Learned Helplessness in Physical Education: A Developmental Study of Causal Attributions and Task Persistence

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The purpose of this study was to describe the effect of age on specific psychological and behavioral measures of learned-helpless and mastery-oriented students. The study consisted of two age groups, younger and older, of learned-helpless and mastery-oriented students. Within each age group, learned-helpless and mastery-oriented students were compared in terms of attributional profiles and levels of task persistence during instruction. Students were asked to view videotapes of their performances, to describe how they thought they did on each task, and to give reasons for their performance. Responses were classified into four attributional categories: (a) ability, (b) effort, (c) task difficulty, and (d) environment or luck. Persistence was also determined by looking at the number of times students would attempt a task. Attributional profiles and task persistence associated with the learned-helpless condition was more prevalent with the older group than with the younger group.

Teachers spend hundreds of hours thinking of ways to create an effective environment in which skills can be learned. When students master skills, teachers are encouraged that their planning was appropriate; they gain a gratifying sense of accomplishment. Unfortunately, teachers are dismayed by certain students who refuse to learn. Even with efforts to motivate them, these students lack the persistence to succeed. Most frustrating is the fact that the students have the ability to do well on most learning tasks.

The Princeton-Penn Longitudinal Study (Seligman, 1990) of 400 third-grade children clearly demonstrated that one of the main reason for kids giving up quickly or avoiding any task engagement is their sense of having little control over the outcomes of achievement situations. And because success or failure, in their eyes, is beyond their personal control, why bother? This mind-set is a
condition known as *learned helplessness* (Dweck, 1975; Elliot & Dweck, 1988; Nicholls, 1984; Seligman, 1990; Thomas, 1989).

The characteristics of learned-helpless children are further clarified when contrasting them to students who exhibit mastery-oriented behaviors. Mastery-oriented students will see a task through to completion regardless of hardships. Such students seek challenges and show a high level of persistence. Their achievement pattern is characterized by pride and satisfaction in terms of the effort exerted in both successful and unsuccessful conditions (Dweck, 1986).

The psychological phenomenon of learned helplessness was first identified over 25 years ago by Seligman and Maier (1967). Working with mongrel dogs, these researchers administered a classic conditioning treatment of extinguished lights followed by shocks. Animals in the “escape” group could terminate the shocks by pressing a panel in the testing apparatus. Those in the “yoked” group experienced inescapable shock; that is, the shocks could not be influenced by the voluntary responses of the animal.

Eventually, the dogs in both groups were placed in a shuttle box, a two-sided chamber designed so that the shock could be avoided by jumping from one side to the other. Yoked dogs made fewer attempts to escape the shock with the onset of a conditioned stimulus. In fact, these dogs would eventually lie down and whine, passively accepting the shocks. This behavior was in stark contrast to that of the animals in the escape group. After several shuttlebox trials, these animals avoided shock altogether by jumping to the other side upon presentation of the conditioned stimulus.

The debilitating effects of learned helplessness were subsequently demonstrated in mice (Braud, Wepman, & Russo, 1969) and goldfish (Padilla, Padilla, Ketterer, & Giacalone, 1970). In each of these studies, animals initially presented with inescapable shocks were, in fact, rendered incapable of escape or avoidance even when they were eventually able to do so.

From these early investigations on animals, research quickly focused on children. The majority of these studies looked at the linkage between students’ explanations of their achievement and failure at learning tasks and their persistence to succeed (Diener & Dweck, 1978; Dweck, 1975; Stipek & Kowalski, 1989). The most common approach to explaining performance outcomes of children was through the use of an attributional model (Weiner, 1986). According to the attribution model, believing that failure was caused by stable, uncontrollable causes such as lack of ability or task difficulty undermines motivation. Furthermore, believing that a failure by an internal factor such as ability leads to self-derogation (Martinek, 1988; Miserandino & Hoffman, 1990). Indeed, attributions to lack of ability may be particularly detrimental when individuals feel that inability is a stable trait, uncontrollable and internal. Likewise, believing that success is due to one’s ability increases confidence and persistence as well as expectations for future success. On the other hand, those who attribute success to external causes such as the easiness of the task or luck are more apt to experience low levels of confidence and pride (Weiner, 1986).

The relationship between learned helplessness and attribution theory was explored by Abramson, Seligman, and Teasdale (1978) and Miller (1986). In general, their studies indicated that learned-helpless students attribute failure to lack of ability (a stable cause) and that effort will not produce positive results. Consequently, such students lack persistence or put forth little effort to accomplish
the task. In many cases, task avoidance is, in part, a way to avoid providing unambiguous evidence that the students lack ability (i.e., failure despite high effort). The extent to which these responses apply to a wide variety of outcomes will depend on the severity of the learned-helpless condition. In extreme cases depression and loss of self-esteem will ensue (Seligman, 1992).

Although studies on learned helplessness have yielded important findings, these studies have not been without shortcomings. For instance, most studies have been conducted with elementary-age children. Few, if any, have looked at the adolescent student (Reynolds & Miller, 1989; Stipek & Gralinski, 1991). Consequently, little may be known about the interacting effects of adolescence on the conditions of learned helplessness. We hypothesize that reactions of learned-helpless feelings may be more pronounced at this age as compared to younger age groups.

There are two plausible explanations for this increase in learned helplessness. First, some researchers believe that learned-helpless adolescents will have experienced more failure than their younger counterparts. Therefore, they will attribute failure to more stable, invariant causes (e.g., lack of ability) in achievement situations (Reynolds & Miller, 1989; Stipek & Gralinski, 1991). Mastery-oriented students, on the other hand, will have had their achievements amply rewarded by the time they get to middle school. Thus, the probability of these students attributing failure to unstable causes (e.g., effort) will be quite high, even more so than for younger mastery-oriented students.

A second reason for age effects may be due to the cognitive development among various school-age groups. Nicholls and Miller (1983, 1984) suggest that learned helplessness may become more differentiated and stable with age. This notion is based upon previous studies that showed little differentiation between ability and effort for younger students in terms of cause and effect on achievement outcomes (Nicholls, 1978; Nicholls & Miller, 1984). In other words, younger students believe that people who try harder are smarter than those who do not, regardless of what the people can actually do. Older children, however, appear to differentiate effort and ability more clearly. That is, if one has sufficient ability, success can be achieved by trying hard. According to Piaget, (1960) formal operational thought must occur if the relationship between ability and effort can be discerned. Consequently, children below the age of 12, when formal operational thought generally develops, would have difficulty differentiating ability and effort clearly (Nicholls, 1978; Nicholls & Miller, 1984).

The prime focus of the present study was to further describe the attributional profiles and levels of task persistence of two disparate age groups of learned helpless and mastery oriented students: a second- and third-grade group and a sixth- and seventh-grade group. Similar to the previous work cited, special attention was placed on effort and ability attributions. In addition, external attributions related to environment factors, luck, and task difficulty were examined in relation to success and failure outcomes. It was felt that because low cognitive differentiation between effort and ability may not be apparent in younger students, social and contextual factors may come into play in explaining achievement outcomes. For example, younger students may be more affected by the behavior or mere presence of their classmates when performing learning tasks. In some cases, they may even be concerned with whether the teacher “likes them” or is “nice to them.” These types of environmental factors may, therefore, override the
importance that ability or effort play in the explanation of outcomes for younger students.

Another shortcoming of past research is that few studies have examined the learned-helpless phenomenon in the physical education setting. Although some research has been done with elite performers in sport settings (Prapavessis & Carron, 1988; Miserandino & Hoffman, 1990), studies in school physical education contexts have been nonexistent. This is an unfortunate omission because the physical education setting may also provide an arena for displaying skill prowess. Goodlad’s (1984) earlier study indicated that the emphasis on competitive sport in junior high school physical education programs appeared to accentuate the importance of athletic ability. Consequently, individuals’ self-evaluations are often made through social comparisons with classmates. The public display of a student’s low skills often reinforces low self-perceptions. Also, physical education class may be an important setting for children to be successful in, often taking precedent over achievement in the classroom (Karper, 1991; Roberts, 1984). Therefore, mastery-oriented students may perceive physical education class as a setting in which ample opportunities are available to demonstrate skill prowess. On the other hand, the achievement climate of the gym could make the learned-helpless child vulnerable to failure, thus reinforcing low self-perceptions.

A final shortcoming of past studies is that they all attempted to examine the causal attributions of success and failure in laboratory-like settings. The typical protocol includes having subjects look at filmed performances of other students doing isolated tasks. After viewing the film, the students are asked a series of questions that relate to the perceived difficulty of the task and reasons for the outcome. Responses to these questions provide “causal schemes” or profiles for effort and ability (Nicholls, 1984). We believe a major drawback of this type of procedure is that responses are taken from “unnatural settings” and that personal referencing to outcomes that have been actually experienced in the real setting are ignored. Nicholls and Miller (1984) also believe only inferences about one’s ability are likely to explain reasons for trying or not trying various learning tasks. This further reinforces the need to have children serve as their own point of reference regarding performance in physical activity. Therefore, this study attempted to contextualize the responses of students by having them refer to actual events in which they were personally involved during real physical education instruction. This helps to insure more ecological validity for the attributional profiles produced from that data and, perhaps, a clearer idea of how learned-helpless and mastery-oriented students actually perceive events during their own learning experiences.

In sum, the specific purpose of this study was to examine the causal attributions and levels of task persistence of learned-helpless and mastery-oriented students. In addition, the study determined whether attributions and persistence differed across elementary- and middle-school-age children.

Methods

Subjects

Two disparate age groups of students served as subjects for this study. One group was composed of 14 elementary-age students (7 second graders and 7
third graders) and the second group consisted of 13 middle school students (6 sixth graders and 7 seventh graders). The elementary and middle school groups were selected from populations of 55 and 30 students, respectively. All students came from low to middle socioeconomic backgrounds.

Each age group was composed of mastery-oriented (MO) and learned-helpless (LH) students. The target students were selected from three intact classes from an elementary school and two intact classes from a middle school located in Greensboro, North Carolina. Table 1 shows a breakdown by grade of the MO and LH students for each target group. Both groups attended a special physical education program at the University of North Carolina at Greensboro. The program was offered once a week for the entire school year.

**Instrumentation for Group Identification**

To identify the LH and MO students, a modified version of the Intellectual Achievement Responsibility (IAR) scale (Crandall, Katkovsky, & Crandall, 1965) was administered to all students. The IAR scale was originally designed to measure locus of control and included 34 forced-choice items. All items pertained to the classroom context.

The scale was modified for application in physical education settings (Martinek, 1992). The IAR was reduced to 20 items. The 20 items were selected from the original IAR scale item pool because they approximated parallel situations in the gymnasium or play setting. In addition, items were slightly reworded to make reference to the gymnasium as opposed to the classroom context. Previous pilot work (Martinek, 1992) has shown that the modified IAR scale correlated well with the original IAR for second-, fourth-, and sixth-grade students ($r_s = .79, .84$, and .90, respectively). In addition, item analysis via the Cronbach alpha technique showed that the modified scale had good internal consistency for the same three grades (.82, .88, and .89, respectively).

Each item describes situations that are either successful or unsuccessful (10 each). Situations are randomly ordered to avoid learning effects. The student has two choices to explain the outcome described in the item. The stems of all success items are followed by an attribute stating that the event was caused by an internal factor (effort or ability) and another stating the event occurred because of an external factor (luck, task difficulty, teacher). The stems of all failure items are followed by two internal alternatives. One alternative indicates lack of effort and the other lack of ability.

### Table 1  Breakdown for Age Groups of Learned-Helpless (LH) and Mastery-Oriented (MO) Students

<table>
<thead>
<tr>
<th>Group</th>
<th>LH students</th>
<th>MO students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary (2nd &amp; 3rd grade)</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Middle school (6th &amp; 7th grade)</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>14</td>
</tr>
</tbody>
</table>
When you learn something very quickly in physical education class, is it usually
(a) because you paid close attention, or
(b) because the teacher explained it clearly?

When you find it hard to do something in physical education class, is it
(a) because you didn’t practice enough before you tried it, or
(b) because the teacher asked you to do something that was too hard?

When you win in a game played in physical education or sport, does it usually happen
(a) because the other player(s) are not very good at the game, or
(b) because you play well?

When you forget something you heard in physical education class, is it
(a) because I have a hard time remembering, or
(b) because you didn’t try very hard to remember?

Figure 1 — Sample items from the Individual Achievement Responsibility scale.

For the success items, mastery-oriented students are expected to choose an ability or effort attribution. For failure items, mastery-oriented students will most likely choose lack of effort; they will take responsibility, but not blame, for this type of outcome. This type of attribution reflects an internal referent in which controllability of failure outcomes is felt by the mastery-oriented student.

Learned-helpless students will likely respond to success items by choosing the external attribution, a cause outside the students’ control. For failure items, learned-helpless students choose lack of ability, a fixed trait, for explaining their failure. Figure 1 provides four sample items from the modified IAR Scale.

Students were scored according to the number of times they responded in a mastery-oriented way. Twenty points was the highest possible score a student could obtain. Target students for learned-helpless (LH) and mastery-oriented (MO) groups were selected on the basis of extreme low and high scores. For the elementary group, 7 students were selected for the LH group and 7 for the MO group. The IAR scores for the MO group ranged from 20 to 18, and for the LH group the range was 7 to 12. For the middle school group, 6 students were selected for the LH group and 7 for the MO group. The range of scores for the LH and MO groups was 20 to 17 and 9 to 11, respectively. Because IAR scores are based on continuous data, student assignment to LH and MO groups was done on a relative basis. That is, MO groups are to be considered more mastery oriented than are LH groups, and vice versa.

Verification of the groups was achieved by asking the classroom teachers to identify those students who they felt showed behaviors indicative of learned-helpless and mastery-oriented students. Definitions of the two constructs were given to the teachers to use as a frame of reference for identifying the students. The teachers did not know how the students scored on the modified IAR scale. Considerable empirical information exists attesting to the accuracy of teacher ratings in identifying learned-helpless and mastery-oriented behaviors in students. Fincham, Hokoda, and Sanders (1989), in a longitudinal study of elementary students, have suggested that teacher reports may be a viable means of identifying
learned-helpless individuals. With the exception of one student, teacher ratings supported the selection of students for the LH and MO groups. Although the student was not confirmed through the teacher’s rating, the student remained in the study because of his extreme IAR score.

Procedures

All students attended an on-campus physical activity program. The program was part of the Teaching and Learning Research Program housed in the research gymnasium of the Department of Exercise and Sport Science at the University of North Carolina at Greensboro. The students received 30 minutes of physical education instruction once per week by two graduate students who were specialists in physical education. A total of 12 lessons were provided. Six lessons focused on volleyball skills, and 6 were on gymnastics. The teachers taught their classes separately, using the same set of lesson plans. This was done to insure that each student received the same learning activities. The total number of students in each teacher’s class ranged from 10 to 15 students. Prior to the study, consent forms were sent home to each child’s parents. Only those children whose parents granted permission were included in the study.

Measuring Task Persistence

In addition to the IAR scale, a task-persistence measure was used. The purpose of the measure was to determine the extent to which students kept trying a given task. To do this, LH and MO students were videotaped while they were working on a variety of motor tasks during physical education class instruction. Two video cameras were positioned at floor level of the instructional area. The video technicians were instructed to record 2-minute segments alternating from target student to target student. Technicians did not know which of the students were LH and MO. Approximately 20–25 minutes of videotape data for each child were collected.

An attempts-per-minute (APM) score was calculated for both games and gymnastics learning experiences. This score was calculated by dividing a student’s total on-camera time (after subtracting “down time,” e.g., receiving instructions, waiting for a turn or for equipment set up) by the number of attempts the student performed. There was no attempt to describe the quality of the performance. Rather, the intent was solely to record attempts (e.g., throwing a ball or performing a log roll). An independent observer was trained to collect the task-persistence data. Reliability was determined by comparing this observer’s observations with those of one of the coinvestigators. These data were collected independently. A percentage of agreement was then determined. Interobserver reliability was measured in excess of 95%.

The researchers also attempted to control for the potential effects of teacher contact (feedback, individual instruction, etc.) on task persistence during instruction. This was done in two ways. First, the lessons were designed to give students opportunities to work alone on individual tasks so that the number of attempts at a task would not be affected by other environmental factors. Second, teachers were continually encouraged to keep individual student contact at a minimum. A post hoc review of the persistence tapes showed little or no teacher contact occurring during the time of student task engagement. Any feedback that did occur was given to the whole class.
Determining Causal Attributions

In order to determine the causal attributions of success and failure of the LH and MO students, the researchers developed a separate videotape for each target student that depicted success and failure attempts at given tasks. To do this, the task persistence videotapes underwent further editing. This included copying three to five segments each of success and failure attempts onto a separate tape. Each segment lasted from 5 to 20 seconds. In order to help verify the fidelity of the success–failure segments, both researchers classified the segments from sample tapes independently. In both instances, 100% agreement was reached.

Segments were shown to the target students during individual interview sessions conducted by one of the investigators. The interview sessions took place approximately 3 weeks following the final class period of the study. The interview schedule was established from previous pilot attempts that helped to determine appropriate levels of questions and protocol to use with elementary and middle school children. Reliability of the categorization of criteria was also established at the end of the pilot session. Both researchers categorized statements from a sample transcript of one of the pilot sessions by placing a tally mark in the attributional category that best characterized each statement. The transcript contained 40 attributional statements. Percentage of agreement was used to compare the two sets of tallies placed in each category. The agreement level was 94%.

Each interview session was audiotape recorded and later transcribed. The investigators had no prior knowledge of students’ IAR scores or teachers’ ratings. Before the segments were shown, the investigator told the students, “You are about to look at yourself doing some of the activities that were taught over the last several weeks in your PE program at UNCG. Following each segment you will be asked some questions about the activity.”

After each segment was viewed, the students were asked three questions. The first was, “What are you doing here?” The purpose of this question was to be sure that the students remembered the experience and purpose of the task. It also served to reorient the students to the past learning experiences they had during their PE program.

The second question was, “How did you think you did on the task?” This question helped verify the “success” or “failure” classification assigned to each of the segments. Although 100% agreement between the two researchers was previously determined for all segments, we wanted to be sure that the students saw their performance the same as the original classification given to each segment. One hundred percent agreement between the researchers’ and students’ perception was indicated for all segments.

The third question focused on determining the causes for the students perceived success or failure: “Why do you think you did that way [succeed or fail] on the task?” The responses from this question were classified into one of four attribution categories: (a) ability, (b) effort, (c) task, and (d) environment (i.e., teacher, peers, various constraint factors) or luck.

From these data the attributional profiles were examined for the LH and MO groups. In some cases a student’s response was unclear. Further probing was then followed by the interviewer to determine the causal attribute. In only a few instances was the interviewer unable to classify a response into one of the four attributional categories.
Table 2 Descriptive Statistics of Younger and Older Learned-Helpless (LH) and Mastery-Oriented (MO) Students for Task Persistence

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LH</td>
<td>7</td>
<td>3.06</td>
<td>1.78</td>
<td>0.84</td>
</tr>
<tr>
<td>MO</td>
<td>7</td>
<td>2.48</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>Older group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LH</td>
<td>6</td>
<td>1.88</td>
<td>.60</td>
<td>-2.80*</td>
</tr>
<tr>
<td>MO</td>
<td>7</td>
<td>3.11</td>
<td>.94</td>
<td></td>
</tr>
</tbody>
</table>

*p <.05.

Analysis of Data and Results

Task-Persistence Data

To analyze the persistence data, a $2 \times 2$ analysis of variance (ANOVA) was used to compare MO and LH groups and the younger and older age groups. The analysis showed that there was no significant difference in task persistence between the LH and MO groups, $F(1, 25) = .851, p > .10$, or between the two age groups, $F(1, 25) = .061, p > .10$. However, a significant Group $\times$ Age interaction effect was indicated, $F(1, 25) = 5.34, p < .05$. Specifically, a post hoc analysis using a $t$ test showed that LH and MO groups did not differ significantly in the younger group, $t(12) = 0.84, p > .10$. For the older group, however, MO students showed significantly higher levels of task persistence than did the LH students, $t(11) = -2.80, p < .05$. Table 2 provides a breakdown of the means and standard deviations of attempts per minute for all groups.

Causal Attributions

Causal attributions were analyzed from the responses to Question 3 posed during the interview session. The overall pattern for the younger group indicated that of the 104 attributions recorded, 34% were related to ability, 30% to effort, 19% to task difficulty, and 17% to environmental factors or luck. The overall attribution pattern for the older group indicated that of the 77 attributions recorded, 33% were related to ability, 31% to effort, 18% to task difficulty, and 18% environmental factors or luck.

Recall that an important focus of this study was to see if the LH and MO students differed in the way they described causes for their successes and failures at learning tasks and whether this would change with age. Thus, further interpretation of the data included a series of chi-square analyses computed for each age group. The analyses included a comparison of LH and MO differences across the attribution categories for success and failure attempts.

Younger Age Group. Table 3 shows that younger LH students identified ability most often to describe their successes (62%); task attributions were cited
Table 3  Summary of Attributions Made by Younger Group of Learned-Helpless (LH) and Master-Oriented (MO) Students for Successes and Failures

<table>
<thead>
<tr>
<th>Attributions</th>
<th>Total tallies</th>
<th>LH</th>
<th>MO</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(47%)</td>
<td>(34%)</td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability</td>
<td>25 (47%)</td>
<td>15 (62%)</td>
<td>10 (34%)</td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>6 (11%)</td>
<td>3 (12%)</td>
<td>3 (10%)</td>
<td>5.82</td>
</tr>
<tr>
<td>Task difficulty</td>
<td>10 (19%)</td>
<td>2 (8%)</td>
<td>8 (28%)</td>
<td></td>
</tr>
<tr>
<td>Environment/luck</td>
<td>12 (23%)</td>
<td>4 (17%)</td>
<td>8 (28%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>24</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability</td>
<td>10 (20%)</td>
<td>3 (11%)</td>
<td>7 (29%)</td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>25 (49%)</td>
<td>15 (55%)</td>
<td>10 (42%)</td>
<td></td>
</tr>
<tr>
<td>Task difficulty</td>
<td>10 (20%)</td>
<td>6 (22%)</td>
<td>4 (17%)</td>
<td></td>
</tr>
<tr>
<td>Environment/luck</td>
<td>6 (12%)</td>
<td>3 (11%)</td>
<td>3 (12%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>27</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

For failure outcomes LH students used effort attributions most often (55%), whereas ability and environmental or luck attributions were used the least (11% each). MO students, on the other hand, most often used effort attributions to explain the causes for failure (42%), whereas environmental or luck attributions were used the least (12%). Chi-square analysis indicated, however, that the association between the four attributions for failure and mastery and learned helpless orientations was not significant, $\chi^2(3) = 2.69, p > .10$ (see Table 3).

Older Group. Table 4 shows that the older LH students used ability and task attributions most often in describing the causes for their successes (32%); environmental or luck causes were the least cited (16%). MO students, on the other hand, mainly attributed success to effort (40%); task attributes were the least cited (12%). A 2 x 4 chi-square analysis showed that the association of the two groups with the four attributions categories was not significant, $\chi^2(3) = 2.67, p < .10$ (see Table 4).

For failure performances, LH students most often indicated that lack of ability was a cause (64%), whereas effort and task difficulty were the least cited causes (9% each). MO students, on the other hand, stated that lack of effort was cited most often for failure (54%) and ability, the least (9%). A chi-square analysis showed that there was significant association between failure attributions and mastery and learned helpless orientations, $\chi^2(3) = 12.42, p < .01$ (see Table 4).

Discussion

The intent of this study was to examine the attributional profiles and levels of task persistence of younger (elementary age) and older (middle school
Table 4 Summary of Attributions Made by Older Group of Learned-Helpless (LH) and Master-Oriented (MO) Students for Successes and Failures

<table>
<thead>
<tr>
<th>Attributions</th>
<th>Total tallies</th>
<th>LH</th>
<th>MO</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Success</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability</td>
<td>16 (36%)</td>
<td>6 (32%)</td>
<td>10 (40%)</td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>11 (25%)</td>
<td>4 (21%)</td>
<td>7 (28%)</td>
<td></td>
</tr>
<tr>
<td>Task difficulty</td>
<td>9 (20%)</td>
<td>6 (32%)</td>
<td>3 (12%)</td>
<td></td>
</tr>
<tr>
<td>Environment/luck</td>
<td>8 (18%)</td>
<td>3 (16%)</td>
<td>5 (20%)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>44</td>
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<tr>
<td><strong>Failure</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Ability</td>
<td>9 (27%)</td>
<td>7 (64%)</td>
<td>2 (9%)</td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>13 (39%)</td>
<td>1 (9%)</td>
<td>12 (54%)</td>
<td>12.42*</td>
</tr>
<tr>
<td>Task difficulty</td>
<td>5 (15%)</td>
<td>1 (9%)</td>
<td>4 (18%)</td>
<td></td>
</tr>
<tr>
<td>Environment/luck</td>
<td>6 (18%)</td>
<td>2 (18%)</td>
<td>4 (18%)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>33</td>
<td>11</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

*p < .01 (df = 3).

age) learned-helpless and mastery-oriented students. Inspection of the attributional profiles showed that the younger learned-helpless and mastery-oriented students did not differ significantly in their interpretation of the causes of success and failure. For the older students, however, failure appeared to have a significant influence on the nature of the profiles between the two groups. This was reflected in the contrasting profiles of the learned-helpless and mastery-oriented groups.

Specifically, our findings showed that older mastery-oriented students attributed failure primarily to lack of effort (54%), whereas ability was cited only 9% of the time. By describing effort as a prime causal factor for failure, these students may have been exhibiting volitional control over learning outcomes. This would further suggest the possibility of better performance in future tasks and, perhaps, other situations (Craske, 1985; Stipek & Hoffman, 1980).

The older learned-helpless students, on the other hand, felt that their failure was mostly due to ability (64%). Task difficulty and effort were only acknowledged 9% of the time. Such self-ascriptions describe a stable and uncontrollable factor (ability), which is typically related to a learned-helpless condition.

The analyses also showed that there was no significant association found for successes. It is interesting to note, however, that nearly half (48%) of the attributions for success was given to external causes (task difficulty, environment, or luck). This indicates the possibility that even when success is experienced by learned-helpless students, they assume little responsibility for the outcome.

The findings of this study appear to support Nicholl's (1978) and Kun's (1977) contention that, as children get older, effort and ability are seen as separable factors in explaining performance outcomes. That is, the older students in this study may have demonstrated what Nicholls calls "clear differentiation" of effort
and ability. Their younger counterparts, however, may have been unable to ascertain cause-and-effect linkages between these attributions and performance outcomes. It was suggested earlier in this article that effort-ability differentiation is due to developmental differences in the cognitive reasoning among various age groups.

It also may be related to students being socialized into thinking that trying hard is just as important as succeeding at various learning tasks. This may be especially true in lower elementary grades in which fostering positive self-concept has become a national priority in our schools (Adler, 1992). With the recent trend toward making kids feel good about themselves, it is not unusual to see teachers reward their students for simply trying, regardless of the quality of their performance (Adler, 1992).

The attributional data also suggest that the learned-helpless condition may become more crystallized by the time students enter their middle school years. As previously mentioned, learned-helpless children are often exposed to significant amounts of failure and low teacher expectations during their elementary school experience (Martinek, 1991; Reynolds & Miller, 1989). For some children, when academic failure is attributed to ability, learned helplessness will naturally occur. For example, Reynolds and Miller (1989) found that adolescent students were more prone to acquiring learned helplessness "explanatory styles" to failure than children and adults. The following excerpts from the interview data of learned-helpless students illustrate this achievement orientation:

I always drop the ball because I am too slow.
Serving the ball is always hard for me because I can't hit things very well.
I have always been clumsy . . . that's why I have a hard time in doing gymnastics.

As in most physical education class settings, social comparisons are often made. Therefore, failure within the context of this study may have served as a reminder of past failures for the older learned-helpless students. Mastery-oriented students, however, may have viewed failure outcomes as a challenge by which success will eventually come, thus reaffirming their skillfulness.

This type of optimism was reflected in the following responses taken from the interviews of several mastery-oriented students:

I did not do good on that task, but I think I can do it if I keep practicing at it. In the past when I keep practicing at something, I get better and better.
I did terrible on this [the bump]. I would miss it at first, but after a while I started trying . . . it started to come.
I had trouble with the stunt [headstand] last week. I am trying to strengthen my [stomach] muscles so I can do it.

Another aspect of this study was to test the hypothesis that learned helplessness explains reduced levels of task persistence. Recall that students who believe their effort will produce little change in desired outcomes are more apt to give up quickly, especially when failure has been initially experienced (Craske, 1988; Diener & Dweck, 1978). In the present study, this hypothesis was partially
supported. Older learned-helpless students showed significantly less task persistence than did their mastery-oriented counterparts. However, no significant group difference was indicated for the younger group.

These findings further demonstrate how the relationship of achievement orientations and task “stick-to-it-iveness” of learned-helpless and mastery-oriented students are exacerbated with age. Therefore, fear of failure may again come into play for the older learned-helpless students in this study. For them, avoiding failure by not trying may have helped to deflect low ability perceptions. It may also be an adaptive response to situations in which personal contact is not possible. After all, trying to gain control over an uncontrollable situation can only lead to frustration.

The issue of determining learned helplessness as a generalized personality characteristic remains viable. Because the findings of this study parallel those conducted in various clinical settings, the global nature of learned helplessness and mastery orientation was substantiated. As several theorists have noted, there have been few studies of the learned-helpless phenomenon as a potentially stable and enduring characteristic (Lefcourt, 1980; McAuliffe, 1991; Seligman, 1992). They suggest that when learned helplessness becomes a generalized personality trait, motivation can be affected in a variety of academic situations. To its greatest extent, learned helplessness can lead to depression such that students become dysfunctional in both their social and their academic lives. Evidence of the pervasiveness of learned helplessness is depicted in the following explanation of failure by one learned-helpless student who had great difficulty catching a volleyball. When asked why she had difficulty with the task, she replied, “Because I usually can’t throw it up and catch a lot. . . . I keep on dropping it. I am not very good at catching even my stuffed teddy bear. I toss him up a lot, but I keep on dropping him.”

In summary, the findings of this study illustrate the characteristics associated with learned helplessness and mastery orientation and further show how developmental considerations must be taken into account. Development of a mastery orientation is dependent on how much teachers (and coaches) are committed to fostering such an outlook. Although most teachers profess a developmental approach to teaching skills, we continue to see the predominance of competitive team activities as a central core of physical education programs (Goodlad, 1984). According to Graham, Holt/Hale, and Parker (1993), these types of activities require a certain level of skill proficiency for success that not all students possess. Such a backdrop often singles out students to perform well in front of their peers. For learned-helpless students, whose self-perceptions of ability are already uncertain, pressure to perform well becomes especially acute. Consequently, we must closely examine our approaches to teaching physical education so that the connection between effort and success can be reestablished for these students. We have attempted to establish a starting point for the development of successful intervention strategies for curtailing the negative consequences of helpless orientations.

References


