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Learned Helplessness in Black and White Children Identified by Their Schools as Retarded and Nonretarded: Performance Deterioration in Response to Failure

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The life experience of retarded children may heighten susceptibility to learned helplessness. Earlier literature has supported this hypothesis but has failed to demonstrate a key feature of the helplessness syndrome: performance deterioration in response to failure feedback. This study was designed to fill this gap. Children who had been identified by their school systems as retarded and nonretarded but were similar in mental age were administered a series of concept formation problems designed to reveal the children's use of strategies. When feedback was veridical the groups did not differ in their use of effective strategies, but when feedback became consistently negative the groups diverged markedly. Under negative feedback, retarded children showed striking deterioration in strategy usage ($p < .001$), but nonretarded children showed no deterioration. Consistent with these findings, teachers rated retarded children as significantly more helpless than their nonretarded peers on a checklist of relevant school behavior. Additional findings suggested that black retarded children may be more susceptible to helplessness than are their white counterparts. Finally, group differences in children's verbalizations during problem solving bore little relation to group differences in actual performance. Overall, the findings point to helplessness deficits in retarded children that may interfere significantly with expression of their actual abilities.

The learned-helplessness model (see Abramson, Seligman, & Teasdale, 1978) provides an explanation of certain behavioral deficits that do not result directly from deficient ability. Deficits in perseverance and even in problem-solving effectiveness, the model suggests, can result from a learned perception that one cannot control outcomes. Such a perception, known as "learned helplessness," has been shown to be caused by repeated failure to exercise control (see Seligman, 1975) and by feedback suggesting that failures result from stable, uncontrollable factors, such as insufficient ability (see Dweck & Goetz, 1978).

Some literature suggests that retarded children experience more failure and more helplessness-inducing feedback than do their nonretarded peers and are thus more susceptible to learned helplessness (see Weisz, 1979, in press b). Prominent investigators of retardation (Cromwell, 1963; Zigler, 1971) have concluded that retarded children experience a disproportionately high incidence of failure. In part because adults often base behavioral expectations on children's chronological age, retarded children are said to pass through "a lifetime characterized by frequent confrontations with tasks with which [they] are intellectually ill-equipped to deal" (Zigler, 1971, p. 83). If this view is correct, the retarded child's experience over years of development bears a marked resemblance to the successive failures used by investigators to induce helplessness in experiments with children (e.g., Diener & Dweck, 1978; Dweck & Bush, 1976; Rholes, Blackwell, Jordan, & Walters, 1980).

In addition to frequent failure, mentally

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retarded children may also encounter more helplessness-inducing feedback than do nonretarded children. Raber and Weisz (in press) found that the negative feedback received by retarded children from their teachers in reading groups focused on the intellectual quality of the children's work more often than was the case with nonretarded children.[1] Dweck, Davidson, Nelson, and Enna (1978) showed that such high densities of intellectually relevant negative feedback from teachers are associated with helplessness in children. Such a pattern presumably leads children to interpret negative feedback generally as indicative of deficient ability—a stable, uncontrollable factor. In addition to feedback from adults,[2] undiplomatic remarks from nonretarded peers and the more formal school-mediated feedback inherent in being labeled and assigned to a "resource room" may convey to retarded children the message that regular academic activities are too difficult for them.

Recent research points to helplessness deficits in retarded children but only at relatively high levels of mental age (MA). For example, Weisz (1979) found that among retarded and nonretarded children averaging 9½ years in MA, the retarded children showed significant deficits on a measure of voluntary response initiation: such deficits were not found at lower MA levels. Gibson (1980) compared failure attributions of retarded and nonretarded children at MA 9 years and found that the retarded children were much more likely to blame the uncontrollable factor of low ability. In general, evidence at relatively high MA levels shows that retarded children are more helpless than are nonretarded children, but the limited evidence at low MA levels does not show retarded children to be more helpless than are nonretarded children (for a more detailed review, see Weisz, in press b). This pattern was interpreted by Weisz (1979) as evidence for a developmental hypothesis—that is, that retarded children learn helplessness over years of development.

The findings of Gibson (1980) and Weisz (1979) demonstrate the potential applicability of the helplessness model to the behavior of retarded children at relatively high MA levels. Yet the findings present an incomplete picture because they were not derived from an experimental paradigm involving induction of helplessness via a series of uncontrollable aversive experiences. An example of this more definitive procedure is found in Diener and Dweck (1978). These investigators presented fifth graders with a series of concept formation problems, the last four of which were unsolvable. Helpless and nonhelpless children (distinguished by their causal attributions on a questionnaire) did not differ in performance on solvable problems. But on unsolvable "failure" problems, helpless children showed deterioration in their use of effective strategies, whereas nonhelpless children held their own and in some cases improved. Both groups were also trained to "think out loud" as they worked. During failure problems, helpless children verbalized ineffectual strategies, negative affect, and attributions (especially to inadequate ability), whereas nonhelpless children verbalized self-instructions and self-monitoring and made few attributions. The Diener-Dweck study illustrates that helplessness may be revealed rather vividly when we carefully monitor children's reactions to experimentally induced difficulty and failure. Such a procedure has evidently not been used in helplessness research with retarded children.

The present study was designed partly to fill this gap. Children classified by their school system as retarded and nonretarded and who averaged 9½ years in MA attempted a series of concept formation problems—six solvable problems followed by four that defied solution. The experimenter

[1] The "mentally retarded" label alone can lead adults to ascribe a child's failure to the stable, uncontrollable factor of low ability (Severance & Gasstrom, 1977), even when the information provided indicates that the retarded and nonretarded child being compared are at the same level of ability (Weisz, in press a).

[2] Paris and Cairns (1972) provided further evidence on the classroom feedback that retarded children receive. They observed teacher-to-child feedback in six classes for educable mentally retarded children and found that positive evaluations were given more often and more indiscriminately, and were less contingent on children's behavior, than were negative evaluations. Unfortunately for present purposes, the study did not include comparisons involving nonretarded children.

monitored the children's ongoing use of strategies. Learned helplessness was operationally defined as a decline in the use of effective strategies over the course of the four failure problems, and it was predicted that retarded children would show such declines to a more marked degree than would nonretarded children.[3]

Children were also trained to "think aloud" as they worked at the problems, but previous evidence did not permit a prediction regarding the resulting verbalizations. Although Diener and Dweck (1978) found a strong relationship between verbalizations and task performance, several other investigators (surveyed by Bem, 1972, and by Nisbett & Wilson, 1977) found essentially no relationship. Because the Diener-Dweck findings are so striking, their procedure was used here, but because of the negative evidence from most other studies, the data were regarded as essentially exploratory.

Finally, a Helpless Behavior Checklist was filled out for each child by his or her teacher. A teacher questionnaire used by Weisz (1979) revealed no significant differences between retarded and nonretarded children, but items were complex and seemed to evoke comparisons of children with others of the same class (i.e., retarded children with other retarded children and nonretarded children with other nonretarded children). Moreover, there were only 10 items, some having very low base rates of occurrence. To deal with these problems, an 18-item checklist was constructed from a pool of behavior nominated by teachers as frequently occurring manifestations of helplessness. On this checklist, retarded children were expected to score as significantly more helpless than nonretarded children of similar MA.

In addition to gauging retarded–nonretarded differences, the study assessed racial differences. It is common in research with retarded populations for experimenters to test low-IQ samples that include substantial numbers of black children; yet race differences in performance are rarely examined in such research, despite evidence suggesting that black and white children classified as retarded may be quite different in their capacity for various kinds of adaptive behavior. For example, Mercer (1973) found that the proportion of black children (but not white children) classified as retarded declines markedly if one adds adaptive behavior scores to IQ in the classification process. Apparently, the ability of black children to adapt successfully to various task demands may be underestimated when performance expectations for such children are based on IQ alone. This suggests that in the present study, black children of low IQ might be less likely than white children of low IQ to show maladaptive behavior in the form of learned helplessness. On the other hand, to be a member of a racial minority and at the same time to be labeled "retarded" may well expose chidren to heavy doses of precisely the kinds of uncontrollable adverse events that heighten susceptibility to helplessness. Given the makeup of the student population sampled here, it was possible to treat IQ level and race as orthogonal factors, thus structuring what is evidently one of the first assessments of learned helplessness as a function of race.

Method

Experimental Design and Subject Selection

The 2 (IQ Group) × 2 (Race) factorial design included 40 children, with 6 boys and 4 girls in each of 4 cells. All of the children were students in a semirural school system where the majority of adults in the area were employed in factories or on farms. The MA and IQ scores were obtained in individual testing by two white young adult experimenters, one male and one fe-

[3] The literature on retarded children's responses to failure was only tangentially related to this prediction. Some evidence suggests that retarded children, particularly those who are socially responsive, react less appropriately to failure on a variety of tasks than do nonretarded children of similar ability (e.g., Butterfield & Zigler, 1965; Gardner, 1966), but other studies do not show retarded children to be inferior in this respect (e.g., Kass & Stevenson, 1961; MacMillan, 1970). But all of these studies with retarded children employed simpler tasks than the complex concept formation activities used here. Further, these studies were generally focused on the end products of children's reasoning (e.g., number of trials to criterion) following failure, whereas the present study concerns the process of reasoning during failure. Thus, although the previous literature on retarded children's reactions to failure bears a general conceptual resemblance to the problem addressed here, significant methodological differences made it inappropriate to base predictions for the present study on that body of literature.

male, using the Peabody Picture Vocabulary Test (Dunn, 1959), the instrument approved by the school system for this purpose. Mean IQs and MAs for each group are shown in Table 1. In the nonretarded group, MAs ranged from 7 years 8 months to 10 years 10 months, and IQs ranged from 87 to 127. In the retarded group, MAs ranged from 7 years 8 months to 11 years, and IQs ranged from 63 to 83. Retarded children whose school records showed evidence of organic impairment were excluded from the sample (for the rationale, see Weisz, 1976). All of the retarded children were mainstreamed in classes with nonretarded children during part of each school day and placed in resource rooms at other times. All of them had been tested and classified by their school systems as "educable mentally retarded," hence our use of the term "mentally retarded" in labeling this group. It should be noted, however, that the retarded group's mean IQ of 73.5 is higher than the traditional cutoff point of 70; thus caution is advised in extrapolation of the present findings to groups of children who uniformly fall below this more traditional cutoff point.

Black and white children did not differ significantly in IQ or MA, nor did retarded and nonretarded children differ significantly in MA. Over the full sample, race and IQ were orthogonal (point-biserial $r < .08$).

Concept Formation Task

The concept formation task was patterned after one used by Weisz (1977). It was a two-choice discrimination learning task involving four stimulus dimensions. There were six training problems and four test (failure) problems. Each problem consisted of a stack of 25 white 7½ × 15 cm cards. On each card two stimuli appeared side by side; the two stimuli differed in shape, color, size (bigger and smaller), and letter (i.e., each stimulus had a single letter of the alphabet in its center). Within any problem, the same shapes, colors, sizes, and letters were paired on each of the trials. The child's task was to point to one of the two stimuli on each card and use the feedback "right" or "wrong" to figure out eventually the "correct answer"—that is, one of the shapes, colors, sizes, or letters. After initial training, the introduction of a "blank trials" procedure, in which feedback was withheld on selected blocks of trials, made it possible to monitor the strategies the child was using. During training it was emphasized that when the experimenter said nothing it meant neither right nor wrong. Considerable evidence indicates that under such conditions people respond to an absence of feedback by maintaining their previous response (see, e.g., Frankel, Levine, & Karpf, 1970). The arrangement of stimuli permitted solution-oriented hypotheses to be distinguished from position perseveration and position alternation, two repetitive response sets that children in the MA range sampled here often show when attempting to do problems like these (see, e.g., Gholson, Levine, & Phillips, 1972).

Table 1
Mean IQ Mental Age, and Helpless Behavior Checklist Scores

Measure	Retarded		Nonretarded	
	Black	White	Black	White
IQ	73.2	73.8	99.4	103.5
Mental age (in months)	114.0	112.3	110.2	114.3
Helpless Behavior Checklist[a]	16.2	16.6	6.2	11.2

[a] Scores could range from 0 (minimum helplessness) to 38 (maximum helplessness).

Procedure for Concept Formation Task

Training problems. Three to 5 weeks after IQ assessment, each child was individually administered the concept formation task by the experimenter who had not yet seen that child. To ensure that all children understood the task well, six training problems were used, following the procedure used by Weisz (1977). Training Problems 1 and 2 were administered with feedback provided on every trial. Feedback for Problem 3 was given on every third trial, for Problem 4 on every fourth trial, and for Problems 5 and 6 (as well as all test problems) on every fifth trial. On each training problem, children were given up to two "hints," according to a prearranged schedule, to facilitate progress toward solution.

To introduce the blank-trials procedure, the experimenter told the child—prior to the third training problem—that for some cards there would be no feedback. "Don't let this bother you," the child was told. "You just keep trying to be right all the time." The "think aloud" procedure was introduced prior to Training Problem 5. The experimenter told the child to say out loud whatever he or she was thinking. It was emphasized that some students may say they are hungry or cannot wait for school to be over, whereas others may talk about figuring out the right answer to the problems or about how hard the problems are. The child was told, "Anything you say is okay." To encourage continued verbalization (pilot work revealed a tendency to forget about self-reporting over the course of several problems), the children were reminded after the third and fifth feedback on each problem to tell the experimenter what they were thinking.

Test problems. The four test problems resembled Training Problems 5 and 6 in format, except that the child went through each 25-card deck only once. On every feedback trial the child was told, "Wrong." This permitted the experimenter to monitor strategy changes in response to ongoing negative feedback.

Posttest problems and performance feedback. To alleviate any distress caused by the test problems, the experimenter proceeded through two posttest problems, which were structurally similar to the test problems except that the children were told, "Right," on four of the five feedback trials of each problem. Then, to alleviate concerns about the failure problems, the children were told: "You were doing so well at the beginning that I wanted you to try the hardest problems I have. Those were the problems in the middle, and they are *very hard*, even for adults. On the problems that were made for

kids your age you did *very well*. In fact, you did so well that you get a prize." Overall, the experience of learning a skill, applying it in the face of difficulty and negative feedback, and finally succeeding and winning a prize seemed to leave the children feeling satisfied and often proud.

Teacher Ratings

Finally, the Helpless Behavior Checklist was filled out for each child. The 18 items were derived from a list of 29 items nominated by eight public school teachers (none involved in the present study) as frequently occurring manifestations of (a) inappropriate attribution of difficulty or failure to uncontrollable factors (e.g., "Says 'I can't do it' when s/he has trouble with her/his work" or (b) deficient perseverance (e.g., "When s/he runs into difficulty, s/he gives up and quits trying"). Three raters who were familiar with the learned-helplessness literature rated each nominated item for its appropriateness as an index of helplessness. The final 18 items were those that all of the raters deemed appropriate. In rating their pupils, the teachers used ratings of 0 ("not true of this child"), 1 ("somewhat or sometimes true"), and 2 ("very true or often true"). Each child was rated by the teacher in whose class the child spent the most time. A disadvantage of this procedure was that it meant that most retarded children were rated by special education teachers, whereas no nonretarded children were. But this disadvantage was counterbalanced by the need to have each child rated by the teacher with the greatest exposure to the child's school behavior.

Scoring Systems

Effective and ineffective strategies. Response patterns during each blank-trial block of the last two training problems and all four test problems were classified as reflecting either effective or ineffective strategies. *Effective strategies* were those that would, in principle, lead to solutions. Such strategies (described in detail by Diener & Dweck, 1978, and by Gholson et al., 1972) include "hypothesis checking," in which the child tests one possible solution hypothesis per feedback, and "dimension checking," in which feedback is used to test more than one hypothesis at a time. *Ineffective strategies* are response patterns that, in principle, will never lead to solution. These included four general "stereotypes" (see Gholson et al., 1972), for example, consistent selection of the stimulus on one side of the card. Instructions and training repeatedly stressed that only stimulus shape, color, letter, and size were relevant to solution and that negative feedback meant the hypothesized cue could not be the correct answer. The ineffective strategies were all inconsistent with what the children had been told and trained to do.

Verbalizations. A 2 (IQ Group) × 2 (Race) analysis of variance (ANOVA) revealed that white children verbalized more than black children did during test problems, $F(1, 36) = 5.79$, $p < .05$ ($M = 7.1$ and 3.6, respectively). To prevent these group differences from influencing group differences in the content categories listed below, the frequency of each category was expressed as a proportion of total verbalizations. To facilitate comparison with earlier findings, an effort was made to use most of the categories employed by Diener and Dweck (1978). One rater, unfamiliar with the study and unaware of any child's group membership, coded verbalizations for all of the subjects. A second rater, also unfamiliar with the study and with subject characteristics, coded verbalizations for half of the sample. The reliability figure for each category (reported in parentheses below) is the percentage of verbalizations coded into that category by the first rater that were also coded into that category by the second rater. Reliabilities were high, so only the first rater's data were used in the analyses. The categories were: *statements of useful task strategy* (reliability of 88%), *statements of ineffective strategy* (100%), *attributions to uncontrollable factors* (91%), *self-monitoring* (71%), *statement of positive affect* (100%), *statements of negative affect* (100%), *requests for assistance* (83%), and *solution-irrelevant statements* (97%). Two categories used by Diener and Dweck were not used here: Their *self-instructions* category accounted for virtually no responses in this sample, and *positive prognostic statements* virtually always occurred in conjunction with *self-monitoring* (e.g., "I think I know the answer now," "I think I'm catching on").

Results

Initial ANOVAs of the Helpless Behavior Checklist and strategy scores and initial multivariate analyses of variance (MANOVAs) of verbalization data (see below), included sex as a factor. The ANOVAs revealed no significant sex effects. The MANOVAs revealed only a complex Group × Race × Sex interaction ($p < .05$), with only one of the eight component univariate tests significant. Parallel analyses treating the experimenter as an independent variable and covarying IQ group and race revealed no significant experimenter effects. Thus sex and experimenter are not included in the following analyses.

Helpless Behavior Checklist

Scores on the Helpless Behavior Checklist could range from 0 to 36, with higher scores reflecting greater helplessness. Scores were subjected to a 2 (Group) × 2 (Race) ANOVA. The only significant finding was the predicted main effect of group, $F(1, 36) = 6.12$, $p < .05$, with the retarded children rated as showing more helpless behavior than nonretarded children ($M = 16.4$ and 8.7, respectively; see Table 1). The checklist com-

prised six items involving helpless attributions and 12 involving deficits in perseverance. Subscale scores for these two components were analyzed in separate 2 × 2 ANOVAs. Neither ANOVA yielded significant main or interaction effects involving race, but both ANOVAs yielded significant group effects. Retarded children, compared with their nonretarded peers, were rated as showing more deficits in perseverance (M = 10.9 vs. 6.4), $F(1, 36) = 4.12$, $p < .05$, and making more attributions to uncontrollable factors (M = 5.5 vs. 2.3), $F(1, 36) = 10.89$ $p < .01$. As might be expected from these findings, the attribution and perseverance subscale scores were highly correlated within both the retarded and the nonretarded groups (rs = .84 and .89, respectively; both ps < .001).

Strategy Usage on Concept Formation Problems

Performance prior to failure. Although the groups had been roughly equated on general ability by the matching of MA, it was useful to determine whether they differed in the specific skills required for the problems used here. To make this assessment, four measures of performance during the training problems were used: number of training problems solved, mean number of trials to criterion on problems solved, number of hints (steps of graded help) required across all training problems, and percentage of blank trial blocks on which children used effective strategies during Training Problems 5 and 6. The fourth measure was regarded as particularly important because it was also the key dependent variable during test problems, and the blank-trial blocks on Training Problems 5 and 6 were structurally identical to those on the test problems (i.e., each involved four no-feedback trials followed by a single feedback trial). A series of 2 (Group) × 2 (Race) ANOVAs on these four training measures revealed no effects of even marginal significance. Thus evidence generated prior to the onset of consistent failure feedback indicates that the groups did not differ in ability to solve or to use effective strategies on the problems.

Performance during failure. On test problems, however, when feedback became consistently negative, the groups behaved quite differently. The percentage of effective strategy blocks was subjected to a 2 (Group) × 2 (Race) × 2 (Test Problems 1 and 2 vs. 3 and 4) repeated measures ANOVA, with test problems as the trial factor. A significant trial main effect showed that performance deteriorated from early problems (mean percentage of effective strategy blocks = 61.1) to late problems (M = 54.1), $F(1, 36) = 4.89$, $p < .05$. In addition, a Group × Trial interaction, $F(1, 36) = 5.25$, $p < .05$, revealed that deterioration in performance occurred only in retarded children (whose mean declined from 62.4 to 48.2), not in the nonretarded (whose mean actually increased slightly from 59.8 to 60.0). This interaction, consistent with the primary prediction of the study, was further explored via planned t tests comparing strategy usage on Test Problems 1 and 2 with that on Test Problems 3 and 4 for retarded and nonretarded children considered separately. Nonretarded children showed no significant change, $t(19) < 1$, $p > 5$. Retarded children showed a highly significant decline, $t(19) = 4.30$, $p < .001$. The patterns for both groups are shown in the inset in Figure 1.

Figure 1 also shows that race played a complicating role in the findings. A significant Race × Group interaction, $F(1, 36)$, = 4.94, $p < .05$, reflected differences in strategy usage averaged across all four test problems. Among whites, the retarded children used effective strategies less often than did the nonretarded (Ms = 52.6 and 69.5), but among blacks, the retarded children used more effective strategies than did the nonretarded (Ms = 58.0 and 50.3). Yet a significant Race × Group × Trial interaction, $F(1, 36) = 7.26$, $p < .05$, revealed that the group scoring lowest overall—nonretarded black children—was in one respect the most resilient of the four groups. As depicted in Figure 1, the other three subject groups all showed declines in their use of effective strategies from early to late test problems, but nonretarded black children improved. Both black and white nonretarded children showed relatively high within-group variability, and the change in strategy usage from early to late test problems was not sig-

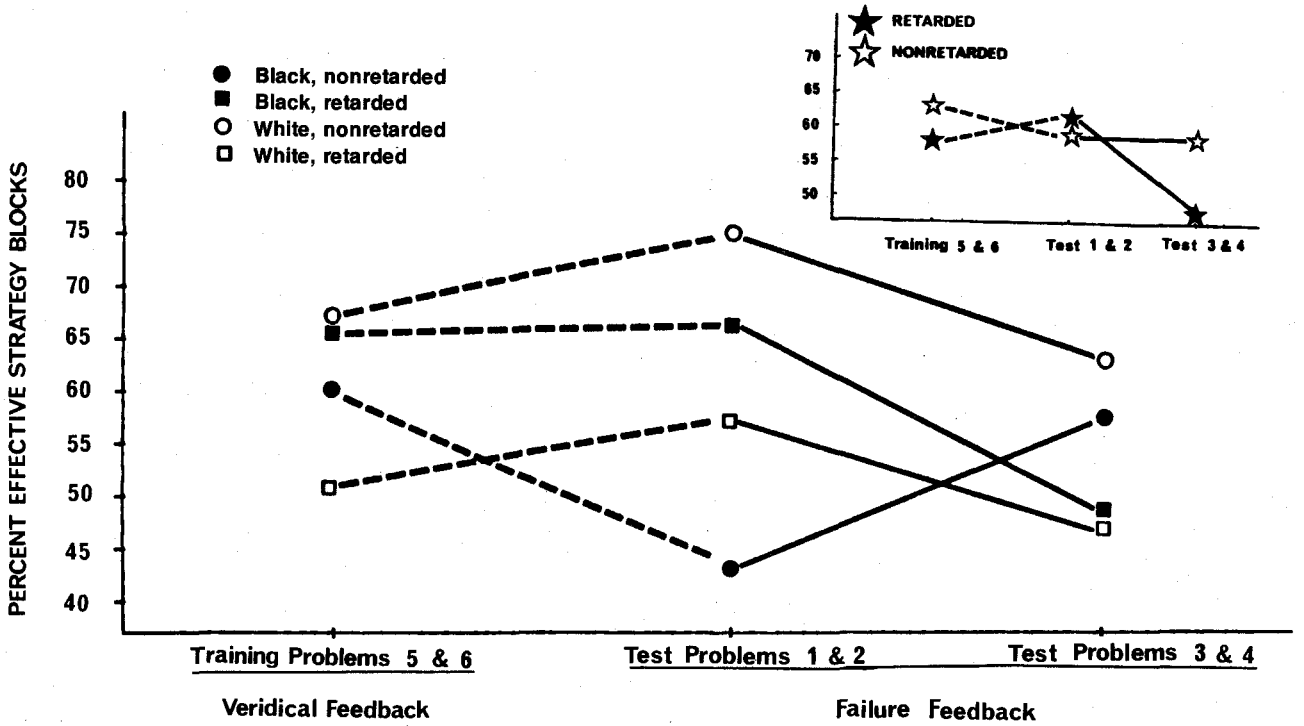

Figure 1. Mean percentage of blank-trial blocks on which effective strategies were used. (Main portion of figure shows the Group × Race × Trial interaction [$p < .05$]. Inset shows the predicted Group × Trial interaction [$p < .05$]; retarded children showed significant performance declines during failure problems [$p < .001$], but nonretarded children did not.)

nificant for either group, $ts(9) < 1.9$, both $ps > .10$. The decline in effective strategies within the two retarded groups attained a significance level of .06, $t(9) = 2.16$, for white children and .003, $t(9) = 4.07$, for black children. Thus both black and white retarded children showed learned helplessness in the form of performance deterioration under failure feedback, but the helplessness was more pronounced among black than among white retarded children.

Verbalizations During Problem Solving

To determine whether groups differed in the nature of their comments prior to the test problems, a 2 (Group) × 2 (Race) MANOVA was conducted on the eight verbalization categories for Training Problems 5 and 6. Multivariate effects of group, race, and their interaction were all nonsignificant. A parallel MANOVA was conducted for verbalizations during the four test problems. It revealed no significant main effects of group or race, but it did reveal a significant Group × Race interaction, $F(8, 29) = 2.97$, $p < .05$. Univariate tests of the interaction on the eight verbalization categories revealed significant effects only on solution-irrelevant statements, $F(1, 36) = 4.00$, $p < .05$, and self-monitoring, $F(1, 36) = 4.95$, $p < .05$. Among whites, nonretarded children made solution-irrelevant statements relatively more often than did retarded children (Ms = .25 and .08), but among blacks, nonretarded children made such statements relatively less often than did retarded children (Ms = .10 and .31). Similarly, among whites, nonretarded children showed relatively more self-monitoring than did retarded children (Ms = .25 and .08), but among blacks, nonretarded children showed relatively less self-monitoring than did retarded children (Ms = .04 and .18). These findings, considered in the light of the performance data reported earlier, indicate that the group that scored lowest in overall strategy usage but was alone in showing improvement over test trials—nonretarded black children—showed a very low incidence of self-monitoring and solution-irrelevant statements. But in general, verbalization data shed little light on task performance data.

Discussion

The findings support the two predictions advanced at the outset of the study: Retarded children were rated by teachers as showing more helpless behavior than nonretarded children of similar MA, and changes in the children's performance during test problems supported the teachers' judgments. Although retarded and nonretarded children evidently did not differ in ability to use effective strategies, the two groups diverged sharply in performance under failure feedback: In response to failure, retarded children showed significant deterioration in strategy usage, whereas nonretarded children did not.

The findings support and extend earlier evidence (Weisz, 1979) on learned helplessness in retarded children, namely, that retarded children of relatively advanced MA showed greater learned helplessness than did MA-matched nonretarded children on three separate helplessness measures. Yet those measures did not include teacher assessment of in-class behavior or direct experimental assessment of performance change in response to failure—both of which, in the present study, yielded further evidence that retarded children are especially susceptible to helplessness. These results, derived as they are from children of relatively high MA, are what one would expect from the developmental hypothesis advanced earlier by Weisz (1979)—that retarded children learn helplessness over years of development. To support that hypothesis more directly, however, future research will have to demonstrate that the kinds of helplessness-related retarded–nonretarded differences found here are more pronounced at upper than at lower MA levels.

It would also be useful to explore the degree to which extremes of IQ are related to susceptibility to helplessness. In the present sample, the nonretarded groups were not extremely high in IQ, nor were the retarded groups extremely low. If one were able to probe for helplessness in multiple groups differing markedly in IQ but matched for MA, it would be possible to test two alternative interpretations of the present findings: (a) that the retarded child's susceptibility to

learned helplessness derives from a roughly linear relation between helplessness and IQ, so that helplessness grows more pronounced the more limited one's rate of intellectual growth is, and (b) that the retarded child's susceptibility to helplessness derives primarily from environmental contingencies associated with being identified as "retarded," so that within groups that have and groups that have not been so identified, variations in IQ are not related to helplessness.

Future research should also be addressed to the role of race. Of the four groups in the present study, retarded black children showed the most pronounced strategy deterioration during test problems, whereas nonretarded black children, whose initial performance under failure feedback was poorest of all, showed the only improvement in strategy usage. One explanation for these relatively extreme reactions of the two groups is that for black children, being indentified as "retarded" or "special" has a particularly negative impact, whereas avoiding this label has a particularly positive effect. For the child who is already coping with minority status, to be stigmatized as mentally retarded and assigned to a resource room may represent a kind of double jeopardy that heightens susceptibility to learned helplessness. An alternative interpretation is that the performance of retarded black children was depressed by the fact that they were tested in this experiment by white adults. Research by Katz and colleagues (e.g., Katz, Roberts, & Robinson 1965) suggests that in anxiety-provoking situations where black subjects believe they are not doing well, performance improves with a black tester. Although the race findings are difficult to interpret with confidence at this point, they do underscore an important methodological caveat: Research on control-related behavior in retarded populations that include both black and white children may miss a significant source of variance if the role of race is ignored.

The least encouraging data were those generated by the "think aloud" procedure. Children's verbalizations showed little relation to their task performance. These findings are inconsistent with those of Diener and Dweck (1978), who found several theoretically meaningful relationships, but they are consistent with those of a number of other investigators. Bem (1972) and Nisbett and Wilson (1977) reviewed studies involving both verbal reports and behavioral measures and found virtually no evidence of a relationship. Surveying such findings, Wortman and Dintzer (1978) expressed "grave doubts" about the assumption made by helplessness theorists (cf. Abramson et al., 1978) that there is a clear relationship between such verbal behavior as attributions, on the one hand, and actual performance, on the other. The "think aloud" data from this study tend to reinforce these doubts, at least with respect to the relation between behavior and attributions during an experiment. Data from the attributional component of the Helpless Behavior checklist, however, suggest that retarded children may in fact make more of the attributions associated with helplessness than do nonretarded children within the context of everyday school behavior. Moreover, when teachers rated children—retarded or nonretarded—as likely to make attributions to uncontrollable factors, they tended to rate those same children as showing the kinds of perseverance deficits characteristic of helplessness. Thus evidence based on teachers' observations of the children supports the view that attributions and learned helplessness are related.

Overall, the findings are consistent with a growing body of evidence (Floor & Rosen, 1975; Gibson, 1980; Weisz, 1979; Butkowsky & Willows, Note 1) indicating that children who show deficits in intellectual and academic performance are often burdened, in addition, by pronounced susceptibility to learned helplessness. A particularly experienced teacher of retarded adolescents recently summarized his view of a central problem his pupils face: "These kids go into any new situation expecting to fail; when the going gets tough, they quit trying" (Melton, Note 2). The learned-helplessness model may help explain and ultimately remedy such deficits.

Reference Notes

1. Butkowsky, I. S., & Willows, D. M. *Learned helplessness in children with reading difficulties.* Paper

presented at the meeting of the American Educational Research Association, San Francisco, August 1977.

2. Melton, R. Personal communication, June 17, 1979.

References

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 1978, *87*, 49–74.

Bem, D. J. Self perception theory. In L. Berkowitz (Ed.), *Advances in experimental psychology* (Vol. 6). New York: Academic Press, 1972.

Butterfield, E. C., & Zigler, E. The effects of success and failure on the discrimination learning of normal and retarded children. *Journal of Abnormal Psychology*, 1965, *70*, 25–31.

Cromwell, R. L. A social-learning theory approach to mental retardation. In N. R. Ellis (Ed.), *Handbook of mental deficiency*. New York: McGraw-Hill, 1963.

Diener, C. I., & Dweck, C. S. An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology*, 1978, *36*, 451–462.

Dunn, L. M. *The Peabody Picture Vocabulary Test*. Minneapolis, Minn.: American Guidance Service, 1959.

Dweck, C. S., & Bush, E. S. Sex differences in learned helplessness: I. Differential debilitation with peer and adult evaluators. *Developmental Psychology*, 1976, *12*, 147–156.

Dweck, C. S., Davidson, W., Nelson, S., & Enna, B. Sex differences in learned helplessness: II. The contingencies of evaluative feedback in the classroom. III. An experimental analysis. *Developmental Psychology*, 1978, *14*, 268–276.

Dweck, C. S., & Goetz, T. E. Attributions and learned helplessness. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2). Hillsdale, N.J.: Erlbaum, 1978.

Floor, L., & Rosen, M. Investigating the phenomenon of helplessness in mentally retarded adults. *American Journal of Mental Deficiency*, 1975, *79*, 565–572.

Frankel, F., Levine, M., & Karpf, D. Human discrimination learning: A test of the blank-trials assumption. *Journal of Experimental Psychology*, 1970, *83*, 342–348.

Gardner, W. I. Effects of failure on intellectually retarded and normal boys. *American Journal of Mental Deficiency*, 1966, *70*, 899–902.

Gholson, B., Levine, M., & Phillips, S. Hypotheses, strategies, and stereotypes in discrimination theory. *Journal of Experimental Child Psychology*, 1972, *13*, 423–446.

Gibson, B. J. *An attributional analysis of performance outcomes and the alleviation of learned helplessness on motor performance tasks: A comparative study of educable mentally retarded and non-retarded boys*. Unpublished doctoral dissertation, University of Alberta, 1980.

Kass, N., & Stevenson, H. W. The effect of pretraining reinforcement conditions on learning by normal and retarded children. *American Journal of Mental Deficiency*, 1961, *66*, 76–80.

Katz, I., Roberts, S. O., & Robinson, J. M. Effects of difficulty, race of administrator and instructions on Negro digit-symbol performance. *Journal of Personality and Social Psychology*, 1965, *70*, 53–59.

MacMillan, D. L. Reactions following interpolated failure by nonretarded and retarded subjects. *American Journal of Mental Deficiency*, 1970, *74*, 689–691.

Mercer, J. R. *Labeling the mentally retarded: Clinical and social system perspectives on mental retardation*. Los Angeles: University of California Press, 1973.

Nisbett, R. E., & Wilson, T. D. Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, 1977, *84*, 231–259.

Paris, S. G., & Cairns, R. B. An experimental and ethological analysis of social reinforcement with retarded children. *Child Development*, 1972, *43*, 717–729.

Raber, S., & Weisz, J. R. Teacher feedback to retarded and nonretarded children. *American Journal of Mental Deficiency*, in press.

Rholes, W. S., Blackwell, J., Jordan, C., & Walters, C. A developmental study of learned helplessness. *Developmental Psychology*, 1980, *16*, 616–624.

Seligman, M. E. P. *Helplessness*. San Francisco: Freeman, 1975.

Severance, L. J., & Gasstrom, L. L. Effects of the label "mentally retarded" on causal explanations for success and failure outcomes. *American Journal of Mental Deficiency*, 1977, *81*, 547–555.

Weisz, J. R. Studying cognitive development in retarded and nonretarded children: The role of theory. *American Journal of Mental Deficiency*, 1976, *81*, 235–239.

Weisz, J. R. A follow-up developmental study of hypothesis behavior among mentally retarded and nonretarded children. *Journal of Experimental Child Psychology*, 1977, *24*, 108–122.

Weisz, J. R. Perceived control and learned helplessness in mentally retarded and nonretarded children: A developmental analysis. *Developmental Psychology*, 1979, *15*, 311–319.

Weisz, J. R. Effects of the "mentally retarded" label on adult's attributions for children's failure. *Journal of Abnormal Psychology*, in press. (a)

Weisz, J. R. Learned helplessness and the mentally retarded child. In E. Zigler & D. Balla (Eds.), *Developmental and difference theories of mental retardation*. Hillsdale, N.J.: Erlbaum, in press. (b)

Wortman, C. B., & Dintzer, L. Is an attributional analysis of the learned helplessness phenomenon viable? A critique of the Abramson-Seligman-Teasdale reformulation. *Journal of Abnormal Psychology*, 1978, *87*, 75–90.

Zigler, E. The retarded child as a whole person. In H. E. Adams & W. K. Boardman (Eds.), *Advances in experimental clinical psychology*. Elmsford, N.Y.: Pergamon Press, 1971.

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