

MATERNAL EXPECTANCIES FOR ACHIEVEMENT, IQ, AND
AUTONOMOUS ACHIEVEMENT MOTIVATION IN
KINDERGARTEN CHILDREN

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Summary.—This study examined the relationship between maternal expectancies of achievement and autonomous achievement motivation in children as moderated by IQ. Subjects were 67 white kindergartners and their mothers. Autonomous achievement motivation was assessed with Veroff's resumption technique, and IQ was measured by the Kuhlman-Anderson Intelligence Test. Mothers' expectancies for achievement were obtained through home interviews using an adaptation of the Parental Development Timetable. Moderated regression analyses indicated a significant interaction for maternal expectancies of achievement and children's IQs. A bivariate regression plot indicated that under conditions of low maternal expectancies, children with high IQs express greater autonomous achievement motivation than children with lower IQs. No differences were found between the two groups of children for conditions of high maternal expectancies.

Research has shown that maternal child-rearing practices are related to children's personality development in general (Baldwin, Kalhorn, & Breese, 1946; Sears, Maccoby, & Levin, 1957; Kagan & Moss, 1962) and development of achievement motivation in particular (McClelland, Atkinson, Clark, & Lowell, 1953; McClelland, 1961). One aspect of training children that seems instrumental in the development of achievement motivation is maternal expectancies for achievement (Argyle & Robinson, 1962; Bartlett & Smith, 1966; Winterbottom, 1957). Studies have demonstrated that intelligence is also correlated with need for achievement (Bruckman, 1966; Caplehorn & Sutton, 1965; Robinson, 1964); however, no attention has been given in the literature to the relationship between maternal expectancies regarding achievement and children's achievement motivation as a possible function of children's intelligence. Recently, Veroff and Veroff (1980) have suggested that a child's level of intelligence may be a mediating link between parental demands for achievement and development of achievement motive.

Veroff (1969) has proposed three stages in the development of achievement motivation—autonomous, social, and integrated—with each stage characterized by the basis used to define standards of excellence. In the autonomous stage (1½ to 7 yr.) standards are based upon self-comparisons of present with past performance; in the social stage (7 to 12 yr.) self-other comparisons are

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used; and in the integrated stage (beyond 12 yr.) autonomous achievement motivation is integrated with social comparison strivings.

The present study included subjects at the first stage and sought to examine the relationship between maternal expectancies of achievement and autonomous achievement motivation in kindergartners as moderated by intelligence.

METHOD

Sample

The sample included 67 white children, 5 to 6 yr. old, and their mothers. The children, about equally divided according to sex, were enrolled in the kindergarten program of a suburban school district in Houston, Texas. The majority of the fathers were college graduates who were employed full time in professional, technical, and managerial occupations. Over half of the mothers held college degrees. Fourteen of them were employed either part time or full time, primarily in professional or clerical positions. All the families were intact.

Procedure

Veroff's (1969) resumption measure, based upon Atkinson's (1957) risk-taking model, was used to assess autonomous achievement motivation. The measure was individually administered to the children and required a subject to perform a series of tasks reflecting different skills, e.g., motor coordination, visual memory, memory span, copying ability. The child is given a choice of the easiest, moderately easy, moderately difficult, or difficult version of a task, with the level of difficulty based upon the child's immediately preceding experience with the particular task. Choices represent the child's preference for attempting to meet high or low standards. Scores for autonomous achievement motivation range from 0 to 4 and are calculated by summing the "challenging" choices over the four domains of skill.

A modification of the Parental Developmental Timetable (Torgoff, 1958) was adapted for use in home interviews to assess maternal expectancies for achievement. The original version of the Timetable includes both achievement and independence subscales and instructs mothers to answer questions in relation to children in general, not in terms of their own children. In contrast, in the present study, mothers were asked to give the ages at which they expected their *own* children to exhibit certain achievement-related behaviors. Mean ages expected were calculated for the 24 items on the achievement subscale. High or late scores imply low expectations, and low or early age scores imply high demands for achievement.

The Kuhlman-Anderson Intelligence Test was administered to the children in small groups. Scores ranged from 89 to 141, with a mean IQ of 112.

Descriptive statistics for the study's independent and dependent variables are presented in Table 1. Zero-order correlations are also reported. The independence of the hypothesized moderator variable and the study's independent and dependent variables was deemed sufficient to continue the present analysis.

Analysis of Data

A moderated multiple-regression procedure was used to test for the hypothesized interaction (Zedeck, 1971). The dependent variable, autonomous achievement motivation, was regressed stepwise on the two independent variables, maternal expectancies of achievement and child's IQ, and a term representing their multiplicative interaction (maternal expectancies \times child's IQ). Standard statistical tests were employed to determine if the interaction term contributed significantly to variance explained by the regression equation (Cohen, 1968).

RESULTS AND DISCUSSION

The moderated regression analyses indicated a statistically significant moderating effect. For the additive effects model, R^2 was .01 ($F = .05$, $df = 2/55$, $p > .10$). For the additive-plus-interactive effects model, R^2 was .42 ($F = 12.97$, $df = 3/54$, $p < .001$). The increment in R^2 resulting from a comparison of these models (.41) also was significant ($F = 38.74$, $df = 1/54$, $p < .001$). This result indicates a significant interaction for maternal expectancies of achievement and children's IQs.

TABLE 1
DESCRIPTIVE STATISTICS AND CORRELATIONS AMONG VARIABLES

Variable	<i>M</i>	<i>SD</i>	r_{12}	r_{23}	r_{13}
1. Autonomous achievement motivation	2.04	1.26			
2. Maternal expectancies for achievement	4.88	7.74	.03		
3. Child's IQ	112.26	14.07	-.03	.01	

Since significant interaction effects in the moderated regression procedure are not directly interpretable, a bivariate regression was plotted to determine the direction of the interaction and to determine whether the nature of the interaction is disordinal or ordinal, i.e., whether the regression lines cross-over. From the plots of the regression lines it is evident that under conditions of low maternal expectancies for achievement, children with high intelligence express greater autonomous achievement motivation than children with lower intelligence, and for conditions of high maternal expectancies, the two groups of children do not differ significantly in degree of expressed autonomous achievement motivation, i.e., the interaction is disordinal.

These findings suggest that, under conditions of low maternal expectancies

for achievement, it is doubtful whether a child will develop autonomous achievement motivation unless he is especially talented. As Veroff and Veroff (1980) have pointed out, the less gifted child, in contrast to the bright child, is less likely to develop aspiration for achievement independently and thus fail to learn the joy of achievement in the absence of strong parental demands. Perhaps the most important implication of this dependency is that maternal expectancies can influence the degree of autonomous achievement motivation experienced by a child to such an extent that even differential variations in IQ can be offset. Studies are clearly needed to evaluate fully the impact of this assessment.

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