the children were age 7 and 11 years and in public school, generally only one teacher was available to describe each child. Teachers described each child by arranging the 100 Q-set items into a forced, nine-step rectangular distribution according to the salience of each item with respect to the particular child. The teachers worked entirely independently of one another, and no teacher provided a Q-sort description at more than one age. When multiple Q-sort formulations were available for a child, they were averaged to form a composite Q-sort description. The CCQ descriptions were completed by 11 nursery school teachers when the children were 3 years old, by an entirely different set of 9 teachers when

the children were 4 years old, by 67 different public school teachers when the children were 7 years old, and by 73 different teachers when the children were 11 years old.

Operationalizing Ego Control and Ego Resiliency

The personality characteristics posited to be associated with the constructs of ego control and ego resiliency were specified, beforehand, by three personality psychologists who used the CCQ to describe, separately, a prototypical ego-undercontrolling child and a prototypical ego-resilient child. The criterion-definers showed high levels of agreement, the reliabilities of the composited undercontrol and ego-resilient criterion definitions being .91 and .90, respectively. The existence of these criteria or prototypical Q sorts allowed the level of ego control and ego resilience of each child to be assessed by calculating the similarity between the child's actual Q description and each criterion description. A high correlation means the child is similar or close to the prototype definition; a low correlation means the child is dissimilar or far from the criterion definition. The two similarity scores thus derived for each child can be taken as measures of his or her CCQ-defined level of ego undercontrol and ego resilience. These measures, in turn, can be related to each child's experimentally assessed delay-of-gratification behavior.

Environmental Characteristics

Characteristics of the child's home environment were assessed with the California Environmental Q-Set (CEQS) adapted from J. Block (1971), which consists of 59 descriptive phrases, for example, "The family atmosphere seems calm and peaceful." When the children were approximately 5½ years old, a home interview was conducted by one of two female interviewers, and the CEQS was completed by the interviewer immediately after the home visit. Neither interviewer participated in gathering the behavioral measures of delay of gratification nor in the formulation of CCQ personality descriptions. A forced, basically rectangular (8-8-9-9-9-8-8) distribution was used, and the score on a given item reflected its category placement (1 through 7).

Results

The Composite Delay-of-Gratification Score

Instead of analyzing the implications of each of the delay-of-gratification procedures separately, as is common practice with laboratory experiments, the psychometric approach of formulating a composite delay-of-gratification score was employed. This ancient but powerful psychometric procedure lessens the impact of concept-irrelevant method and undependable error variance while tending to compound the dependable and concept-relevant variance common to

each of the experimental measures (see, e.g., J. Block, Buss, Block, & Gjerde, 1981; J. H. Block & J. Block, 1980; Epstein, 1979; Spearman, 1910).

The composite score for delay of gratification was computed by taking the average of the standard score for the gift-delay measure and the (reflected) standardized approach score derived from the resistance-to-temptation procedure.

For the sample of girls, the correlation between gift delay and resistance to temptation was .24; for the sample of boys, the correlation was .15; for the combined sample, the correlation was .20 ($p < .05$, two-tailed). To evaluate the internal consistency of the composite delay score, Guttman's (1945) lambda4 lower bound reliability coefficient (also known as coefficient alpha) was calculated. For the sample of girls, this reliability is .39; for the boys, it is .26; across all subjects, it is .33.

The estimated reliability of this laboratory-based composite is far from high. We are quite cognizant of the insufficiency of this particular composite index as a concept-representing measure of the construct of delay of gratification and must observe that a psychological concept so behaviorally implicative cannot be fairly or broadly enough represented by measures so few, so brief, and so narrow.

Nonetheless, as will be seen shortly, despite these measurement limitations, the network of personality and environmental relations surrounding this quick and narrowly based index is extensive, consistent over time, and psychologically coherent. Indeed, the magnitudes of some relations are so high as to suggest that our estimate of reliability—a lower bound estimate—is a considerable underestimate. The usefulness of our composite experimental index of delay of gratification resides, therefore, in the relations that this weak measure generates, not in its own internal reliability. We now turn to the reporting of these relations.

Relations Between Delay of Gratification and Intelligence

The correlations between the delay-of-gratification composite and three intelligence measures—the Wechsler Intelligence Scale for Children (WISC) Verbal IQ, the WISC

Table 1

Delay of Gratification and California Child Q-Set Ego Control and Ego Resiliency

Group	Age at personality assessment			
	3	4	7	11
All subjects				
Undercontrol	-.28**	-.25***	-.46****	-.32***
Resiliency	.11	.23**	.16	-.18*
Girls				
Undercontrol	-.05	-.17	-.41***	-.11
Resiliency	.21	.42****	.35**	-.03
Boys				
Undercontrol	-.41****	-.31**	-.47****	-.43***
Resiliency	-.01	.02	-.05	-.31**

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Performance IQ, and the Ravens Progressive Matrices—are .11, .21, and -.08, respectively, for the boys and .02, .03, and .38, respectively, for the girls. Of these six correlations, only the last (Ravens matrices score for girls) is statistically significant ($p < .05$, two-tailed), and the correlation between delay of gratification and Ravens intelligence is significantly greater for girls than for boys ($p < .02$). The meaning and significance of this correlational difference will become more apparent below, when sex differences in correlates of delay are considered more generally.

Gender Differences in Delay of Gratification

The mean delay-of-gratification composite scores for girls and for boys are 2.45 and -2.14, respectively (the numbers represent the standardized T score for gift delay minus the T score for degree of approach to the forbidden toys). The difference between these means approaches statistical significance ($t = 1.78$, $p < .10$). Although the distributions of delay scores overlap considerably, the direction of this sex difference is consistent with well-documented views on the differential socialization of the sexes (J. H. Block, 1979). The socialization of females in the culture typically emphasizes control of impulses and learning to fit into society, whereas the socialization of males is more likely to emphasize independent action and self-assertive behavior (see, e.g., J. Block, Lippe, & Block, 1973; J. H. Block, 1973; Carlson, 1971; Mac-

coby, 1966). These differences in socialization are congruent with the present finding of (marginally) greater delay of gratification by girls than by boys and with a variety of other findings considered below.

Delay of Gratification Related to Ego Control and Ego Resiliency

The Q-sort-derived indexes of ego undercontrol and ego resiliency, based on independently obtained CCQ evaluations at ages 3, 4, 7, and 11 years, were correlated with delay-of-gratification scores. The results, for the sexes combined and considered separately, appear in Table 1.

For the sexes combined, the CCQ correlations with delay of gratification indicate that, as expected on theoretical grounds, experimentally evaluated delay of gratification is negatively associated with ego undercontrol. Indeed, each of the four correlations across the four ages attains the conventional level of statistical significance ($p < .05$, two-tailed). Ego resiliency does not appear, in this sexes-combined analysis, to be strongly or consistently related to delay-of-gratification behavior.

However, when the sexes are considered separately, the picture becomes more complex. When only the boys are considered, the relations between ego undercontrol and delay of gratification become even stronger and more consistent over time. However, within the sample of girls alone, these relations, although not disappearing entirely, become

considerably weaker. Although all of the four independent ego-control-relevant correlations for girls are in the theoretically expected direction, most of these correlations are quite small in magnitude. However, now looming large in importance, and at least as relevant as ego control to delay of gratification among girls, is ego resiliency, which is positively correlated with delay of gratification at three of the four ages studied and significantly correlated at two ages.

The correlations between delay-of-gratification behavior and the CCQ items considered individually highlight this pattern.

Delay of Gratification Related to CCQ Items

The composite laboratory-based delay-of-gratification measure at age 4 years was correlated, for the sexes separately, with each of the CCQ items as assessed independently at ages 3, 4, 7, and 11 years. Of the 800 correlations calculated, 142 (17.8%) are significant beyond the .05 level; of these, 60 (7.5%) are significant beyond the .01 level; and of

these, 16 (2%) are significant beyond the .001 level. To make this mass of data more manageable, the following arbitrary but reasonable criteria for dependable relations were established:

1. For each CCQ item, the sign of all four independent correlations with the composite delay-of-gratification measure had to be in the same direction (it can be noted that the probability of a given item meeting this criterion alone is $\frac{1}{16}$ or .063).

2. At least one of the four correlations had to achieve statistical significance beyond the level of $p < .05$ (two-tailed).

3. At least one additional correlation had to attain significance beyond the level of $p < .10$ (two-tailed).

Table 2 presents the 16 CCQ items satisfying these criteria for the girls; Table 3 presents the 24 items meeting these criteria for the boys. For additional perspective, Tables 4 and 5 report the remaining items, those not meeting these criteria. We remind the reader of four aspects of these data worthy of particular mention: (a) The delay-of-gratification measure is based on very brief laboratory

Table 2
Reliable California Child Q-Set (CCQ) Correlates of Delay of Gratification: Girls

Item	Age at personality assessment			
	3	4	7	11
Positive correlates				
Appears to have high intellectual capacity	.27*	.51****	.27*	.24
Competent, skillful	.37**	.28**	.39***	.19
Is planful, thinks ahead ^a	.38**	.28**	.32**	.16
Attentive and able to concentrate	.19	.41***	.43***	.07
Develops genuine and close relationships	.18	.32**	.35**	.24
Reflective, thinks before acting ^a	.22	.30**	.22	.29*
Resourceful	.37**	.23*	.18	.18
Uses and responds to reason ^a	.13	.37***	.28*	.14
Negative correlates				
Has transient interpersonal relationships	-.24	-.30**	-.31*	-.41**
Emotionally labile ^a	-.39***	-.24*	-.43***	-.07
Victimized by other children	-.19	-.17	-.35**	-.39**
Tries to take advantage of others	-.04	-.23	-.33**	-.44**
Goes to pieces under stress	-.25*	-.25*	-.30**	-.14
Seeks reassurance from others	-.02	-.39***	-.12	-.29*
Is easily offended	-.32**	-.25*	-.11	-.01
Tends to be sulky or whiny	-.30**	-.26*	-.02	-.09

Note. See text for criteria of reliability.

^a Reliable CCQ correlate in other sex.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

samples of the behavior of 4-year-olds; (b) the teachers and examiners providing the personality descriptions at the four different ages are nonoverlapping and operated strictly independently of each other; (c) the relations observed span what are, for psychological research, long periods of time; (d) the obtained correlations are attenuated appreciably as a function of the unreliability, noted earlier, of the delay measures involved (J. Block, 1963, 1964).

The definitive item, "Is unable to delay gratification," correlated with experimental delay-of-gratification scores in the appropriate direction at all four ages among boys, and at three of the four ages among girls, demonstrating appreciable cross-situational consistency and temporal implications of labo-

ratory delay-of-gratification behavior between the experimental procedures used to index delay of gratification and the different behavior settings independently observed by the CCQ assessors across a time span of 8 years. The other reliable correlates serve to elaborate the different links between ego control, ego resiliency, and delay of gratification already demonstrated for the two sexes. Among boys, delay-of-gratification behavior at age 4 years is positively associated with such characteristics of ego overcontrol as shyness, inhibition, indecisiveness, reflectiveness, planfulness, and caution and is negatively associated with characteristics of ego undercontrol such as high energy and activity level, emotional expressiveness, talkativeness, curiosity, aggressiveness, and restless-

Table 3

Reliable California Child Q-Set (CCQ) Correlates of Delay of Gratification: Boys

Item	Age at personality assessment			
	3	4	7	11
Positive correlates				
Is shy and reserved	.40**	.36***	.42***	.51****
Keeps thoughts and feelings to self	.41***	.32**	.35**	.51****
Obedient and compliant	.24	.25*	.53****	.34**
Prefers nonverbal communication	.26	.08	.47****	.53****
Reflective; thinks before acting ^a	.32**	.34***	.36**	.30**
Is inhibited and constricted	.38**	.23	.25*	.46****
Withdraws under stress	.31*	.41****	.18	.42***
Indecisive and vacillating	.14	.35***	.32**	.45****
Is physically cautious	.37**	.21	.18	.39***
Uses and responds to reason ^a	.20	.22*	.36**	.19
Fearful and anxious	.32**	.02	.21	.35**
Planful, thinks ahead ^a	.30*	.26**	.03	.22
Negative correlates				
Vital, energetic, lively	-.39**	-.32**	-.44***	-.40***
Tries to be the center of attention	-.37**	-.23*	-.39***	-.46****
Is physically active	-.34**	-.15	-.51****	-.29**
Self-assertive	-.25	-.21	-.36**	-.45****
Rapid personal tempo	-.41***	-.28**	-.22	-.38***
Characteristically stretches limits	-.28*	-.16	-.43***	-.31**
Is emotionally expressive	-.34**	-.20	-.36**	-.29*
Talkative	-.23	-.10	-.35**	-.47****
Curious and exploring	-.21	-.22*	-.21	-.39***
Emotionally labile ^a	-.38**	-.07	-.39***	-.12
Unable to delay gratification	-.31*	-.30***	-.17	-.16
Is restless and fidgety	-.27*	-.20	-.34**	-.16

Note. See text for criteria of reliability.

^a Reliable CCQ correlate in other sex.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

ness. Among girls, delay is also associated, in the appropriate directions, with some indicators of overcontrol and undercontrol. Indeed, those four correlates deemed "reliable" by our stringent criteria independently within each sex are all relevant to ego control.

In general, however, the pattern of correlates among girls is rather different than that among boys, several of the CCQ correlates of delay among girls being more relevant to ego resiliency than to ego control. For example, long-delaying girls at age 4 years tend to be independently characterized in other and much later settings as intelligent, competent, attentive, resourceful, and capable of developing genuine and close relationships. Those girls who were unable to delay gratification were independently characterized as tending to go to pieces under stress; to be easily offended, sulky, and whiny; to be victimized by other children; and so on.

Sex Differences in Correlates of Delay of Gratification

Sex differences in correlates of delay of gratification were directly examined by comparing the correlation for girls with the correlation for boys on each CCQ item, at each age, using the method described by McNemar (1969, p. 158). Of the 100 comparisons made at each age level, 11 were significant beyond the .05 level at age 3 years; 13 were significant at age 4 years; 7 were significant at age 7 years; and 8 were significant at age 11 years. To make this information more manageable, sex differences in CCQ item correlations were deemed reliable if (a) for each CCQ item, each sex difference that approached significance was in the same direction; (b) at least one of these differences was significant at $p < .05$ (two-tailed), and (c) at least one more of these differences was significant at $p < .10$ (two-tailed).

The CCQ items meeting these criteria, and their sex-separate correlations with delay, are presented in Table 6. Two of the correlations that are more positive among girls than boys pertain to the ego-resilient traits of openness and high intellectual capacity. The latter finding is consistent with the results of the Raven Progressive Matrices measure of intelligence,

which, it will be remembered, correlated significantly more highly with delay of gratification among girls than boys. The characteristic "tries to be the center of attention" might seem to contradict this pattern, but closer examination reveals that the item appears in the table because of its large and consistently negative correlation with delay of gratification among boys rather than because of any positive association among girls. In contrast, the correlations that are more positive for the boys in the sample pertain to CCQ items that are relevant to the construct of ego overcontrol, such as "inhibited and constricted," "indecisive and vacillating," "fearful and anxious," and "victimized by other children."

An explanation of the differential correlates of delay within the two sexes can be approached through consideration of the differential socialization experienced by males and by females. Traditionally, the socialization of males has emphasized independent action and self-assertion, a behavior style that has been called "agency" by Bakan (1966; for empirical background see, e.g., J. Block et al. 1973; J. H. Block, 1973; Carlson, 1971; Maccoby, 1966). The socialization of females, by contrast, is more likely to emphasize the control of impulse and integration into the structure of society, a style called "communion" (cf. Bakan, 1966; J. H. Block, 1973). As a result, a female who manifests an ability and tendency to delay gratification may simply be responding in a modal and, in many respects, adaptive fashion to the socialization pressures impinging on her. A male who delays gratification, however, is in many cases not acting in the way society has, at least implicitly, tried to socialize him to act. Such an individual, therefore, may be deriving his tendency to delay gratification from a more individual (and possibly maladaptive) psychological source, such as a deeply characterological tendency toward ego overcontrol.

The sex differences in the relevance of ego control and ego resiliency for delay-of-gratification behavior may stem directly from these differential socialization emphases. The construct of ego control, it will be remembered, refers to the characteristic level of an

Table 4
Other Correlates of Delay of Gratification: Girls

Item	Age at personality assessment			
	3	4	7	11
Prefers nonverbal communication	-.15	-.14	.13	.05
Considerate of other children	-.06	.16	.33**	.28
Warm and responsive	-.06	-.05	.13	-.10
Gets along with other children	.09	.38***	.31*	-.01
Admired and sought by other children	.18	.36***	.24	.11
Helpful and cooperative	-.04	.11	.32**	.03
Seeks physical contact	.00	-.21	.07	-.06
Keeps thoughts and feelings to self	-.03	.00	.25	.13
Attempts to transfer blame	.01	-.08	-.48***	-.32*
Immature under stress	-.31**	-.37***	-.17	.05
Characteristically stretches limits	.13	-.19	-.45***	-.11
Eager to please	-.21	.08	.24	-.18
Has concern for moral issues	.39***	.41***	.06	-.03
Proud of accomplishments	-.26*	-.12	-.01	.19
Sex typed	-.29*	-.03	.28*	.23
Expresses negative feelings openly	.05	.16	-.29*	-.06
Open and straightforward	-.04	.35***	.38**	.20
Tries to be center of attention	.09	-.14	-.45***	-.06
Tries to manipulate through ingratiation	.05	-.16	-.25	-.05
Fearful and anxious	-.07	-.04	.14	-.07
Broods, ruminates, worries	-.08	-.11	-.28*	.24
Physically active	-.08	-.10	-.36**	-.12
Visibly deviant	.21	.14	.13	-.14
Vital, energetic, lively	-.10	.12	-.16	-.08
Protective of others	.18	.05	.10	-.10
Arouses liking in adults	.00	.27**	.28*	.04
Empathic	.19	.21	.32*	.29*
Tends to give, lend, share	.06	.33**	.21	-.15
Cries easily	-.35**	-.21	-.09	.16
Restless and fidgety	-.16	-.10	-.46***	.04
Inhibited and constricted	-.06	-.32**	.38**	.07
Likes to compete	.02	-.02	-.06	.05
Unusual thought processes	.38**	.08	-.19	.24
Repetitive under stress	-.24	-.26**	-.22	.10
Curious and exploring	.09	.26*	.06	-.17
Persistent	.17	.02	.30**	-.11
An interesting child	-.17	.11	.13	-.04
Recoups after stress	-.12	.15	.04	.04
Gives in under conflict	-.23	.06	.16	.13
Withdraws under stress	.00	-.12	.23	.12
High standards of performance for self	.00	.22*	.26*	.19
Has mannerisms	-.14	-.03	-.07	.21
Bodily symptoms from tension	.17	-.11	-.27*	-.27
Agile and well coordinated	.03	.07	-.12	-.17
Physically cautious	-.14	-.13	.31**	.13
Indecisive and vacillating	-.07	-.23*	.03	-.08
Afraid of being deprived	.07	-.40***	-.31*	-.02
Jealous and envious	.01	-.38***	-.22	-.10
Dramatizes mishaps	-.21	-.10	-.43***	.09
Emotionally expressive	-.09	-.24*	-.13	-.09
Neat and orderly	-.20	-.11	.18	-.03
Anxious when environment is unstructured	-.10	-.10	-.08	.01
Tends to be judgmental	.03	.17	-.30*	-.13
Obedient and compliant	-.05	.04	.39***	.00
Rapid personal tempo	-.04	-.09	-.13	-.10

Table 4 (continued)

Item	Age at personality assessment			
	3	4	7	11
Calm and relaxed	.19	.29**	.15	-.03
Unable to delay gratification	.02	-.25*	-.36**	-.25
Verbally fluent	.20	.39***	.09	.10
Daydreams	.03	.08	-.33**	-.14
Looks to adults for help	-.25*	-.27**	.17	-.10
Readiness to feel guilty	.29*	.19	.04	.33*
Responds to humor	.04	.08	-.07	-.14
Strongly involved in what she or he does	.34**	.27**	.24	-.08
Is cheerful	.10	.11	.12	-.06
Can be trusted	-.01	.13	.39**	.24
Appears to feel unworthy	.09	-.04	-.24	.18
Tends to be suspicious	-.06	-.24*	-.12	.14
Teases other children	.13	-.15	-.29*	-.26
Acknowledges unpleasant experiences	.31**	.13	-.04	.26
Is self-assertive	.18	-.04	-.38***	-.10
Seeks independence	.15	.23*	-.29*	.01
Talkative child	.10	.07	-.27*	-.25
Aggressive	.03	-.11	-.51****	-.07
Likes to be alone	-.06	.09	-.04	.25
Imitates those admired	-.04	.15	.00	-.15
Self-reliant	.31**	.17	.02	-.07
Is stubborn	.00	-.18	-.30**	.04
Emotions are inappropriate	-.15	-.28**	-.32*	.00
Physically attractive	-.12	.13	-.15	.01
Dominates others	.13	-.02	-.20	-.27
Easily irritated	-.14	-.46****	-.24	.10
Active fantasy life	.22	.17	-.07	.35*
Shy and reserved	-.19	-.04	.21	.19

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

individual's impulse expression: Undue containment of impulse is a manifestation of ego overcontrol; undue expression of impulse is a manifestation of ego undercontrol. In the absence of relevant external environmental pressures, then, the overcontroller would be expected to delay gratification, and the ego undercontroller not to delay gratification. The social environment does not particularly encourage (nor apparently does it discourage) the inhibition of impulse for males. In particular, the experimental situations employed in the present study apparently were not perceived by boys as incorporating social pressures for them to delay gratification; the ones who did delay, therefore, did so as a reflection of their characteristic ego-control style rather than as a response to situational demands. Therefore, a rather "pure" pattern of personality variables, all relevant to ego control

but not ego resiliency, can be associated with delay of gratification among boys.

For females, however, the situation is different. Surely, ego control is not inconsistent with delay of gratification among females; overcontrolling females would be expected to manifest more delay than undercontrolling females. We have seen empirically that the construct of ego control indeed appears to be relevant, in a small but consistent and theoretically expected way, with delay among girls. However, the traditional existence of strong social pressure on females to modulate and contain impulse makes ego resiliency, defined as the capacity to change one's level of ego control in accordance with contextual demands, also and perhaps just as relevant to their delay of gratification. Ego-resilient females, sensitive and adaptive to contextual demands, can be expected to manifest more

Table 5
Other Correlates of Delay of Gratification: Boys

Item	Age at personality assessment			
	3	4	7	11
Is considerate of other children	.18	.14	.20	.16
Is warm and responsive	-.29*	-.13	-.10	-.16
Gets along well with other children	-.02	.13	.21	.17
Is admired and sought out by other children	.18	.05	-.04	-.08
Is helpful and cooperative	.10	.16	.36**	.10
Seeks physical contact with others	-.22	-.24*	-.07	.02
Develops genuine and close relationships	.07	.23*	.17	.01
Has transient interpersonal relationships	-.04	-.15	-.08	-.10
Attempts to transfer blame to others	-.17	-.03	-.10	-.03
Reverts to immature behavior under stress	-.02	-.12	.03	.09
Is eager to please	-.02	.04	.41***	.06
Shows concern for moral issues	.19	-.01	.22	.17
Proud of accomplishments	.17	.06	.05	-.33**
Behaves in a sex-typed manner	-.10	-.13	-.10	-.14
Expresses negative feelings directly and openly	-.24	-.11	-.14	-.23
Is open and straightforward	-.13	-.18	-.10	.23
Tries to take advantage of others	-.12	-.03	-.25	.09
Tries to manipulate others by ingratiation	-.22	.14	-.27*	-.40***
Tends to brood, ruminate, or worry	.27*	.04	.15	-.01
Is visibly deviant from peers	-.22	-.07	.11	.13
Is protective of others	.11	.10	.21	-.09
Tends to arouse liking in adults	.05	-.09	.27*	-.07
Is empathic	.22	-.05	.07	-.01
Tends to give, lend, share	.12	.12	.08	.21
Cries easily	-.08	-.29**	-.14	.07
Is resourceful in initiating activities	-.16	-.10	-.10	-.01
Likes to compete, test self	-.09	-.19	-.14	-.24*
Has unusual thought processes	.02	.12	.20	-.13
Tends to become immobilized under stress	-.08	-.10	.22	.36**
Is persistent	.11	-.04	.00	.07
Is an interesting, arresting child	-.19	-.13	-.08	-.38***
Can recoup or recover after stressful experience	.06	.02	.01	-.14
Tends to give in, under conflict	.28*	.15	.18	.11
Tends to go to pieces under stress	-.18	-.22	-.14	.15
Has high standards of performance for self	.16	.05	.09	-.13
Seeks reassurance from others	-.17	-.11	.03	.08
Has mannerisms	-.06	.12	.09	.14

Table 5 (continued)

Item	Age at personality assessment			
	3	4	7	11
Bodily symptoms from tension	-.04	.13	.13	.04
Agile and well coordinated	-.20	-.08	-.05	.04
Afraid of being deprived	-.18	-.05	-.06	-.21
Jealous and envious	-.09	-.09	-.03	.04
Dramatizes mishaps	-.28*	-.04	.01	.05
Neat and orderly	.19	-.01	.05	.26*
Anxious when environment is unstructured	.06	.00	.04	.36**
Tends to be judgmental	-.15	.07	-.29*	-.13
Is calm and relaxed	.04	.21	.43***	.11
Is attentive and able to concentrate	.27	.11	.16	.00
Appears to have high intellectual capacity	.03	-.05	-.06	-.12
Is verbally fluent	-.12	-.04	-.26*	-.24
Daydreams	.32**	.05	.02	.05
Looks to adults for help and direction	.05	-.11	-.02	.25*
Has a readiness to feel guilty	.02	-.09	-.09	.26
Responds to humor	-.23	-.02	-.04	-.39***
Becomes involved in what he does	.29*	-.09	-.07	-.10
Is cheerful	-.39**	-.05	.08	-.28*
Can be trusted, is dependable	.19	.13	.18	.20
Appears to feel unworthy	.18	-.02	.06	.03
Is easily offended	.04	-.09	-.07	.08
Tends to be suspicious and distrustful	.19	.19	.07	.26*
Teases other children	.05	-.21	-.07	-.04
Acknowledges unpleasant experiences	-.02	-.01	-.05	.19
Seeks to be independent and autonomous	-.04	.04	-.14	-.18
Is aggressive	-.18	-.15	-.48****	-.18
Likes to be alone	.34**	.17	.22	.02
Tends to imitate those he admires	.16	.15	.02	.22
Is self-reliant	-.01	.02	-.12	-.21
Is competent, skillful	.06	-.05	-.06	-.05
Is stubborn	.04	-.20	-.27*	-.05
Emotional reactions are inappropriate	-.24	-.07	.20	.11
Is physically attractive	-.12	-.10	.01	.13
Behaves in a dominating manner	-.18	-.08	-.05	-.10
Tends to be sulky or whiny	.17	-.07	-.14	.18
Easily irritated	-.27*	-.14	-.22	.14
Is creative	.02	.07	-.08	-.32**
Has an active fantasy life	-.24	.08	.02	-.10
Victimized by other children	.25	-.14	.18	.18

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

delay of gratification not necessarily because of any general tendency toward overcontrol but rather because of an ability to adaptively

respond (perhaps at some personal cost) to social pressures. The particular experimental situations employed here apparently were

perceived by girls as containing social pressures to delay gratification, as witness their (marginally) greater overall delay in these contexts. By this reasoning, the finding that ego resiliency as well as ego control is associated with delay-of-gratification behavior among girls may be coherently rationalized.

Environmental Correlates of Delay of Gratification

The final step in data analysis was to correlate the composite delay-of-gratification score with independent assessments of the children's home environment, compiled by

Table 6
Replicated Sex Differences in Correlates of Delay of Gratification

Item	Age	Girls	Boys	p
Girls' more positive correlations				
Is open and straightforward	3	-.04	-.13	ns
	4	.35***	-.18	.01
	7	.38**	-.10	.05
	11	.20	.23	ns
High intellectual capacity	3	.27*	.03	ns
	4	.51****	-.05	.01
	7	.27*	-.06	ns
	11	.24	-.12	.10
Tries to be center of attention	3	.09	-.37**	.05
	4	-.14	-.23*	ns
	7	-.45***	-.39***	ns
	11	-.06	-.46****	.05
Boys' more positive correlations				
Is shy and reserved	3	-.19	.40**	.01
	4	-.04	.36***	.05
	7	.21	.42***	ns
	11	.19	.51****	.01
Victimized by other children	3	-.19	.25	.05
	4	-.17	-.14	ns
	7	-.35**	.18	.05
	11	-.39**	.18	.01
Is inhibited and constricted	3	-.06	.38**	.05
	4	-.32**	.23	.01
	7	.38**	.25*	ns
	11	.07	.46****	.10
Keeps thoughts and feelings to self	3	-.03	.41***	.05
	4	.00	.32**	.10
	7	.25	.35**	ns
	11	.13	.51****	.05
Indecisive and vacillating	3	-.07	.14	ns
	4	-.23*	.35***	.01
	7	.03	.32**	ns
	11	-.08	.45****	.01
Prefers nonverbal communication	3	-.15	.26	.10
	4	-.14	.08	ns
	7	.13	.47****	.10
	11	.05	.53****	.05
Is fearful and anxious	3	-.07	.32**	.10
	4	-.04	.02	ns
	7	.14	.21	ns
	11	-.07	.35**	.05

Note. See text for criteria of reliability of sex differences.
* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Table 7
Environmental Correlates of Delay of Gratification

Item	Girls	Boys	Sexes combined	<i>p</i>
Positive correlates				
Relatives play a role in child's socialization	.15	.34**	.20*	
Home orientation emphasized function and practicality	.09	.28*	.19*	
Family atmosphere is calm and peaceful	.29*	.10	.18*	
Negative correlates				
House is decorated in an ornate style	-.14	-.32**	-.23**	
Mother induces conflict in children	-.24	-.23	-.22**	
Mother discourages independence	-.33**	-.11	-.21**	
Mother's limitations are apparent	-.10	-.29*	-.19*	
Child is experiencing cultural conflicts	-.30**	-.06	-.18*	
Sex differences				
Home situation is child oriented	-.20	.33**		.01
Mother enjoys her maternal role	-.09	.35**		.05

Note. The California Environmental Q-Set (CEQS) consists of 59 items.

* $p < .10$. ** $p < .05$.

single examiners using the California Environmental Q-Set when the children were 5½ years old. Of the 59 correlations calculated for the entire sample, 8 were significant at $p < .10$ (two-tailed) and appear in Table 7. The two items that manifested sex differences in correlations significant at the .05 level also appear in this table.

The environmental correlates, although relatively small in number and magnitude, tend to repeat the association observed in previous research (J. Block, 1971) between ego control and orderly, practical, cohesive home environments. Children who delayed gratification, relative to those who did not, tended to come from homes that were calm and peaceful, that emphasized function and practicality, and in which relatives played a role in the child's socialization. Children who did not delay gratification were more likely to come from environments in which the mother was relatively neurotic and in which cultural conflicts were present.

Discussion

The correlates of delay of gratification among boys were highly congruent with the

theoretical link developed between delay of gratification, ego control, and the permeability of boundaries between psychological subsystems. Those 4-year-old boys who manifested the longest delay of gratification in the brief laboratory situations were independently assessed in different life settings—and up to 7 years later—as capable of the control of emotional and motivational impulse, being attentive and able to concentrate, reflective, deliberative, dependable, and so on. The 4-year-old boys who manifested the least delay of gratification were independently assessed as exhibiting many aspects of the syndrome of undercontrol—they were restless and fidgety; were emotionally expressive; had a rapid personal tempo; and were aggressive, irritable, unstable, and immature under stress.

Among girls, the pattern of personality correlates surrounding delay of gratification was more complex. Ego control had pertinence to delay of gratification among 4-year-old girls in that several ego-control-relevant personality variables were identified, independently and by stringent criteria, as reliably associated with delay of gratification within each sex. However, just as relevant as ego

control to delay among girls was the construct of ego resiliency. The longest delaying 4-year-old girls were independently characterized as intelligent, competent, resourceful, and attentive; the shortest delaying girls tended to go to pieces under stress, to be victimized by other children, and to be easily offended, sulky, and whiny.

Sex differences in the correlates of delay of gratification can be viewed as reflecting the differential socialization of the sexes. A large literature indicates that socialization is more likely to emphasize the control and inhibition of emotional and behavioral impulse among girls than among boys. This idea is also congruent with the finding in the present study that girls were (marginally) more likely to delay gratification than were boys. Ego resiliency, defined as the ability to adjust one's level of ego control in accordance with situational demands, is, therefore, relevant to delay of gratification among girls: Resilient girls seem to be able to adjust their control in accordance with society's demands to so delay, which they apparently perceived to be present in our experiments as in the world at large, whereas unresilient girls are less able to delay gratification in response to such demands.

Boys in the society do not experience the same socialization emphasis on impulse control as do girls. One result appears to be that they do not perceive our experimental situations as demanding such control. Therefore, their delay of gratification is likely to be a rather direct function of their general, dispositional level of ego control. The overall result is a strong relation between ego control and delay of gratification among boys, a weaker relation between ego control and delay of gratification among girls, but a fairly strong relation among girls between delay of gratification and ego resiliency.

The multiple observers and multiple methods used here developed a clear picture of the association between the constructs of ego control and ego resiliency and of the behavior of delay of gratification as measured in a brief, somewhat artificial laboratory context. Moreover, the associated personality dispositions could be reliably detected at any of several points across a time span of 8 years

(from ages 3 to 11 years). This research, then, is another contribution to the growing body of knowledge attesting to the appreciable coherence of personality discernible when domain-specifying, domain-spanning, and multiple-measurement techniques are employed.

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