

ATTRIBUTIONAL PROCESSES RELATED TO THE DEVELOPMENT OF ACHIEVEMENT-RELATED AFFECT AND EXPECTANCY

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It has been proposed that the ability to make cognitive judgments develops with age (Inhelder & Piaget, 1958). The present study examined children's achievement-related expectancies and affect (pride - shame) as a function of age as well as difficulty cues and task outcome. The study was based on a cognitive, attributional model of achievement provided by Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971).

Weiner et al. suggest that achievement-related behaviors are mediated by attributions about causality instead of by an underlying motivational state. According to this model, individuals use two dimensions in making attributions of causality: locus of control and stability. Attributions within the dimension of locus of control should influence affect. That is, greatest pride for success or shame for failure should result when the individual perceives that the outcome was caused by an internal factor, such as ability or effort. Attributions within the dimension of stability should influence expectancies. That is, past outcomes attributed to stable factors, such as ability or task difficulty, should directly influence expectancy, while past outcomes attributed to unstable factors, such as effort or luck, should relate indirectly, if at all, to expectancy.

Some previous evidence supports the contentions that locus of control and stability attributions are important mediators of both achievement-related affect and expectancies (Weiner, Heckhausen, Myer, & Cook, 1972; Weiner & Kukla, 1970) in older children and adults, but it is unlikely that younger children use these dimensions in the same way. For example, one source of information often used to make stable attributions is history of task outcome. Numerous studies have demonstrated that repeated failure at a task leads to a decrement in expectancies for that task, while repeated success leads to an increment in expectancies (Diggory, 1966; Montanelli & Hill, 1969). However, according to Inhelder and Piaget (1958), younger children may not relate temporally separated events to each other, focusing instead on each momentary event. This cognitive centering would make it difficult to use past experiences to predict future outcomes. Lester (1967) provides support for this contention with first-grade children.

Similarly, the ability to make internal attributions should develop with age. For example, one source of information often used to determine responsibility for success or failure is social norms. If all people succeed at a task, the individual will attribute his own success to external factors, e.g., task ease. But if all others fail, then he will infer that his own success was due to internal factors, e.g., ability and/or effort (Weiner & Kukla, 1970). However, according to Veroff (1969), young children may not use social norms until they have been in school for awhile. Thus, it seems likely that the proposed relationship between social norms and affect will not hold for young children.

The purpose of this study is twofold: to substantiate previous findings that affect and expectancies are related to

social norms and to past outcomes, and to investigate the emergence of these attributional tendencies as a function of age.

METHOD

Subjects

The Ss (72 children, 24 in three age groups of 6, 8, and 10-11 yr. each) were drawn from three day care centers and a YMCA in racially mixed middle-class areas. There was an equal number of boys and girls in each age group.

Procedure

Each child was tested individually by one of the three female Es. The task consisted of several trials of the Matching Familiar Figures Test (Zelniker, Jeffrey, Ault, & Parsons, in press), graduated in difficulty according to age level. Before the task was introduced, each child was given practice moving the mouth on a large cardboard face. Light dots on the face allowed E to score the magnitude of affect, which ranged from 1 (for saddest) to 17 (for happiest), with the neutral point at 9. Standardized instructions for the task were given, and the child was allowed three practice trials with no feedback.

For the experimental trials, the children were divided into success and failure conditions, in which they received either success or failure feedback after each of four trials. Before the first two experimental trials, each child was given either high or low social norms. He was told that "almost all" (high norms) or "very few" (low norms) children of his age were able to get the correct answer. After the first two trials, each child was reminded of the social norms and asked to show how he felt about his performance by moving the mouth on the cardboard face. The procedure was repeated for the next two trials with the social norms reversed.

Every child was given low social norms before the final trial and asked if he thought he would get the next one right and whether he was "just a little sure, pretty sure, or very sure." Thus two measures of expectancies were taken: a dichotomous measure of expected success or failure and a 6-point scale, measuring probability of success. All children were told they succeeded on this trial.

In sum, affect was measured after each pair of trials, while expectancy was measured prior to the last trial. The between-S independent variables were age (three levels) and outcome (two levels); the within-S independent variable was social norms (two levels).

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TABLE 1
Mean Affect (Outcome X Social Norm X Age) Scores

Norm	Success			Failure		
	6 yr.	8 yr.	10 yr.	6 yr.	8 yr.	10 yr.
High	13.4	14.0	13.3	10.4	8.8	6.6
Low	14.1	14.8	13.8	10.9	9.3	7.3

RESULTS

Affect

An analysis of variance on the mean affect scores (see Table 1) revealed significant main effects for outcome ($F = 104.5$, $df = 1/64$, $p < .01$), age ($F = 5.87$, $df = 2/66$, $p < .01$), and social norms ($F = 5.16$, $df = 1/72$, $p < .05$). The main effects for outcome and age mean that the children showed more positive affect after success than after failure and that the magnitude of positive affect decreased with increasing age. The main effect for social norms confirmed a major hypothesis of the study. The low norms produced more positive affect than the high norms in every condition. Thus, there was a tendency to feel better about succeeding at a task that was believed to be hard (a situation which should produce an internal attribution) and to feel less bad about failing at such a task (which should produce an external attribution).

One interaction (Age X Outcome) was significant ($F = 4.31$, $df = 2/66$, $p < .05$), and this effect indicates that although there was very little difference among the ages in the success condition, there was tremendous variation in the failure condition. The 6-yr.-olds still averaged above the neutral point even when they failed; i.e., they never "felt bad" about their failures. Only the 10-yr.-olds registered definite unhappiness about failure.

Expectancy

A chi-square analysis of the dichotomous expectancy data yielded a significant result ($\chi^2 = 11.02$, $df = 2$, $p < .01$). This result indicates that the 6-yr.-old and, to a lesser extent, 8-yr.-old children were more likely to predict success. Table 2 shows only the number of children

TABLE 2
Number Predicting Continued Success or Failure

Expectation	No. of Ss		
	6 yr.	8 yr.	10 yr.
Continued success	12	10	8
Continued failure	4	6	11

TABLE 3
Mean Expectancy (Outcome X Sex X Age) Scores

Group	Success			Failure		
	6 yr.	8 yr.	10 yr.	6 yr.	8 yr.	10 yr.
Girls	5.8	5.0	3.8	3.3	3.3	2.3
Boys	5.8	4.3	4.3	4.8	3.1	3.0

predicting an outcome consistent with past performance and clearly illustrates the differential use of information by the various age groups. If the children were using past performance as the basis for expectancy, exactly 12 children should fall into each cell. All age groups deviated somewhat from this hypothesized expectancy, but the direction of deviation shifted with age.

A repeated-measures analysis of variance on the probability of success estimates revealed results seemingly contradictory to those discussed above. Two significant main effects, outcome ($F = 38.88$, $df = 1/60$, $p < .01$) and age ($F = 14.24$, $df = 2/60$, $p < .01$), indicated that all age groups modified their expectancies on the basis of past experience and that the younger children had higher expectations in both outcome conditions (see Table 3). Since no interaction between outcome and age was found, it is difficult to interpret whether the chi-square results reflect a qualitatively different use of the outcome information by each age group or a similar use of the information coupled with a more optimistic outlook among the younger children.

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