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ENTITLED THE NIXON SYNDROME--FAILURE AVOIDANCE THROUGH MALADAPTIVE PERSISTENCE

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

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THE NIXON SYNDROME--

FAILURE AVOIDANCE THROUGH MALADAPTIVE

PERSISTENCE

BY

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ABSTRACT

Past research has shown two distinct ways in which children react to failure situations. Some children, whom researchers label mastery-oriented, persist in the face of difficulty and usually show improved performance, while other children, labeled learned helpless, show impaired performance, giving up in the face of difficulty. Mastery-oriented children persist because they believe they can obtain the correct solution by expending more effort. Helpless children give up because they perceive the outcome (i.e., the correct solution) as beyond their control. However, none of the research looks at those children who persist for unusually long periods of time. Is overpersistence a beneficial characteristic of academic achievement, or can it be maladaptive?

The present study looked at the overpersistent children to see if they more closely resemble mastery-oriented children or helpless children. It was hypothesized that the overpersisters are helpless children who, like Richard Nixon, are trying to forestall the admission of failure. To determine whether or not these overpersisters are indeed helpless, measures on five dependent variables, used previously to discriminate between mastery-oriented and helpless children, were obtained from each child. The measures were acquired from four individual tasks administered at separate times.

Profiles for mastery-oriented and helpless children were developed from previous research, while a profile for the overpersistent children was hypothesized (this profile was very similar to the helpless profile). Out of 155 4th, 5th, and 6th grade subjects (71 females and 84 males), 39 fit the profile for overpersisters, matching on at least three of the four profile variables. This demonstrates that a subgroup of overpersisters exists who are more characteristic of helpless than mastery-oriented children. Analyses of variance and t-tests were performed to evaluate differences between the three groups. The results show that overpersistence is indeed maladaptive persistence.

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INTRODUCTION

In the past nine years, the topic of learned helplessness and mastery-orientation has sparked interest in those researchers concerned with achievement motivation in educational settings. Briefly, helpless individuals believe that an outcome is independent of their response. In contrast, mastery-oriented individuals do not see outcome and response as independent of each other. They believe that they have some control over the situations they are in. How can these differing perceptions influence school achievement? In general, the effects of learned helplessness on school achievement are debilitating. Some examples are poor performance in certain subject areas, a decrease in motivation, and interference with new learning. On the other hand, the effects of mastery-orientation on achievement can be beneficial. Some examples are an increase in motivation and a willingness to accept challenging situations.

Throughout the helplessness research, it has been noted that people react to success and failure in a variety of ways (see Miller & Norman, 1979, for a review). Because of these different reactions, researchers (Diener & Dweck, 1978, 1980) have been able to classify children into the two groups: those considered learned helpless and those considered

mastery-oriented. "Helpless children are characterized by cognitions that imply the inevitability or insurmountability of failure, whereas mastery-oriented children are characterized by cognitions that imply that their successes are replicable and their mistakes rectifiable" (Dweck & Licht, 1980). The factors that are evaluated in determining whether a child is helpless or mastery-oriented are: the amount of persistence in the face of failure, the attributions for success and failure, the expectations of success following failure, and the child's reaction to subsequent failure situations. Before discussing the purpose of the present study, each of these factors will be presented in detail to explicate the different characteristics of learned helplessness and mastery-orientation.

Persistence

In their first experiment on learned helplessness in children, Dweck and Reppucci (1973) found that two different groups existed--one group of children gave up in the face of failure while the other group persisted at a difficult task. Other researchers have found similar results. High achievement-oriented individuals exhibit greater persistence in failure situations than do low achievement-oriented individuals; this persistence is greater following failure than success

(Weiner, 1965, 1966; Weiner & Kukla, 1970). Diener and Dweck (1978) also found that helpless children, in a failure situation, tend to show minimal persistence (if any), decreased performance and an increase in the use of ineffectual strategies. On the other hand, mastery-oriented children showed an increase in persistence and performance and sometimes the use of more mature problem-solving strategies than they had prior to failure.

The helpless children, even though they were satisfied with the task before failure, wanted to withdraw from the situation after failure. They did so, cognitively, by making numerous task-irrelevant statements. In contrast, mastery-oriented children indicated greater task involvement and engaged in self-instruction. Dweck and Gilliard (1975) found that when expectancy statements were required, boys showed an increase in persistence and girls showed a decrease in persistence following failure. Butkowsky and Willows (1980) reported that good and average readers (i.e., mastery-oriented) persisted an average of 40% longer than poor readers (i.e., learned helpless). In sum, mastery-oriented behavior has been defined as increased persistence or improved performance, whereas learned helpless behavior is associated with decreased persistence or impaired performance (Dweck & Goetz, 1978; Dweck, Goetz, & Strauss, 1980).

Attributions

For failure. Throughout the literature, there are several cases where distinct attributional patterns for helplessness and mastery-orientation are discussed. Researchers have been interested in determining which attributions are characteristic of helpless individuals and which attributions are characteristic of mastery-oriented individuals. For both groups, the attributions for failure are different from the attributions for success; we will first consider the attributions for failure.

Findings on achievement-related attributions seem to be very consistent with each other. Weiner and Kukla (1970) found that subjects low in achievement motivation (i.e., learned helpless) were more likely to attribute failure to lack of ability than the high achievement motive group (i.e., mastery-oriented) and tne high achievement motive group attributed failure to personal motivation more frequently than the low achievement-oriented group. Persisters are significantly more likely to attribute failure to lack of effort than are helpless children (Dweck & Goetz, 1978; Dweck & Reppucci, 1973; Dweck & Wortman, 1980). Similarly, Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum (1971) noted that nonpersisters ascribed failure to a lack of ability and persisters attributed failure to a lack of effort.

In the Diener and Dweck (1978) task, children were asked why they thought they had trouble with the test problems; 52% of the helpless individuals attributed failure to their lack of ability, whereas none of the mastery-oriented individuals made ability attributions. Comparing effort attributions, 23.7% of the mastery-oriented children attributed failure to lack of effort, whereas only 3.4% of the children in the helpless group made such attributions. In short, attributions for failure to invariant factors, such as lack of ability, are associated with learned helplessness and attributions for failure to more readily modifiable factors, such as lack of effort, characterize mastery-orientation (Dweck & Goetz, 1978).

For success. While helpless children are willing to make ability attributions for their failures, they are not inclined to do the same for their successes. Helpless children do not see their successes as indicative of their ability (Dweck, 1975), but instead attribute success to some external factor (e.g., good luck). In the Diener and Dweck (1980) study, children were given eight discrimination problems on which they succeeded, then asked to apportion their attributions to show the relative importance of each of the possible causes for their success. The choices were as follows: "I was lucky", "It was easy", "I am good at this", or "I am smart"; an effort attribution was not included because the task required

effort in order to succeed. Also, the investigators were only interested in detecting any differential emphasis on ability in identifying the causes of success. At this point, no significant differences in attributions for success were found between helpless and mastery-oriented individuals.

Next, subjects were given four problems on which they failed (i.e., they received consistent "wrong" feedback) and then were asked why they thought they did well on the earlier problems. Here is where the significant differences appeared. The mastery-oriented individuals made the same attributions of ability after the success and failure trials. However, helpless individuals, once they encountered failure, changed their attributions for previous success from ability attributions to some external attribution. Overall, the helpless children discounted their successes as indicative of ability, whereas mastery-oriented children stressed their ability as an important determinant of their success.

Other researchers have obtained similar results. Nicholls (1975) showed that girls attributed failure to poor ability more than they attributed success to good ability. He also found that boys made fewer luck attributions after success than after failure. Boys made more ability attributions for success and girls made more luck attributions for success. This is consistent with Weiner and Kukla's (1970) findings:

> "Those children high in achievement motivation took personal responsibility for their success, attributing it to ability, whereas children low in achievement motivation did not take personal responsibility and instead attributed their success to external factors." (p. 1)

Explanations. What are the possible explanations for these differences in prototypic attributions exhibited by helpless and mastery-oriented children? One explanation pertains to the attribution theory; because learned helpless individuals perceive their responses and the onset or termination of aversive events (i.e., failure or succcess, respectively) as independent of each other, they will make attributions to uncontrollable factors. In contrast, mastery-oriented individuals do not have this perception of independence and uncontrollability, but instead feel they have some affect on the outcome. Therefore, they make frequent effort attributions and in a way are saying "I could have succeeded if I tried harder"; in other words, future success remains possible. Conversely, a child is saying "No matter how hard I try, I can't succeed because it's not in me", when making an ability attribution.

A possible explanation for the results obtained in the Diener and Dweck (1980) study is the difference in attitudes of helpless and mastery-oriented children. In their previous study, Diener and Dweck (1978) found that helpless children had a tendency to dwell on the present and emphasize the negative. By accentuating the present negative outcomes, helpless children did not see their previous successes as indicative of their ability, for if they possessed the ability to solve those problems, they would not have just failed four consecutive problems. Therefore, their success on the previous problems must have been the result of some external factor. However, mastery-oriented children, by emphasizing the positive and not dwelling on their present failures, were still able to see their previous successes as indicative of their ability; therefore, they kept their original attributions for success, even after failure.

Summary. To summarize, the literature shows that helpless children are consistently attributing their failure to lack of ability and mastery-oriented children are consistently attributing their failure to lack of effort. As for success, helpless children make attributions to external factors, whereas mastery-oriented children make ability attributions. The reason for these differences lies in the definition of

learned helplessness, the attribution theory, and in the child's attitude towards the situation.

Expectancy of Success

Most of the literature is consistent with respect to conclusions for differences in expectancies of success for mastery-oriented and learned helpless groups. Weiner, Nierenberg, and Goldstein (1976) suggested that expectancy changes following success and failure are due to the perceived stability of the causal attributions of performance. If one attributes past outcomes to a variable factor (e.g., luck), then these outcomes will not affect one's expectancies in the future, but if one attributes past outcomes to a stable factor (e.g., ability), then one's expectancies for future performance will shift in the direction of the outcome.

Butkowsky and Willows (1980) obtained similar results and stated that attribution to stable factors increases the subjective probability of success and decreases the expectancy of success following failure more than attributions to unstable factors (see also Weiner et al., 1971). They found poor readers had lower initial expectancies of success and produced greater decrements in their estimates of success following failure than did average or good readers. Likewise, Tennen and Eller (1977) found that subjects who attribute failure to inability will lower their subjective probability of success.

Other researchers have shown that sex differences in expectancies of success exist (Crandall, 1969; Dweck & Goetz, 1978; Dweck & Licht, 1980; Feather, 1969; Nicholls, 1975). These researchers were able to conclude that girls have lower expectancies of success than boys. Dweck and Goetz (1978) stated that "when formulating expectancies, one will focus on those past outcomes that are most indicative of what is likely to occur in the situation at hand". If boys focus on successes and girls focus on failures, this would yield to overestimation and underestimation (of success), respectively. Diener and Dweck (1978) found the same results with mastery-oriented and helpless children. Similarly, Nicholls (1975) proposed that if it is assumed that bad luck can change, boys' defensive attributions of failure to bad luck should lead to higher expectancies, whereas girls' self-denigrating ability attributions would be a basis for lower expectancies. He also found that higher expectancies were associated with attributions of failure to lack of effort.

In their recent study, Diener and Dweck (1980) discovered that the mastery-oriented children expected to get more problems correct after failure than did the helpless children. The helpless children also showed a trend toward lowered expectancy of future success; this decrease, together with their previously low expectancy, suggests that although success

is not perceived to be predictive of future performance, failure certainly is. It was also noted that "helpless children view failure as more 'diagnostic' of their level of ability, whereas mastery-oriented children view success as more diagnostic".

Based on this evidence, it has been concluded that mastery-oriented children do have higher expectancies of success following failure than do helpless children. However, it should be noted that one study (Dweck & Reppucci, 1973) found no reliable differences among the two groups either in initial or final expectancies, or in shifts in expectancy following success and failure.

Reaction to Failure

There seems to be agreement among researchers that learned helpless children select different tasks compared to the tasks mastery-oriented children select. Children with a stronger motive to avoid failure than to achieve success (i.e., helpless) will avoid achievement-related tasks and instead choose activities that will not arouse anxiety about failure. In contrast, children with a stronger motive to achieve success (i.e., mastery-oriented) will show some positive interest in performing achievement-related tasks (Feather, 1969). For helpless children, failure has a negative self-evaluative

meaning, but for mastery-oriented children, failure has task relevant information value--failure signals them to vary their strategy in order to obtain the correct solution (Dweck & Wortman, 1980). Weiner et al. (1971) maintain that children high in achievement motivation will select tasks of intermediate difficulty because they yield the most self-evaluative feedback. In comparison, children low in achievement motivation will select tasks that are either very easy or extremely difficult since such tasks provide a minimum amount of self-evaluative feedback (see Trope, 1975). Combining these viewpoints, helpless children will avoid tasks which are intermediate in difficulty because they do not want the negative feedback, whereas mastery-oriented children will attempt moderately difficult tasks because they see the feedback as helpful in obtaining the correct solution.

In a similar respect, researchers have found that most girls avoid tasks that present a challenge; conversely, boys select tasks that will provide a challenge (Crandall & Rabson, 1960; Dweck & Bush, 1976; Dweck & Gilliard, 1975; Dweck & Reppucci, 1973; Nicholls, 1975).

In conclusion, when failure occurs, helpless children spend little time searching for ways to overcome failure and instead seek an escape from the situation. On the other hand, mastery-oriented children seem to be directed towards the

attainment of a solution and actively pursue solution-relevant strategies (Diener & Dweck, 1978; Dweck & Licht, 1980).

Summary of Characteristics

Before summarizing the characteristics of learned helplessness and mastery-orientation, we should note an interesting parallel. Research has shown that girls tend to exhibit learned helpleasness and boys tend to exhibit mastery-orientation (Dweck & Bush, 1976; Dweck, Davidson, Nelson, & Enna, 1978; Dweck & Gilliard, 1975; Dweck & Licht, 1980). These results have been used to justify data reinterpretation of sex differences in terms of learned helplessness and mastery-orientation.

In short, learned helpless children are characterized by decreased persistence in the face of difficulty, attributions for failure to lack of ability, attributions for success to some external factor (e.g., luck), low expectancy of future success, and avoidance of moderately difficult tasks which may evaluate their true level of ability. In contrast, mastery-oriented children are characterized by increased persistence in the face of difficulty, attributions for failure to lack of effort, attributions for success to their true ability, high expectancy of future success, and their willingness to attempt challenging tasks. Most of the research supports these conclusions.

Hypothesis

Of all the studies done on learned helplessness and mastery-orientation as they relate to persistence, none has looked at the possibility of children overpersisting. We know that lack of persistence is a characteristic of learned helpless children, and persistence is a quality of mastery-oriented children, but which of these two groups demonstrate overpersistence. Is it the mastery-oriented children putting forth more and more effort? Or is it the helpless children afraid to admit they have failed?

Is it possible that there exists a group of overpersisters who are considered mastery-oriented because of their persistence, but actually demonstrate all other behaviors characteristic of learned helpless children? The purpose of my research is to find out if this group does exist, in which case they would be suffering from what may be termed the "Nixon Syndome"--unusually prolonged persistence designed to forestall the admission of failure. If so, they would attribute failure to the external environment in order to cover up their lack of ability and display other behaviors characteristic of learned helplessness.

METHOD

Overview

Insert Table 1 About Here

Children were given four separate experimental tasks over a one month period (see Table 1). The first task was given in order to get the child's attributions for his/her failure and previous success and an expectancy statement for future success. A persistence task followed for the purpose of determining those children who, in the face of difficulty, give up, persist, or overpersist. The third task allowed children to choose the level of difficulty for a given set of problems. As in the first task, an expectancy statement for future success was asked for at the end of the third task. The final task required children to make attributions for their success.

Subjects

Subjects were 74 females and 88 males, taken from fourth-, fifth-, and sixth-grade classrooms in two Champaign-Urbana schools. The results from four males and three females were exluded from the analysis either because the subject knew what puzzles were being used in the second task or because the subject failed to complete the experiment. This left a total of 71 females and 84 males.

Measure of Helplessness

Since past research (Diener & Dweck, 1980, 1978; Dweck, 1975; Dweck & Reppucci, 1973; Floor & Rosen, 1975) has indicated that a major difference between helpless and mastery-oriented children lies in their respective tendency to neglect or emphasize the role of effort in determining their failures. This relative emphasis was used as one of the criteria for dividing children into helpless and mastery-oriented groups. The Intellectual Achievement Responsibility (IAR) Scale (Crandall, Katkovsky, & Crandall, 1965) was used for this purpose. The IAR consists of 34 forced-choice items that describe either a positive or negative achievement experience that frequently occurs in the daily lives of children. For each item, the child must choose either an external attribution (something in the child's environment) or an internal attribution (having to do with the child's own behavior). Ten of the items on the IAR specifically tap the child's attributions for failure to lack of effort.

Those children scoring 5 or below were considered helpless, and those scoring 8 and above were designated as mastery-oriented. Those children scoring a 6 or 7 were looked at separately. The IAR was given to all participating classrooms one week prior to the first experimental session.

Task 1

Materials and procedure. The first task was an angle-matching task similar to the one used by Nicholls (1975). Children were given a 15-page booklet containing 15 acute angles. Each angle had 4-inch sides. Children matched each angle with one of eight different "standard" angles placed on a posterboard 6-8 feet away from the children. Length between children and standards board varied because of the different schools' limitation on space. None of the angles in the booklet matched up with a standard angle. The angles used for success trials were one degree away from one of the standards and three degrees away from the next closest standard. The angles used for failure trials were equidistant in size between some two of the standards with the difference between these standards being slight and barely discriminable. The task was made ambiguous in order to control the feedback without arousing suspicion about the authenticity of the feedback. To check whether children did become suspicious, an obtuse angle, clearly different from those in the booklet, was included among the standards. Only one subject (whose data was not used) "tested" the procedure by choosing this angle; all others accepted the feedback as genuine.

Children were told that this was a task to see how well children their age could match up figures. They were instructed to tell the experimenter the letter underneath the standard

angle which matched the one in the booklet. Each child received the same patterned feedback, regardless of his/her responses. In the first four problems children were told they had gotten the problems correct. Failure feedback was given for the next five problems, followed by positive feedback for the remaining six problems.

Upon completion of the five failure problems, children were asked to give attributions for their failure using an attribution wheel. The wheel was made of four discs of lightweight cardboard, each a different color. They were cut along a radius and slipped together in such a way that they could be moved to expose 360 degrees of any color or different amounts of any combination of colors. A hole was cut in the center of the discs in order to slip the discs over the peg on the wooden board. One metal tab was glued to each disc so they could be easily moved. Next to each of the cut radii was printed one of the four causal attributions. On the failure wheel, the following alternatives were printed: "I am not smart at this", "I did not try hard", "It was too hard", and "I had bad luck".

The experimenters showed the children how to use the wheel by counterbalancing a number of examples. Children were told they could give one reason why they did not do very well or they could give a combination of reasons. They were further

instructed that if they gave a combination they should give the more important reasons a large part of the wheel and the less important reasons a smaller part of the wheel. After making sure the directions were understood, the experimenters handed the children the wheel, with each segment equally exposed, and asked why the children thought they did poorly on the last few problems.

After they completed their answer, children were told to recall that before they got the last few problems wrong, they did get the first four correct. Now they were asked why they thought they had done well on the first problems. This time a success wheel with the following responses printed was used: "I am smart at this", "I tried hard", "It was easy", and "I was lucky". Children were instructed to use this wheel in the same way they had used the previous one. When they finished, the experimenters returned to the remainder of the task.

Positive feedback was given for the remaining six problems in order for the child to feel as though he/she had been successful on the task. After the last problem, the experimenters asked, "If I were to give you another test like this tomorrow, using 15 new figures, how many do you think you would be able to get right?" Sixteen 3"X5" index cards, numbered from 0-15, were laid out in front of the child and the child was asked to pick up, and hand to the experimenter, the card

with the number that he/she thought would get right. The session concluded by telling the children they did very well on the task and that they did better than most children do.

Task 2

Materials and procedure. The purpose of the second task was to determine the amount of persistence a child has in trying to solve a difficult problem. Does the child spend too little time, an adequate amount of time, or too much time on one difficult problem? The instructions given to each child were as follows:

> I have two puzzles that I want you to work on today. Since we don't have a lot of time, I can only give you 20 minutes to work on the two puzzles. I'm not going to show you what the second puzzle is until after you stop working on the first one. You can work on the first one for as much time as you want, up to 20 minutes, or for as little time as you want. You don't have to finish the first puzzle in order to go on to the second one. Whenever you want to stop working on the first one, tell me and then I'll give you the second one. Any questions?

The measure of persistence was the amount of time the child spent working on the first puzzle. The child's performance on the second puzzle was disregarded. It was important

that the identity of the second puzzle be unknown to every child. Knowing what the second puzzle was could have prompted the child to quit working on the first one only because he/she wanted to work on the second one, not because he/she did not want to try to solve it anymore. One child knew what the second puzzle was going to be and gave up on the first one after one minute. This is why, after running half the subjects through the experiment, it was necessary to change the second puzzle.

Every child worked on the same first puzzle. It was called a "Lifesavers" puzzle because it resembled a roll of Lifesavers candy. It consisted of 12 plastic interlocking pieces that could fit together only one way. It should be noted that no one was able to solve this puzzle. The second puzzle, for the first half of the subjects, was the "Rubik's Cube". The child was supposed to get each of the six sides to be one color. This puzzle has one solution out of 43,252,003,274,489,856,000 possible combinations. In place of the "Rubik's Cube", two new puzzles were interchangeably used for the second puzzle. One of the puzzles was called "Drive ya nuts"; it consisted of seven hexagonal pieces with a number from 1-6 on each side. The object was to arrange the pieces, on a plate that was made to fit six pieces around a circle and one piece in the middle, so that the sides that

touched one another had matching numbers. The other puzzle was called "Boxed In". It consisted of 12 geometric pieces that fit into a given box.

While the children were trying to solve the puzzles, the experimenters wrote down the children's verbalizations.

At the conclusion of the 20 minutes the experimenters told each child:

> These were really hard puzzles, so I don't want you to feel bad that you weren't able to solve them. I can't even do them. The reason I had you work on these was that I thought you would have fun trying to solve them because I know most children and adults have fun with these kinds of puzzles.

It was also stressed to the children that they should not tell any of their classmates what puzzles they had worked on.

Task 3

Materials and procedure. The third task was designed to give children the chance to choose the level of difficulty, on a given set of problems, that they would want to work on. In the first part of the task, children worked on three pages of anagrams. They had eight minutes to work on each page. The first page had 20 three-lettered anagrams; the second page had 20 five-lettered anagrams; and the third page had 20

eight-lettered anagrams. Before beginning, the children were told that some of the words might be harder to figure out than others, but that they should try as many as they could. After that, nothing else was said about the difficulty of the problems. The task was set up this way so the children would perceive the first page as being easy, the second page as a little harder and the third page as almost impossible. After the children were finished with a page, the experimenter corrected the paper and told them how many they got right; then gave them the next page.

After completing all three pages, children were given the following instructions:

> Now we're going to do something a little different. I have 20 sets of cards here. There are three cards in each set, and each card has one mixed up word on it. Since we're running out of time, I want you to work on only one word in each set. It doesn't matter which word you choose to work on. As I give you the set of words, quickly pull out the one word you want to work on and put it on the side--then give me the rest of the words. Then I'll give you the next set and you'll do the same with those words, and so on, until we go through all 20 sets. After that, I'll give you time to work on the words you chose.

Each set of words contained a three-, five-, and eight-lettered anagram. Seventy-five percent of the words were new and the other 25 percent were words from the previous three pages. After the children finished selecting the words, the experimenters told them that there was not enough time to work on all the words, so they would do them at the next meeting. Then the experimenters asked the children how many words (out of 20) they thought they would get right. After the children left the room, the experimenters recorded the number of three-, five-, and eight-lettered words each child had chosen.

Task 4

Materials and procedure. The final task was made easy so each child could be successful at the task. Children were given 1½ minutes to work on each of 10 word search puzzles. Each puzzle contained three hidden words (which were also listed underneath the puzzle) which could be found going in one of three directions: horizontal from left to right, vertical from top to bottom, and diagonal from top left to bottom right. After they finished, children were asked why they thought they had done so well. The success attribution wheel used in the first task was used again here.

At the conclusion of this session, the children were thanked for participating in the study and were told they had done very well on all the tasks.

RESULTS

Correlations

Several significant correlations (N=155, $p<.025$) were found between the dependent variables. There was a .185 correlation between the I-(E) subscore on the IAR, which tells how many effort attributions children make in failure situations, and the children's failure attributions to lack of effort on the angle-matching task. This demonstrates the fact that the angle-matching task was tapping appropriate attributions and the children's current task-related attributions were consistent with more general academic achievement attributions tapped by the IAR. Time on the persistence task was positively correlated with failure attributions to lack of effort ($r=.195$) and negatively correlated with failure attributions to lack of ability ($r=-.180$). These correlations replicate the findings from previous research that those who persist attribute failure to lack of effort and those who do not persist attribute failure to lack of ability (Dweck & Reppucci, 1973). The correlation between failure attributions to lack of ability and success attributions to luck ($r=.256$) is also in accordance with previous research (Diener & Dweck, 1980). Those children attributing failure to lack of ability will also attribute success to external factors (i.e., luck).

Other Differences Replicated

Two other significant differences are worth mentioning at this point. There was a significant difference for failure attributions to task difficulty, with mastery-oriented children making fewer such attributions than did helpless children, $F(2,149) = 3.67$, $p<.05$. Mastery-oriented children also made fewer success attributions to luck than did helpless children, $t(69) = 2.11$, $p<.05$. These findings substantiate those from previous research (Dweck & Reppucci, 1973).

Sex and Racial Differences

In terms of the two independent variables, sex and race, no significant sex differences were found; however, there were some significant racial differences. Minorities made significantly fewer success attributions to ability on the IAR than did non-minorities ($p<.025$). Additionally, they made more success attributions to luck on the word search puzzles than did non-minorities ($p<.025$). Minorities also chose fewer three-lettered anagrams ($p<.025$). This finding may be due to the fact that they attribute their success to luck. Since neither effort nor ability are seen as being responsible for success, they might as well choose harder words and if they are lucky enough, they will get them correct.

The Nixon Syndrome

Four dependent measures were used to determine a Nixon Syndrome profile: (a) high persistence, defined as being in the top third on the persistence scale; (b) low expectancy for future success, determined by the sum of two independent expectancy statements; (c) avoidance of moderately difficult problems based on the number of three-lettered (i.e., easy) and eight-lettered (i.e., extremely difficult) words chosen; and (d) success attributions to external factors, defined as the sum of luck and task difficulty attributions. Subjects had to meet at least three out of the four above criteria in order to be classified as a Nixon.

The above measures were used for the sole purpose of determining whether or not a Nixon group exists. Based on the pre-established criteria, 39 subjects fit the Nixon Syndrome profile. The four different variable means for the Nixon and non-Nixon groups are presented in Table 2. From these results, it was evident that a group of children, labeled Nixons, does exist.

Insert Table 2 About Here

After it was determined that the Nixon group exists, it was necessary to look at other dependent variables to ascertain how the Nixons differentiate from the helpless and

mastery-oriented children. The two variables used were the usage of nonsense words on the anagram task and the verbalizations made during the persistence and anagram tasks.

Nonsense word usage was defined as writing down at least 10 out of 20 nonsense words on any one page of anagrams. It was found that 10 of the Nixon children and nine of the helpless children exhibited nonsense word usage, while only two of the mastery-oriented children used nonsense words (see Fig. 1). A chi-squared analysis was performed on these data which showed a significant difference between the three groups, $\chi^2(2) = 6.97$, $p<.05$. A chi-squared analysis was then performed to see which groups differed significantly from one another. The results showed significant differences between the mastery-oriented and helpless groups, $\chi^2(1) = 5.61$, $p<.02$, and between the Nixon and mastery-oriented groups, $\chi^2(1) = 6.54$, $p<.02$. There was no significant difference between the Nixon and helpless groups.

Insert Figure 1 About Here

Verbalizations attributing failure to lack of ability were defined according to the categorization system used by Diener and Dweck in 1978 (see Appendix A). All verbalizations made during the persistence and anagram tasks were recorded by the experimenter and were later coded into the different categories

by an independent rater. In accordance with the hypothesis, none of the Nixons made ability attributions for failure. The helpless group made the most ability attributions which is in agreement with Diener and Dweck's (1978) previous findings (see Fig. 2). A chi-squared analysis yielded a significant difference between the three groups, $\chi^2(2) = 11.23$, $p<.02$. Further analysis showed significant differences between the Nixon and mastery-oriented groups, $\chi^2(1) = 5.18$, $p<.05$ and the Nixon and helpless groups, $\chi^2(1) = 10.81$, $p<.01$. No significant difference was found between the mastery-oriented and helpless groups.

Insert Figure 2 About Here

An analysis of variance yielded other significant differences between Nixons and non-Nixons in terms of failure attributions obtained from the angle-matching task. Table 3 shows that Nixons made more effort and task difficulty attributions than did non-Nixons. However, as predicted, Nixons made fewer ability attributions than did non-Nixons. It is interesting to note here that the Nixon children who scored a 6 or a 7 on the I-(E) scale of the IAR are the ones who made the fewest number of ability attributions ($M=.067$) and the greatest number of task difficulty attributions ($M=14.7$).

Insert Table 3 About Here

Looking at the Nixon group alone, a significant racial difference was found, $F(1,149) = 4.90$, $p<.05$. A larger proportion of minorities were considered to be Nixons than were non-minorities. This difference may be caused by the other racial differences cited previously.

DISCUSSION

As stated previously, the results show that there does exist a group of overpersisters suffering from the Nixon Syndrome. According to the Nixon profile, these children display characteristics very similar to helpless children: low expectancies, avoidance of moderately difficult tasks, and success attributions to external factors. Clearly these children are unlike mastery-oriented children, except for their unusual persistence. Why is the Nixon persistence viewed as maladaptive while the mastery-oriented persistence is seen as beneficial for problem-solving strategies, even if they persist for the same length of time?

Previous research (Diener & Dweck, 1978) has shown that mastery-oriented children employ more effective strategies in the face of difficulty in order to achieve the correct solution. It is not until they have exhausted all plausible strategies that they would perceive themselves as having failed. Therefore, their persistence is adaptive to the situation. If they believe obtaining the solution is within their ability they will persist; however, when they realize the solution is not within their reach they will stop and move on to something else. For example, when they saw that failure on

the first puzzle was inevitable, they decided they could use their time more wisely on the second puzzle.

In contrast, the Nixon children (over)persisted on the first puzzle in order to forestall the admission of failure. This conclusion can be made for the following reasons: (a) the puzzle was chosen for this task because of its extreme difficulty--the children knew, based on their verbalizations, that it would be almost impossible to solve. For example, they said things like: "I ain't never going to get this", "I don't think you can do this", or "This is strange, I don't know how to do this". Yet (b) they persisted almost twice as long as the mastery-oriented group ($\underline{M}$ = 867 sec. and $\underline{M}$ = 481 sec., respectively), and (c) during the task, they were the only group who did not make any ability attributions for failure.

Another example of this fear to admit failure was demonstrated in the anagram task. The results show the persistent use of ineffectual strategies displayed by Nixon children. These children were afraid to turn in a blank sheet of paper for it would have looked as though they completely lacked the ability to do--or even try--the problems. In both the persistence and anagram tasks, Nixon children displayed maladaptive persistence because it led to unproductive problem-solving strategies.

The next question is why do these Nixon children have low expectancies? One might also ask why these children avoid moderately difficult tasks. The answer to these two questions is similar. The Nixon children, at all costs, want to avoid failure. Underestimating their ability for future success gives them greater leeway to do better than expected, and hence avoid the possibility of failure. Also, by choosing extremely easy problems, Nixon children have a greater chance to succeed than if they chose moderately difficult problems. Moderately difficult problems tend to reflect a person's true ability (McClelland, 1961; Weiner et al., 1971). However, extremely difficult problems are not reflective of one's true ability because very few people are capable of solving them. Therefore, Nixon children might choose extremely difficult problems too, because even if they do not succeed, it would not be reflective of their true ability.

The results also indicate that Nixon children attribute their successes to external factors instead of to their ability. But one might think they should attribute success to ability in order to truly cover up their lack of ability. However, if these children were to attribute success to their ability, people would expect them to succeed in the future. This would increase their chances of failure, because in their own minds, they know they do not have the ability to perform

successfully. By attributing success to external factors, the children are not saying anything about their true ability.

The comparisons, on nonprofile variables, between Nixon, mastery-oriented, and helpless children showed striking differences. In terms of nonsense word usage, mastery-oriented children concentrated on effective strategies and did not waste time writing down nonsense words. They do not express answers they know are incorrect. However, Nixon and helpless children do have a tendency to use nonsense words, but do they use them for the same reasons? As has been suggested, Nixon children might use nonsense words because they do not want to be perceived as unable to even try the problems. However, helpless children are not afraid to admit failure, so a possible explanation is that nonsense word usage is just another example of their use of ineffectual strategies. Whatever the reasons, one point is clear--nonsense word usage is characteristic of both Nixon and helpless children.

As expected, the Nixon and helpless children did differ significantly on the verbalizations. Nixon children would not acknowledge the fact that they were unable to solve the puzzle, whereas helpless children were more than willing to offer verbalizations indicating lack of ability. So, in this instance, Nixon children differed from both helpless and mastery-oriented children.

Based on the results presented it can be concluded that a group of Nixon children exists, but are they a subgroup of helpless children or are they a distinct group that fits somewhere along the continuum between helplessness and mastery-orientation? From the evidence introduced here, it seems more likely that they are a subgroup of helpless children, rather than a separate group. They have a profile similar to helpless children and both groups tended to use nonsense words on the anagram task. However, the current research also found differences between Nixon children and helpless children on verbalizations. Further research, comparing Nixon and helpless children on other variables, is needed before definite conclusions can be drawn.

Given that maladaptive persistence has been found in children, several implications for schooling can be made. It should be noted that most, if not all, teachers believe all persistence is beneficial to achievement. Remarked one teacher, "Jane Doe spent 20 minutes on the task--that's fantastic!" This demonstrates the need to make teachers aware of maladaptive persistence and the children who display it. A teacher who reinforces persistence may be causing more children to suffer from the Nixon Syndrome. For example, if a child does not know the answer to a problem he/she might work futilely in order to at least get praised for "working hard".

It would be interesting to observe a classroom to see how Nixon children behave in the class. By determining how they perform in class, certain guidelines could be established which would allow teachers to easily distinguish which children are Nixons. Are the Nixons the children who never raise their hands to answer questions because they are afraid to give incorrect answers? Are they the children who sit at their desks and never go up to the teacher for help? Do they like to work alone instead of in groups, for fear that the other children might witness their lack of ability? Are they the children who leave their schoolwork for homework so their parents (and not the teacher) can help them? Answers to these questions can be important determinants of the Nixon Syndrome.

Once teachers have learned how to identify Nixon children, they must be able to deal with the problem. Would it be beneficial to put a time limit on all schoolwork? Or should children just be taught how to allocate their time more effectively? Is it possible that parental attitudes towards their children's abilities influence the children's behavior in which case intervention should begin at home? Future research is needed to develop proper intervention programs.

Future studies on the Nixon Syndrome might profit from some changes in the methodology. First, a new persistence task relating more to an academic area could be used. Some children

might have perceived the puzzle as irrelevant to their learning, whereby they would give up quickly; or they might have thought it was fun to work on and hence would play with it until time ran out. Also, the task should have a clearly defined appropriate time to stop, and it could be designed so the experimenter could tell whether the children were using effective or ineffective strategies.

Second, children could be asked to verbalize during each task, with the verbalizations being recorded systematically. In the present study, experimenters were just told to write down whatever the children said and the verbalizations were coded afterwards. A problem that occurred was that some verbalizations were not written down. Also, by asking children to verbalize, there would be a significantly greater number of verbalizations to code which would improve the analysis.

In conclusion, it was determined that persistence may not be a beneficial characteristic of high achievement. A group of maladaptive persisters was found to exhibit behaviors characteristic of helpless children. However, it was not determined if these persisters are a subgroup of helpless children or if they are a distinct group fitting somewhere between the helpless and mastery-oriented groups. Possible questions for future research were discussed, along with ways to improve the present study. It should be emphasized that

further research is needed, now that we know this special group of children exists.

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Table 1

Order of Tasks and the Measures Obtained from Each Task

Task	Intellectual Achievement Responsibility Scale (IAR)	Angle-Matching	Persistence Puzzles	Anagrams	Word Search
Measures	How many attributions are made to lack of effort, I-(E), and ability, I-(A) How many success attributions are made to effort, I+(E), and ability, I+(A)	Attributions for: Failure Previous success Expectancy of future success	Time spent on the first puzzle before giving up	Number of: -Extremely easy -Moderately difficult -Extremely difficult Words chosen Expectancy of future success	Attributions for success

Table 2

Means for Nixon Profile Measures Compared with Means for Non-Nixons

Group	Time (sec.)	Expectancy	Word Choice			External Success Attributions
			3	5	8	
Nixon	866.6	20.5	12.2	4.2	3.6	17.8
Non-Nixons	458.4	25.8	11.3	7.0	1.7	11.0

Table 3

Significant Differences in Failure Attributions

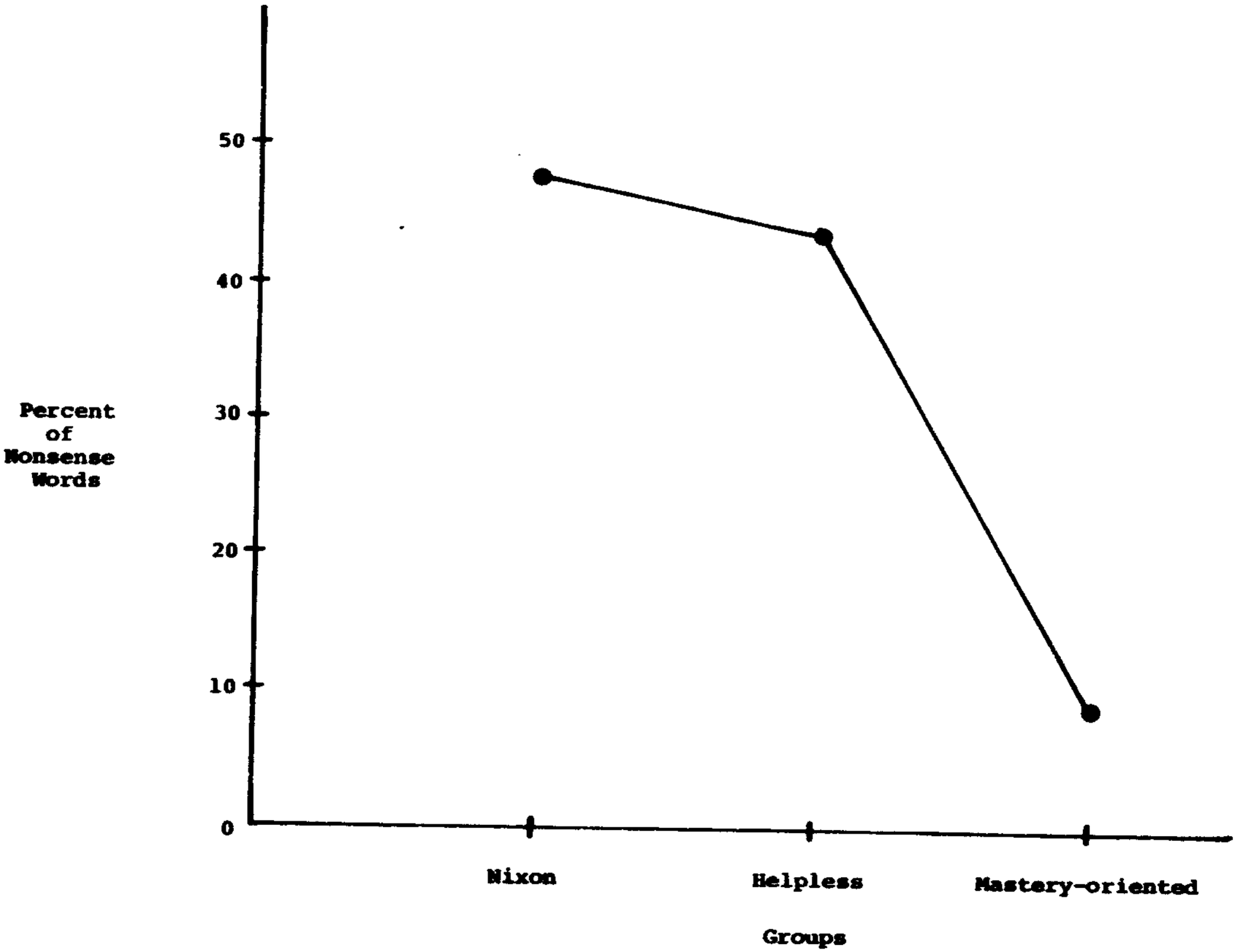
Between Nixons and Non-Nixons

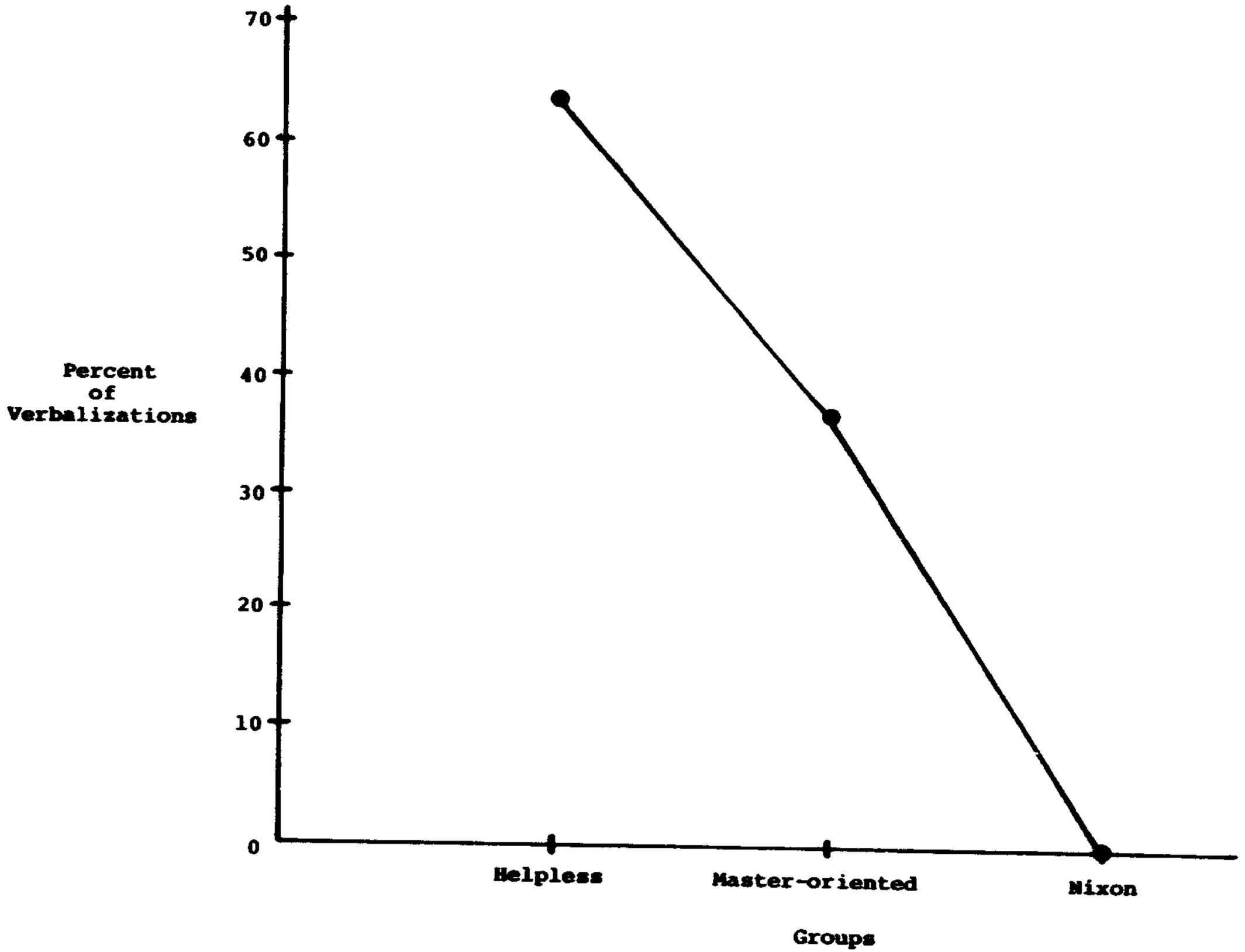
	Means			
Attributions	Nixon	Non-Nixons	F	p
Lack of effort	17.3	11.3	5.09	.025
Lack of ability	3.1	8.8	6.69	.01
Task difficulty	9.1	5.3	3.99	.025

Figure Captions

Figure 1. Percent of nonsense words used by Nixon, helpless, and mastery-oriented children.

Figure 2. Percent of verbalizations attributing failure to lack of ability.


Percent of Nonsense Words
50
40
30
20
10
0
Nixon
Helpless
Mastery-oriented
Groups


70
60
50
40
30
20
10
0
Percent of Verbalizations
Helpless
Master-oriented
Nixon
Groups

APPENDIX A

SCORING OF VERBALIZATIONS: ASSIGNMENT OF CATEGORIES

Taken from: 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.

1. Statements of Useful Task Strategy

These were statements indicating an active search for a solution. They included any plan or system that could eventually lead to a solution.

"I'll find the easiest one and do that first."

"I try one thing at a time."

"I'm picking all the easy ones so I don't waste time."

"Do the letters have to be lined up?"

2. Statements of Ineffectual Approach to Task

These were statements which indicated random guessing or ignored the experimenter's feedback. These statements would not lead to problem solution under normal conditions.

"I know it's not right, but I'll put it down because I can't think of anything."

"Just guessing."

"I have to put something down or else I'll get a big zero."

"No special plan--I just choose what I like."

"I can't decide--just switching around."

3. Attributions About the Causes of Failure or Past Mistakes

a) Attributions to a general lack of ability or to a loss of ability as indicated by confusion or the inability to think.

"I'm no good at these things."

"I don't know how to do this--I never used this before."

"I'm getting confused. I don't know what I am doing."

"I don't think I'll do well--I'm not good at spelling."

Other contributions which occurred included attributions to:

b) Task too difficult.

"These are mind-boggling."

"It's getting harder."

"This is impossible."

c) Experimenter's fault.

"I don't see how you expect anybody to do this."

"This isn't fair."

4. Self-instructions

These were statements the child directed to himself that if followed could improve his performance.

"Man, I better get moving."

"I need to concentrate more."

"I had better work harder."

5. Self-monitoring

These were statements that described the child's solution-oriented behavior other than his task strategy. They included descriptions of effort expenditure or maintenance of a problem-solving strategy.

"I know it starts with an "s", I think."

"Oh, c'mon--I got to get one word at least."

"This isn't working out too well, I think I better try it again."

6. Statements of Positive Affect

These were statements indicating that the task was fun, a challenge, of high interest to the child, or statements indicating the child wished to continue doing the task.

"This should be interesting."

"I like doing these."

"I think this is fun. I like puzzles."

"You should let me keep trying."

7. Statements of Negative Affect

These statements indicated anxiety, boredom, lack of interest, impatience to finish the task or a desire to terminate the task.

"I don't want to do any more."

"Oh, no!"

"I never liked these."

"I'm fed up with this puzzle."

"What good does word scrambles do for us?"

8. Positive Prognostic Statements

a) These were statements indicating that the child had a high expectancy of success or believed he could solve the problem if given sufficient opportunity.

"O.K., I've got it."

"I think I have it solved now."

"I'm gonna do it!"

b) A negative prognostic category indicated that the child believed it was useless to persist.

"I give up."

"I can't do this."

"I've had enough."

"I ain't never going to get this."

9. Solution-irrelevant Statements

These statements were either completely irrelevant to the task or were irrelevant to finding the solution even though the statement might contain a reference to the tasks used.

"We are moving soon."

"I'm clumsy today."

"Are you from the University of Illinois?"

APPENDIX B

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY QUESTIONNAIRE

This is a questionnaire to find out how you feel about some things that happen to you in your daily life. For each question put a check in front of the one choice that best describes what happens or how you feel. This is not a test. There are no right or wrong answers. Your answers will not be shown to anyone else in your school. Please be sure to answer all of the questions.

1. If a teacher passes you to the next grade, would it probably be

   ____a. because she liked you, or

   ____b. because of the work you did?

2. When you do well on a test at school, is it more likely to be

   ____a. because you studied for it, or

   ____b. because the test was especially easy?

3. When you have trouble understanding something in school, is it usually

   ____a. because the teacher didn't explain it clearly, or

   ____b. because you didn't listen carefully?

4. When you read a story and can't remember much of it, is it usually

____a. because the story wasn't well written, or

____b. because you weren't interested in the story?

5. Suppose your parents say you are doing well in school. Is this likely to happen

____a. because your school work is good, or

____b. because they are in a good mood?

6. Suppose you did better than usual in a subject at school. Would it probably happen

____a. because you tried harder, or

____b. because someone helped you?

7. When you lose at a game of cards or checkers, does it usually happen

____a. because the other player is good at the game, or

____b. because you don't play well?

8. Suppose a person doesn't think you are very bright or clever.

____a. Can you make him change his mind if you try to, or

____b. Are there some people who will think you're not very bright no matter what you do?

9. If you solve a puzzle quickly, is it

____a. because it wasn't a very hard puzzle, or

____b. because you worked on it carefully?

10. If a boy or girl tells you that you are dumb, is it more likely that they say that

____a. because they are mad at you, or

____b. because what you did really wasn't very bright?

11. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would happen

____a. because you didn't work hard enough, or

____b. because you needed some help, and other people didn't give it to you?

12. When you learn something quickly in school, it is usually

____a. because you paid close attention, or

____b. because the teacher explained it clearly?

13. If a teacher says to you, "Your work is fine," is it

____a. something teachers usually say to encourage pupils, or

____b. because you did a good job?

14. When you find it hard to work arithmetic or math problems at school, is it

____a. because you didn't study well enough before you tried them, or

____b. because the teacher gave problems that were too hard?

15. When you forget something you heard in class, is it

____a. because the teacher didn't explain it very well, or

____b. because you didn't try very hard to remember?

16. Suppose you weren't sure about the answer to a question your teacher asked you, but your answer turned out to be right. Is it likely to happen

____a. because she wasn't as particular as usual, or

____b. because you gave the best answer you could think of?

17. When you read a story and remember most of it, is it usually

____a. because you were interested in the story, or

____b. because the story was well written?

18. If your parents tell you you're acting silly and not thinking clearly, is it more likely to be

____a. because of something you did, or

____b. because they happen to be feeling cranky?

19. When you don't do well on a test in school, is it

____a. because the test was especially hard, or

____b. because you didn't study for it?

20. When you win at a game of cards or checkers, does it happen

____a. because you play real well, or

____b. because the other person doesn't play well?

21. If people think you're bright or clever, is it

____a. because they happen to like you, or

____b. because you usually act that way?

22. If a teacher didn't pass you to the next grade, would it probably be

____a. because she "had it in for you," or

____b. because your school work wasn't good enough?

23. Suppose you don't do as well as usual in a subject at school. Would this happen

____a. because you weren't as careful as usual, or

____b. because somebody bothered you and kept you from working?

24. If a boy or girl tells you that you are bright, is it usually

____a. because you thought up a good idea, or

____b. because they like you?

25. Suppose you became a famous teacher, scientist or doctor. Do you think this would happen

____a. because other people helped you when you needed it, or

____b. because you worked very hard?

26. Suppose your parents say you aren't doing well in your school work. Is this likely to happen more

____a. because your work isn't very good, or

____b. because they are feeling cranky?

27. Suppose you are showing a friend how to play a game and he has trouble with it. Would that happen

____a. because he wasn't able to understand how to play, or

____b. because you couldn't explain it well?

28. When you find it easy to work arithmetic or math problems at school, is it usually

____a. because the teacher gave you especially easy problems, or

____b. because you studied your book well before you tried them?

29. When you remember something you heard in class, is it usually

____a. because you tried hard to remember, or

____b. because the teacher explained it well?

30. If you can't work a puzzle, is it more likely to happen

____a. because you are not especially good at working puzzles, or

____b. because the instructions weren't written clearly enough?

31. If your parents tell you that you are bright and clever, it is more likely

____a. because they are feeling good, or

____b. because of something you did?

32. Suppose you are explaining how to play a game to a friend and he learns quickly. Would that happen more often

____a. because you explained it well, or

____b. because he was able to understand it?

33. Suppose you're not sure about the answer to a question your teacher asks you and the answer you give turns out to be wrong. Is it likely to happen

____a. because she was more particular than usual, or

____b. because you answered too quickly?

34. If a teacher says to you, "Try to do better," would it be

____a. because this is something she might say to get pupils to try harder, or

____b. because your work wasn't as good as usual?