

Self-evaluative Responses of Children in an Achievement Setting

Diane N. Ruble

Princeton University

Jacquelynn E. Parsons

Smith College

Jenise Ross

Princeton University

RUBLE, DIANE N.; PARSONS, JACQUELYNNE E.; and ROSS, JENISE. *Self-evaluative Responses of Children in an Achievement Setting*. CHILD DEVELOPMENT, 1976, 47, 990-997. In 2 studies, age differences in children's self-evaluative responses as a function of success/failure outcome and task ease information are explored. The approach to the research is based on the Weiner et al. attributional model of achievement. The model predicts that more extreme positive or negative affect results from internal, as opposed to external, attributions for success or failure. In both studies, each child worked on a task and was subsequently given information indicating that his or her performance outcome was due to either internal or external reasons. Self-evaluative ratings were then measured and were expected to vary as a function of the information condition. The results of both studies showed that task outcome was a strong predictor of evaluations, especially for older children. However, the effects of task ease information were neither strong nor consistent, though this information did appear to influence the ratings of the older children. Possible reasons for these developmental changes and their implications are discussed.

A great deal of attention has been paid to the development of intellectual and cognitive processes which facilitate performance in the classroom. However, the development of achievement-related affective processes has been relatively neglected. The degree of positive affect that children feel about their own performance would seem to be important not only in maintaining positive attitudes toward school and learning but also in promoting feelings of competence and self-worth. In this research, some possible determinants of affective and other self-evaluative responses by young children in an achievement setting were examined.

Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971) propose an attributional model of achievement, which suggests that self-evaluative

responses are, in part, a function of the allocation of responsibility for success or failure at a task. For example, attributions to internal factors (ability or effort) are assumed to result in greater positive or negative affect than attributions to external factors (task difficulty or luck). One type of information commonly used in making a causal attribution concerns how others have done on the task (social norms) and is indicative of the difficulty of the task. When an individual's performance is consistent with the performance of others (e.g., I succeeded and everyone else succeeded), attributions should be to an external factor—task difficulty. Conversely, when the individual's performance is inconsistent with that of others (e.g., I succeeded and everybody else failed), attributions should be made to an internal factor—ability and/or effort. Thus, affect should generally be greater given low

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than high norms, since knowing everyone else did poorly should result in an internal attribution for success and an external attribution for failure.

There has been substantial empirical support for the existence of these relationships in adults (Riemer 1975; Weiner & Kukla 1970). However, young children may not use social norm and outcome information in the ways suggested above. According to Veroff (1969), social achievement motivation, which concerns standards based on social comparison, does not develop until the early school years. Instead, a motive to compare socially develops only after "considerable reinforcement, usually from siblings or parents" (p. 50). Also, Piagetian theory and research has led to suggestions that young children may be limited in their abilities to process certain kinds and amounts of information. For example, a young child's tendency to "center" on one cue (Ginsburg & Oppen 1969) may preclude the ability to integrate multiple kinds of information in making judgments, though recent research has failed to support such a hypothesis (Kun, Parsons, & Ruble 1974; Dinner, Note 1). Finally, many young children may have little interest or opportunity to socially compare until they enter school (Ruble, Feldman, & Bogiano 1976). It may not be until kindergarten or first grade forces them into competition that they begin to recognize that the performance of others affects how their own performance is evaluated. Thus, it seems likely that the determinants of affective responses in children may change with age.

The major purpose of this investigation was to examine the development in children of the information-attribution-affect link predicted by Weiner et al. In two different studies, children at ages representing Piagetian preoperational and concrete operational stages and a range of years in school were asked to perform a task and were given patterns of information that should produce internal or external attributions. Following this, the children's self-evaluative reactions about their performance were determined. It was expected that the children would show higher affect ratings after success than after failure, and after low than high norms. In addition, age interactions with each of these factors (outcome and norms) were anticipated.

Study 1

Method

Subjects.—A total of 72 children, 24 in each of three age groups (6, 8, and 10–11 years), were

drawn from three day-care centers and a YMCA in racially mixed, middle-class areas of Los Angeles. The racial composition of the sample was 71% white, 21% black, and 8% other. The age ranges in years and months of the subjects in each group were as follows: young—5-10 to 6-10; middle—7-6 to 9-0; old—10-0 to 11-9. There was an equal number of boys and girls in each group.

Design.—The design was a $3 \times 2 \times 2$ factorial. The between-subjects independent variables were age (three levels) and outcome (success/failure); the within-subjects variable was social norms (high/low). The children were randomly assigned to the outcome conditions, in which they received either success or failure feedback after each of four trials. These were divided into two sets of two trials, and the children were given high social norms (indicating an easy task) before one set and low norms (indicating a hard task) before the other set. The order of presenting the sets was counterbalanced.

Procedure.—Each child was tested individually by one of three female experimenters. The task consisted of several trials of a matching familiar figures tests (Zelniker, Jeffrey, Ault, & Parsons 1972), graduated in difficulty according to age level. This task was selected so that believable feedback could be given, regardless of actual performance. Before the task was introduced, each child was given practice with the dependent measure, a large cardboard face with a mouth that could be moved up to make it look happy or down to make it look sad. Light dots on the face allowed the experimenter 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 for which no feedback was given and no measures were taken. The children then began the four trials for which success/failure outcome and social norm information was given. Before the first set of trials, the children were told either that "almost all" (high norms) or "very few" (low norms) children of their age were able to get the correct answer on the next two tasks. When the children had completed the trials, they were given outcome feedback, reminded of the social norms, and asked to show how they felt about their performance by moving the mouth on the cardboard face. The procedure was repeated for the next two trials with the social norms reversed.¹ Finally, all children were given an additional trial, on which they succeeded and were warmly praised.

¹ Additional measures were taken at this time, which are described in Parsons and Ruble (Note 2).

Results

A preliminary examination of the affect data revealed no effects for sex of subject. In fact, overall, the mean ratings for boys and girls were virtually identical: boys = 11.16, girls = 11.51. Therefore, sex was not included as a factor in subsequent analyses.

A three-way mixed-model analysis of variance, with repeated measures on social norms, was performed on the affect ratings. These mean ratings are presented in table 1. The results revealed significant main effects for outcome, age, and social norms, $F(1,64) = 104.5, p < .01; F(2,66) = 5.87, p < .01; F(1,66) = 5.16, p < .05$, respectively. The children showed more positive affect after success than after failure, and the level of affect decreased with increasing age. In addition, the level of affect was higher given low norms than given high norms. Thus, as predicted, there was a tendency to feel better about succeeding at a task that was believed to be hard and to feel less bad about failing at such a task.

One interaction (age \times outcome) was significant, $F(2,66) = 4.31, p < .05$. 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 (see table 1). The 6-year-olds averaged above the neutral point even when they failed; that is, they never "felt bad" about their failures. On the average, only the 10-year-olds showed negative affect following failure.

Because it was predicted that the relationship between social norms and affective response would vary as a function of age, separate outcome \times social norm analyses for each age level were performed. As expected, the results showed sig-

nificant main effects of outcome at each level ($p < .01$). In addition, there was a significant main effect of social norms for 8-year-olds, $F(1,22) = 5.85, p < .05$, and a similar trend for 10-year-olds, $F(1,22) = 3.48, p < .10$. For the 6-year-olds, the difference in the ratings between high and low social norms was not significant ($p > .25$).

Discussion

The results of this study lead to the tentative conclusion that the achievement-related affect of quite young children is influenced by the attributional processes predicted by the Weiner et al. (1971) model. Affect ratings were more extreme in a positive or negative direction when the subjects' own outcomes were inconsistent with social norms (a situation which should produce an internal attribution). This social norms effect did not interact with age, contrary to expectations, though within-age analyses indicated that the effects were strongest in the older two age groups. In addition, there was an age-related increase in the impact of failure information on affect ratings, even though the effect of success/failure outcome reached significance at each age level. Thus, although there was some indication that the impact of the information increased with age, the way in which the information was used was quite similar at the three age levels.

Study 2

Study 2 was designed to provide additional data concerning the information-attribution-affect link in children. The procedure was very similar to study 1, though additional dependent variables were assessed. First, attribution as well as affect ratings were measured. Also, observations of various nonverbal behaviors were made through a one-way mirror in order to determine if, for example, number of smiles was related to self-ratings of affect. In this way, some cross-measure consistency for the self-report ratings could be assessed. Finally, instead of assuming inferences of task ease by using social norms, information about the ease or difficulty of the task was given directly. It was assumed that this change would simplify the process of making internal versus external attributions for success or failure since it would eliminate one step of information processing (i.e., everyone succeeds = easy task; everyone fails = hard task). Such simplification should strengthen the relationship between the social norm information and affect in study 1 and should provide a more sensitive test of the relationship between attributions and affect in the youngest age group.

Method

Subjects.—The subjects were 72 children recruited for pay from a white middle-class area in

TABLE 1

MEAN AFFECT RATINGS^a AS A FUNCTION OF AGE LEVEL, OUTCOME, AND SOCIAL NORM INFORMATION: STUDY 1

| | GROUP | |
|--------------|---------|---------|
| | Success | Failure |
| 6 years: | | |
| Low norms | 5.1 | 1.9 |
| High norms | 4.4 | 1.4 |
| 8 years: | | |
| Low norms | 5.8 | 0.3 |
| High norms | 5.0 | -0.2 |
| 10-11 years: | | |
| Low norms | 4.8 | -1.7 |
| High norms | 4.3 | -2.4 |

^a The scale of affect ranged from -8 to +8.

central New Jersey by means of a newspaper advertisement. There were 18 boys and 18 girls in each of two age levels: (1) 4-0 to 5-10, and (2) 7-6 to 9-5.

Design.—The children were randomly assigned to experimental ($N = 48$) and control ($N = 24$) groups. The design for the experimental subjects was a $2 \times 2 \times 2$ factorial. Between-subjects variables were age and outcome (success/failure); the within-subjects variable was task ease (easy/hard). The children were randomly assigned to the outcome conditions, in which they received either success or failure feedback after each of six trials. These were divided into three sets of two trials, and the dependent measures were assessed after each set. Before each of the last two sets, the children were given information about task ease. The first two trials were meant to serve as a baseline with which to compare the effects of the task ease information.

The purpose of the control group was to control for possible practice or trials effects in making baseline comparisons. It was anticipated that, for example, ability ratings might increase after repeated successes. To allow for this possibility, control subjects received three sets of trials with only outcome, not task ease, information. However, preliminary analyses revealed no effects of number of trials for any of the dependent variables ($p > .25$). Thus, no further mention of the control group will be made in this report.

Procedure.—The subjects were tested individually by one of two female experimenters in one 20-min session. They were first given practice with the rating scales. The scale for affect consisted of the large cardboard face used in study 1. The scale for ability, effort, and task difficulty ratings consisted of nine circles of increasing size.

The subjects were told that they would be performing a series of trials on a matching familiar figures task and general instructions were given. Then all subjects were given two practice trials after which they were given either success or failure feedback and were asked to make self-evaluative ratings. They were first instructed to show how they felt about their performance by moving the mouth on the cardboard face. They were then asked to point to the circle scale in response to the attribution questions: (1) ability—"How good do you think you were on those two picture puzzles?"; (2) effort—"How hard did you try on those two picture puzzles?"; and (3) task difficulty—"How hard do you think those two picture puzzles were?" The questions were asked in a random order for each subject.

Before the next four trials, the subjects received task ease information in addition to suc-

cess/failure feedback. Half of the subjects were told that the first two puzzles were very hard and that the last two puzzles were very easy. The other half received the task ease information in the reverse order. After each set of two trials, the subjects were reminded of the task ease information, were given outcome feedback, and were again asked to make the self-evaluative ratings. Finally, subjects in the failure condition were given two additional trials, which were supposedly very hard, and were told they had done very well.

Observation measures were also taken on each subject. While one experimenter was testing the subject, the second experimenter observed the subject through a one-way mirror and rated several nonverbal behaviors—number of smiles, general negative to positive facial expression, and general relaxation. The latter two measures were scored on nine-point scales. For 21 subjects, a second observer rated the child to determine the reliability of the measures. The correlations between the first two ratings for the two observers were quite high and were similar for the two age levels: $r = .81$ for number of smiles, $r = .72$ for facial expression. This correlation for general relaxation was only .55, and thus this measure will not be discussed further.

Results

The dependent variables were initially analyzed by means of $2 \times 2 \times 2$ mixed-model analyses of variance (age \times outcome \times task ease). Preliminary analyses including as factors the order of presenting task ease information and the sex of the subjects revealed no main effects of either variable and no interactions with order. Two interactions with sex were found (age \times sex for affect ratings, $p < .05$, and sex \times outcome \times task ease for task difficulty ratings, $p < .05$); but since they were not readily interpretable and do not affect other conclusions, they will not be further discussed.

Affect and attribution ratings.—The means corresponding to the cells of the initial analysis are presented in table 2. The presentation of the results will be organized around each of the independent variables.

Outcome information: If the children were using the outcome information as expected, they should have higher affect, ability, and effort ratings after success than after failure. In accordance with these predictions, there were significant main effects for affect and ability, $F(1,44) = 35.62$, $p < .001$; $F(1,44) = 11.21$, $p < .01$, respectively. However, the children did not rate their effort as higher after success than after failure, $F < 1$. It was also anticipated that the task would be rated as harder after failure than after success, and this

TABLE 2

MEAN AFFECT AND ATTRIBUTION RATINGS AS A FUNCTION OF AGE LEVEL, OUTCOME, AND TASK EASE INFORMATION: STUDY 2

| | GROUP | | | | | |
|-----------------------|---------|---------|-----------|---------|---------|-----------|
| | Young | | | Old | | |
| | Success | Failure | Marginals | Success | Failure | Marginals |
| Affect: ^a | | | | | | |
| Hard | 6.8 | 2.3 | 4.5 | 5.5 | -3.1 | 1.2 |
| Easy | 6.4 | 2.8 | 4.6 | 5.7 | -3.3 | 1.2 |
| Marginals | 6.6 | 2.5 | ... | 5.6 | -3.2 | ... |
| Ability: ^b | | | | | | |
| Hard | 8.0 | 7.5 | 7.6 | 7.2 | 4.3 | 5.8 |
| Easy | 7.4 | 8.1 | 7.8 | 7.3 | 3.8 | 5.5 |
| Marginals | 7.7 | 7.7 | ... | 7.3 | 4.0 | ... |
| Effort: | | | | | | |
| Hard | 7.0 | 7.2 | 7.1 | 8.3 | 7.7 | 8.0 |
| Easy | 6.6 | 8.0 | 7.3 | 6.8 | 7.7 | 7.3 |
| Marginals | 6.8 | 7.6 | ... | 7.6 | 7.7 | ... |
| Task difficulty: | | | | | | |
| Hard | 5.2 | 5.7 | 5.4 | 5.6 | 6.8 | 6.2 |
| Easy | 3.8 | 6.6 | 5.2 | 2.9 | 5.8 | 4.3 |
| Marginals | 4.5 | 6.1 | ... | 4.3 | 6.3 | ... |

^a The scale for affect ranged from -8 to +8.^b The scale for ability, effort, and task difficulty ranged from 1 to 9.

main effect was significant, $F(1,44) = 13.67, p < .001$.

On the basis of study 1 findings, age \times outcome interactions were also predicted, indicating that the ratings of the older children were more influenced by outcome information than were those of the younger children. The results showed significant interactions for affect, $F(1,44) = 4.88, p < .05$, and ability, $F(1,44) = 10.64, p < .01$. Consistent with study 1, in both cases, the main difference between the age groups was in the failure condition. The older children were much more negative about their affect and ability ratings after failure than were the younger children. These interactions did not approach significance for either effort ($F < 1$) or task difficulty ($F < 1$) ratings.

Task ease information: On the basis of the Weiner et al. model and the findings from study 1, it was predicted that children would make higher ratings of all variables when the task was described as difficult than when it was described as easy. That is, for example, given own success children should rate their ability as higher when others fail than when others succeed, and given failure they should rate their ability as less low when others also fail than when others succeed. These predictions were not supported in a simple way for any of the variables. Only for task difficulty ratings did the main effect of task ease approach significance, $F(1,44) = 3.43, p = .071$. There were, however,

two significant interactions for the effort ratings: age \times task ease and outcome \times task ease, $F(1,44) = 4.35, p < .05, F(1,44) = 8.95, p < .01$, respectively. The pattern of means shown in table 2 indicates that only the older children made the expected use of the task ease information. They attributed greater effort to themselves during a hard than during an easy task. However, this trend was only true if they succeeded. In contrast, the youngest children made highest effort ratings when they failed at an easy task.

Within-age analyses: Because the use of the information was expected to differ with age and because there were several age interactions, separate outcome \times task ease analyses were performed within each age level. For the younger children, only the main effect of outcome for affect ratings was significant, $F(1,22) = 4.89, p < .05$. Two other effects approached significance: (1) a main effect of outcome for task difficulty ratings ($p = .051$) and (2) an outcome \times task ease interaction for effort ratings ($p = .056$).

For the older children, main effects of outcome were significant for ratings of affect, ability, and task difficulty, $F(1,22) = 60.14, p < .001, F(1,22) = 23.23, p < .001, F(1,22) = 11.71, p < .01$, respectively. Main effects of task ease were significant in the predicted direction for ratings of effort, $F(1,22) = 4.87, p < .05$, and task difficulty,

$F(1,22) = 12.93, p < .01$. In addition, the outcome \times task ease interaction for effort ratings was significant, $F(1,22) = 4.87, p < .05$.

To further explore the older children's use of the task ease information, a post hoc comparison of the effort and task difficulty ratings was made with the baseline data, ratings after the practice trials. For the effort ratings, the results of a Tukey HSD test showed that the mean for the hard trials was significantly higher than the means for both the practice or the easy trials ($p < .05$). Thus, the older children used the task information in a logical way, perceiving themselves as having tried harder when the task was described as difficult than when it was easy or when they knew nothing about the difficulty of the task. For the task difficulty ratings, the results of the Tukey test showed that the mean for the easy trials was significantly lower than the means for both the practice ($p < .05$) and the hard ($p < .01$) trials. Thus once again, the ratings of the older children showed relatively fine distinctions among the different information conditions.

Intercorrelations: Correlations among the affect and three attribution ratings were computed within success and failure subjects separately. A significant correlation was observed only between affect and ability ($r = .44, p < .05$) for failure subjects. The intercorrelations among the attribution variables were quite low (.08-.22), suggesting that they can be considered reasonably independent variables in interpreting the results from the ANOVAs.

Observation ratings.—Correlations between number of smiles and facial expression were significant at the .01 level for both success and failure subjects. Thus, the ANOVAs cannot be considered two independent analyses, and caution should be exercised in interpreting the results.

The results of the $2 \times 2 \times 2$ ANOVAs showed significant main effects of outcome for both measures. The children smiled more and had more positive facial expressions after success than after failure, $F(1,44) = 4.76, p < .05$; $F(1,44) = 7.82, p < .01$, respectively. There were also significant or nearly significant age \times outcome interactions, indicating that only the older children were visibly affected by success/failure outcome: $F(1,44) = 6.59, p < .05$, for smiles, and $F(1,44) = 9.85, p < .01$ for expressions (see table 3 for means). No effects of task ease were observed. Thus, the pattern of results for the observation measures was very similar to those found for self-ratings of affect, thereby demonstrating cross-measure consistency in this construct. In addition, for failure subjects, significant correlations ($p < .05$) were observed

TABLE 3

MEAN OBSERVATION SCORES AS A FUNCTION OF AGE LEVEL AND OUTCOME: STUDY 2

| | GROUP | |
|--------------------|---------|---------|
| | Success | Failure |
| No. of smiles: | | |
| Young | 1.3 | 1.5 |
| Old | 2.2 | 0.6 |
| Facial expression: | | |
| Young | 5.7 | 5.8 |
| Old | 6.7 | 4.5 |

between affect ratings and both number of smiles ($r = .48$) and facial expression ($r = .46$), indicating further that the self-ratings and observations were measuring similar responses.

Discussion

This investigation provides some initial, exploratory data concerning the development of achievement-related self-evaluations in children. Three major findings emerged from the studies: (1) children's success/failure outcome had a strong and consistent effect on their self-evaluations and facial expressions, (2) the effect of task ease information was relatively weak, and (3) the use of outcome and task ease information varied with age.

With regard to the first point, the children perceived themselves as happier and more able, and perceived the task as easier, when they thought they had succeeded than when they thought they had failed. These results are consistent with previous research with adults (Weiner & Kukla 1970) and with commonsense expectations concerning the impact of success and failure on self-evaluations. Only ratings of effort were not affected by the outcome information. The effort ratings were on the average very high, indicating that children may be unwilling to admit to an adult that they did not try. It is also possible that, since the children actually performed the task themselves, they made independent judgments about effort. That is, they had internal knowledge of how hard they tried, and the outcome information provided by the experimenter may have been relatively unimportant to their ratings.

The findings with regard to social norm/task ease information were not consistent across the two studies. In study 1, affect ratings were influenced by social norm information in the predicted direction, at least for the older children, while such effects were not observed in study 2. Instead, in the second study, information concern-

ing the ease of the task was relevant only to effort and task difficulty ratings primarily for the older children. Both studies clearly indicated that success/failure outcome was a more important determinant of self-evaluative responses than was information concerning the difficulty of the task. It thus appears that, at least in this kind of laboratory situation, children are quite attentive to how well they have performed for most of their ratings, but information about the task is of only secondary relevance, at best. A similar trend was reported in a recent study with adults (Luginbuhl, Crowe, & Kahan 1975).

The results of these studies seem to suggest that the combinations of outcome and task ease information presented did not consistently produce the patterns of internal or external attributions predicted by the Weiner et al. (1971) model, at least not in study 2. However, such a conclusion must be qualified by the fact that the two studies differed in the type of task information presented and may have thus produced differential orientations to the task and to the judgments. For example, the task ease information of study 2 may have focused attention on the task to the exclusion of evaluating the self. That is, social norms may lead individuals to think evaluatively about their performance more than does straight task-directed information. In addition, the task ease manipulation in study 2 may have been relatively weak. That is, it may be easier to ignore a simple statement about the ease or difficulty of the task once one has tried the task than it is to discount information that most or few others have done well at the task. Finally, differences in the samples may, in part, account for discrepancies in the findings of the two studies.

With regard to the third major finding, age differences appeared in many variables, though these were not always strong enough to result in significant interactions with age. First, both the self-rating and facial expression measures indicated that older children made more use of the outcome information than did younger children. For the ratings, this difference was reflected almost entirely in the failure condition. Why age differences should occur only for failure conditions is not completely clear. It is possible that the relatively high scores after success reflect a ceiling effect. It is also possible that young children have differential experience with success and failure. That is, failures, and the social disapproval and punishment associated with failure, probably increase substantially once children enter school. Alternatively, young children may be so accustomed to failing at many things they try, because of limited abilities and lack of coordination, that one more failure has relatively little impact.

Second, in both studies, the task ease information significantly influenced the ratings only of children 8 years or older. This finding is consistent with the theoretical reasoning of Veroff (1969) and suggests that the judgments of children under 7 seem to be based primarily on success/failure outcome, with attributional processes involving social norm or task ease information increasing in importance with age. However, it is important to be cautious in drawing developmental conclusions, since the age \times task ease interaction reached significance only for effort ratings. In addition, the findings should not lead to the conclusion that children under 8 cannot make use of social norm or task ease information—only that they did not in this laboratory situation using a particular kind of response measure. Further research employing more naturalistic situations and response measures, or making task-related information more salient, is necessary before more definitive conclusions can be drawn.

In sum, the findings of this research suggest that the information-attribution-affect link described by Weiner et al. (1971) may not develop until after the child enters school. Such developmental trends have potentially important implications for maximizing children's affective reactions and feelings of competence during the early years of school. For example, a teacher's attempts to minimize the negative impact of failure by saying that the task was very difficult or that most other children did poorly may not be effective for very young children. As a second example, the data on ability ratings suggest that young children may perceive their failures as quite unstable—that is, not having an impact on evaluations of ability, a fairly stable quality. An important question is when and why failures begin to have more stable self-concept implications.

Reference Notes

1. Dinner, S. H. Social comparison and self-evaluation in children. Unpublished doctoral dissertation, Princeton University, 1976.
2. Parsons, J. E., & Ruble, D. N. Attributional and cognitive processes underlying the development of achievement-related expectancies. Manuscript submitted for publication, 1975.

References

- Ginsburg, H., & Opper, S. *Piaget's theory of intellectual development*. Englewood Cliffs, N.J.: Prentice-Hall, 1969.
- Kun, A.; Parsons, J. E.; & Ruble, D. N. Development of integration processes using ability and effort information to predict outcome. *Developmental Psychology*, 1974, 10, 721-732.

- Luginbuhl, J. E. R.; Crowe, D. H.; & Kahan, J. P. Causal attributions for success and failure. *Journal of Personality and Social Psychology*, 1975, 31, 86-93.
- Riemer, B. S. The influence of causal beliefs on affect and expectancy. *Journal of Personality and Social Psychology*, 1975, 31, 1163-1167.
- Ruble, D. N.; Feldman, N. S.; & Boggiano, A. K. Social comparison between young children in achievement situations. *Developmental Psychology*, 1976, 12, 192-197.
- Veroff, J. Social comparison and the development of achievement motivation. In C. P. Smith (Ed.), *Achievement-related motives in children*. New York: Russell Sage, 1969.
- Weiner, B.; Frieze, I.; Kukla, A.; Reid, L.; Rest, S.; & Rosenbaum, R. *Perceiving the causes of success and failure*. New York: General Learning, 1971.
- Weiner, B., & Kukla, A. An attributional analysis of achievement motivation. *Journal of Personality and Social Psychology*, 1970, 15, 1-20.
- Zelniker, T.; Jeffrey, W. E.; Ault, R.; & Parsons, J. Analysis and modification of search strategies of impulsive and reflective children on the Matching Familiar Figures Test. *Child Development*, 1972, 43, 321-337.