CHILDREN'S RESPONSES TO REINFORCEMENT TECHNIQUES

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CHAPTER 1

INTRODUCTION

The development and maintenance of self-esteem in children is important to all who are concerned with child development. Parents involved in childrearing, teachers involved in child education, and health care professionals involved in child care and parent education are among those who seek ways to assist children in successfully meeting goals.

Achievement development in children is a complex process which begins early in their lives and continues through adulthood. Achievement experiences the children have during childhood will effect how they react to challenges in the future.

Various techniques are used by society to promote the development of a motivation to achieve. Positive reinforcement may be experienced externally in the form of verbal praise from others or in the form of rewards or privileges given. Positive reinforcement may be experienced internally when feelings of self-satisfaction about performance occur.

Negative reinforcement has also been found to be a powerful motivator. Again, negative reinforcement may be experienced from both external and internal sources. Neutral reinforcement neither positive nor negative in substance is an additional technique which influences behavior.

Questions arise. Do all individuals and particularly children react to these techniques in the same manner? Or are there perhaps other variables which act upon individuals and influence their reactions? One such variable may prove to be the sex of the child. Society has a great influence on determining sex-role behavior. This influence acts on children from infancy through adulthood. In the last 10 years some dramatic changes in society accepted sex-role behavior have occurred. The Equal Rights Amendment and the feminist movement have broadened the female sex-role to include many new areas for female involvement. But is it that simple? Do men and women react in the same manner in achievement situations? Are the young boys and girls of today reacting in the same way to achievement situations in school?

This study examined achievement situations and reinforcement techniques. An attempt was made to identify

whether children react differently to these on the basis of sex. Information from this study and others like it may prove helpful in identifying ways in which feelings of self-esteem and development of a sense of achievement in all children can be more successfully fostered in the future.

Problem of Study

The study was conducted to identify sex differences in children's responses to reinforcement conditions.

Justification of the Problem

The establishment of self-esteem and a sense of achievement in children is a concern for nurses who work with child clients and their families. Nurses caring for children attempt to limit the negative impact of illness and hospitalization on their clients. Nurses are taught the importance of reinforcement techniques as behavior modifiers in classes on psychology and child development. Nurses are also influenced by the achievement experiences and types of reinforcement they have been subject to in their lives.

Nurses use information on development of self-esteem in children when teaching parents and when providing

anticipatory guidance regarding childrearing. This information is also utilized if the nurses are employed in the school-nurse role where they may be called upon as consultants by the teachers in the schools. A knowledge of the process of achievement development in children is of value to these nurses.

V. J. Crandall, Katkovsky, and Preston (1960) identified a conceptual formulation for studying achievement development in children. Based upon their studies of the behavior of children the authors suggested that the strength of attainment values held by children should positively correlate with the child's behavior in staying with and maintaining effort when presented with a difficult task. These authors suggested that a child's expectations of success should correlate positively with his/her task persistence and that attainment value held by the child influences his/her expectations for success and task performance. Finally, they suggested that a child's achievement behavior is a complex manifestation influenced by several factors--the goal, the type of skill required, and the type of situation being experienced. The authors anticipated that the results of this study would generate further research in the area of achievement development in children.

V. J. Crandall et al. (1962) continued research into children's achievement development with a study evaluating relations between early grade-school children's achievement motivations and attitudes and their performance in several different intellectual situations. Some sex differences in response and behavior were found.

> The motivational component of the girl's intellectual achievement behaviors was found to be wishful and (sometimes) unrealistic, while the boy's performances were frequently associated with their actual abilities, their confidence in these abilities and their feelings of responsibility for their achievement experiences. (V. J. Crandall et al., 1962, p. 659)

Girls placed more value on intellectual competence than boys. Girls also were more likely to place responsibility on themselves rather than others for their successes and failures which resulted from their efforts. The boys' expectations for success generally correlated positively with their intellectual achievement behaviors. The girls' expectations for success correlated negatively with or were nonsignificantly related to their intellectual behaviors. The results of this study indicated there might be a difference between the sexes in the response to achievement situations and further research was needed.

In 1968 V. C. Crandall and McGhee published a report of five studies of the relationship between expectancy of

reinforcement and academic competence. All five studies demonstrated that there was a positive relationship between expectancy estimates and academic performance. The subjects who had higher expectancies of reinforcement or felt their performance would be successful had higher levels of performance. The studies were conducted on populations ranging from 13-17 years of age. The results were not indicative of a sex difference in responses in the age groups studied.

Wright (1968) investigated children's responses to various reinforcement techniques. The population was limited to children, ages 10.1 and 11.1 years. The four reinforcement conditions employed were no reinforcement, positive reinforcement for correct responses, negative reinforcement for wrong responses, and positive and negative reinforcement. The author found that the combination of positive and negative reinforcement was the most effective in enhancing behavior. This was followed by a negative, positive, and no reinforcement in that order. One interaction between sex and treatment was significant in this study. For girls positive reinforcement was better than no reinforcement. This was not true of boys. Girls in the no reinforcement condition showed increasing signs of nervousness, were erratic, and

seemed unable to learn from their mistakes. "No such interference effects were discernible in the behavior of the boys under the control conditions" (Wright, 1968, p. 182).

Cotler and Palmer (1970) studied the performance of children in the fourth, fifth, and sixth grades. This study investigated how performance was affected by the level of anxiety of the subject, the sex of the subject, and the type of reinforcement the subject received. The authors found that the girls did significantly better than the boys in the reward condition and in the no reinforcement condition. The girls were equivalent to the boys in the punishment conditions. Under the no reinforcement condition the boys responded like the reward groups while the girls responded like the punishment groups. Cotler and Palmer (1970) suggested that this may be because boys see "no response" as indicating that performance is satisfactory, while girls see "no response" as indicating criticism of their performance. This sex difference may be due to the premise boys are more likely to receive overt criticism in the school setting than girls and are responding to no reinforcement more as they would to a reward than a punishment. "Girls may be viewed as more oriented toward seeking overt praise and perhaps more

sensitive about not receiving praise than boys" (Cotler & Palmer, 1970, p. 231). The authors viewed their study as having implications in educational and clinical settings.

> Given individual difference factors such as levels of chronic drive states, we can be in a position to decide what social contingencies can be most effective in facilitating performance on a complex task. (Cotler & Palmer, 1970, p. 231)

Robertson (1977) studied the sex differences in children's expectations before and after positive and neutral reinforcement. The study sample consisted of children ages 8-12 years. The author found that boys expected to do better than girls on both intellectual and social tasks prior to being given reinforcement. Following both types of reinforcement girls raised their expectations more than the boys. Girls raised their expectations more following positive than neutral reinforcement. Boys raised their estimates more following neutral than positive reinforcement.

Robertson (1977) suggested that the results can be interpreted as reflecting sex differences in levels of self-confidence and internal evaluation. Girls may be more dependent on overt external reinforcement in order to establish their self-confidence. Boys may be more autonomous, relying more on internal reinforcement to

establish their self-confidence. Positive reinforcement about performance may be viewed by boys as a pressure rather than an encouragement.

> Results of the current study emphasize the crucial importance of continued research into the area of childrearing practices. The sex differences in expectancies and levels of self-confidence which have been found across achievement areas suggest basic differences in the ways parents and other socializing adults respond to male and female children from a very early age. (Robertson, 1977, p. 107)

Theoretical Framework

Human development has been studied from various perspectives. Erikson (1950) investigated human development in the psychological area. The author identified tasks which are of primary importance to specific age groups. According to Erikson's theory, the school-age child is concerned primarily with the development of a sense of industry. The sense of industry is described as "a sense of being able to make things and make them well and even perfectly" (Erikson, 1968, p. 123).

In developing a sense of industry the child becomes an enthusiastic and active participant in a productive situation. "To bring a productive situation to completion is an aim which gradually supercedes the whims and wishes of play" (Erikson, 1950, p. 259). The child learns the

pleasures that are associated with successful task completion. "He now learns to win recognition by producing things" (Erikson, 1968, p. 124).

If the child is unsuccessful in mastering the tasks during this period, he may develop a sense of inadequacy or inferiority. "The child despairs of his equipment in the tool world and in anatomy, and considers himself doomed to mediocrity or inadequacy" (Erikson, 1950, p. 260). This may result in the child pulling back from the competitive arena and isolating himself in the demands of the previous developmental stage.

The child's world broadens with the arrival of the school experience. Interactions with his teachers and his peers take on importance in the development of this sense of industry. Teachers need to know how to recognize effort on the child's part. They need to know how to provide encouragement in order to assist the child in learning new skills and using his talents optimally (Erikson, 1968).

Erikson (1968) viewed this as a most important stage in social development. It is the stage during which the child experiences and develops a sense of technological ethos of the culture.

> Therefore, the configurations of culture and the manipulations basic to the prevailing

> technology must reach meaningfully into school life, supporting in every child a feeling of competence--that is, the free exercise of dexterity and intelligence in the completion of serious tasks unimpaired by an infantile sense of inferiority. This is the lasting basis for cooperative participation in productive adult life. (Erikson, 1968, p. 126)

Directly associated with the development of sense of industry is the concept of achievement. In 1960 V. J. Crandall et al. published a theoretical paper regarding achievement development in children. The authors viewed children as progressing from a period of helplessness in infancy to gradually developing motivations and skills necessary for achieving an increasing variety of goals. During early childhood, the child faces new learning situations with maturing capacities. The need for achievement is seen as emerging from a genetically prior need system.

> By nursery school age or early grade school age, individual differences are apparent in the strength of the children's achievement needs, in the achievement standards they have incorporated, and in the techniques they have acquired to obtain various achievement goals. (V. J. Crandall et al., 1960, p. 788)

In order to distinguish achievement behavior from other goal-directed behaviors, V. J. Crandall et al. (1960) used three criteria in combination. These criteria are:

1) The inferred goal of the behavior.
2) The unique characteristic of the behavior involved.

3) The nature of the situations in which the behavior occurred. (V. J. Crandall et al., 1960, p. 789)

V. J. Crandall et al. (1960) identified the goal of achievement behavior as "the attainment of approval and the avoidance of disapproval" (p. 789). Approval and disapproval are either self-imposed or come from others. They can be verbal or expressed with prizes or rewards or the withdrawal of privileges or withholding of prizes. The inferred goal of achievement behavior is "a distinctive class of reinforcements; i.e., approval-disapproval or symbols representing this" (V. J. Crandall et al., 1960, p. 789). The unique characteristics of the behavior involved is seen as the actual competence of the performance by the individual. The nature of the situations in which behavior occurs is viewed as situations entailing tasks or activities in which a standard of excellence might be applied to the competence of the behavior exhibited. V. J. Crandall et al. combined the three criteria in their definition of achievement behavior.

> Achievement behavior is behavior directed toward the attainment of approval or the avoidance of disapproval (the goal) for competence of performance (characteristic of the behavior) in situations where standards of excellence are applicable (nature of situations). (1960, p. 789)

In studying the achievement behavior of children, V. J. Crandall et al. (1960) noted that motivation, standards, expectations, and efforts may vary greatly from one area to another. The authors studied the areas of intellectual skills, physical skills, artistic creative skills, and mechanical skills. From this study two concepts predictive of achievement behaviors were derived. The first is the concept of achievement choices. Children were found to have consistent differences in the frequency with which they did or did not choose to participate in achievement activities. In making choices some children consistently chose the intellectual area while others consistently chose the physical, artistic creative, or mechanical areas. The second concept is task persistance. Some children are spurred on to greater effort when confronted with a difficult achievement task while others will cease their efforts when placed in the same situation. V. J. Crandall et al. (1960) suggested three constructs to be used in predicting individual differences in achievement behaviors of children. These constructs are attainment value, achievement standards, and achievement expectancy.

Attainment value is "the importance that an individual attaches to the attainment of approval and the avoidance

of disapproval regarding the competence of his performance in a given achievement area" (V. J. Crandall et al., 1960, p. 791). Approval and disapproval are the defining cues for competence of performance and are the potential reinforcements for achievement behaviors. Reinforcements affect the importance that children attach to various achievement goals. The children acquire different attainment values for various achievement areas.

Achievement standards are "a scale of excellence against which the competence of an individual's achievement efforts may be evaluated" (V. J. Crandall et al., 1960, p. 792). Achievement standards have some identifiable parameters. These include the height of the standards, the form of the standards, the breadth of the standards, the stability of the standards, and the source of the achievement standards.

Achievement expectancy is "the probability held by the individual that his achievement efforts will lead to goal attainment" (V. J. Crandall et al., 1960, p. 795). Achievement expectancy is seen as a useful predictor of children's achievement behaviors.

Using the three constructs and the concept of task persistence, the following points summarize V. J. Crandall et al.'s theory of achievement development in children.

1) The strength of attainment values held by children should be positively correlated with task persistence.
2) Children's expectations of success should be positively associated with task persistence.
3) Attainment value should enhance the correlation of expectancy and task performance.
4) Use of the concept of height of achievement standards provides possible predictions beyond those generated from the constructs of attainment value and achievement expectation. (1960, p. 795).

Assumptions

For the purpose of this study, the following assumptions were identified:

1. The subjects will respond to the achievement expectancy scales honestly.

2. Social reinforcement affects behavior.

3. The Peabody Picture Vocabulaty Test (PPVT) is an appropriate instrument for use as a task performance situation.

Hypotheses

The hypotheses for this study were:

1. Female self-expectancy measures will be higher than male self-expectancy measures prior to reinforcement.

2. Female task performance scores will be higher than male task performance scores prior to reinforcement.

3. Female self-expectancy measures will be lower after positive reinforcement.

4. Female self-expectancy measures will be higher after neutral reinforcement.

5. Male self-expectancy measures will be higher after positive reinforcement.

6. Male self-expectancy measures will be lower after neutral reinforcement.

7. Female task performance scores will be higher after positive reinforcement.

8. Female task performance scores will be lower after neutral reinforcement.

9. Male task performance scores will be lower after positive reinforcement.

10. Male task performance scores will be higher after neutral reinforcement.

Definition of Terms

For the purpose of this study, the following terms were identified:

1. Expectancy--achievement expectancy defined by V. J. Crandall et al. (1960) is "the probability held by the individual that his achievement efforts will lead to goal attainment" (p. 795).

2. Expectancy measures--an individual child's answers to the questions, How well will you do on the task?, and How will you do compared to other children? as indicated by his/her responses on a self-evaluation scale and a social comparison scale.

3. Neutral reinforcement--condition under which the subject receives the verbal response, "Okay," after every eighth response on the PPVT and between the administration of Form A and Form B of the PPVT.

4. Positive reinforcement--condition under which the subject receives the verbal response, "Fine, that is a good answer," after every eighth response on the PPVT. Between the administration of Form A and Form B of the PPVT the subject is told:

> I can tell you really did very well on the first part of the word game. Some people have a hard time matching the words with the pictures, but I can tell you're very good at it. You have a very good vocabulary which helped you do a terrific job on this.

5. Task--the Peabody Picture Vocabulary Test (PPVT).

6. Task performance score--the individual child's percentile score on the Peabody Picture Vocabulary Test.

7. Children--children between the ages of 9.0 years and 11.0 years at the time of the testing.

Limitations

The following limitations for this study were identified:

1. The sample size was relatively small because of the limitation of the study to children at one private school.

2. The population was limited to children from age 9.0 years to 11.0 years.

3. The population was limited to one geographical area.

4. The population was almost exclusively composed of members of the white race.

5. The population was composed of children from the middle- and upper-middle-class socioeconomic groups.

6. Present intellectual functioning of the sample members was not measured.

7. Previous and/or current academic success or failure of the sample members were not investigated.

8. Previous and/or current teacher attitudes toward and use of reinforcement techniques in the school setting were not investigated.

9. Previous and/or current parental attitudes toward and use of reinforcement techniques in child-rearing were not investigated.

10. Presentation of the self-evaluation scale first may have had a positive or negative bias on the scoring of the social comparison scale.

11. Presentation of the expectancy measures may have had a positive or negative bias on the subjects' task performance.

12. The sex of the investigator may have had a positive or negative bias on the subjects' responses.

Summary

This study attempted to identify the responses of children to positive and neutral social reinforcement techniques. Determination of a difference in response to the reinforcement conditions between male and female children was the purpose of the investigation. In Chapter 1 the discussion of the justification of the problem and of the theoretical framework provide support for the view that this study is relevant to the continued development of knowledge of children's achievement motivation and behavior. Chapter 2, the Review of Literature, presents an overview of achievement motivation. Children's responses to social reinforcement conditions are discussed. Chapter 3 describes the methodology used to obtain data for this study. Chapter 4 contains an analysis of the information collected by

means of the measurement tools. Chapter 5 provides discussion of the findings. Conclusions and implications based upon the findings are presented. Recommendations for further study are made.

CHAPTER 2

REVIEW OF LITERATURE

The areas to be considered in reviewing the literature include achievement motivation, the concept of expectancy, the effects of social reinforcement techniques, and children's language abilities. The major focus in all areas will be on identifying specific differences based upon the sex of the subjects. Achievement motivation will be reviewed from a general perspective moving toward the more specific consideration of the achievement motivation of children. Expectancy will be defined and reviewed in relation to task performance, task persistence, and the effects that the actual act of stating expectancies has on performance and persistence. Social reinforcement will be reviewed in relation to its effects on expectancy, performance, and persistence. Finally, children's language abilities will be discussed in general, and then a closer examination of children's performance on the Peabody Picture Vocabulary Test (PPVT) will be presented.

Achievement Motivation

Early work on development of a theory of achievement motivation was done by McClelland, Atkinson, Clark, and Lowell (1953). The authors identified the concept of "n" achievement as being an individual's achievement motivation. McClelland et al. (1953) viewed this concept as the factor underlying an individual's behavior in any situation where he is working to attain success and in which there are standards of excellence which may be applied. One criticism of the work done by McClelland et al. is that most of their research employed male populations. The authors did include females in a limited number of studies. Their findings on sex differences were:

1. Women get higher N Ach scores than men under neutral conditions (2 studies).
2. Women do not show an increase in N Ach scores as a result of achievement involving instructions (3 studies).
3. Women's N Ach scores seem as valid as men's, in that they relate to performance in the same way. (1953, p. 178)

Atkinson (1966) further developed the theory of achievement motivation. The author introduced the concepts of an individual's motive to achieve success, motive to avoid failure, probability of success, probability of failure, incentive value of success, and incentive value of failure. In any achievement situation

a motive, an expectancy or probability, and an incentive interact and determine an individual's behavior.

Horner (1972) introduced the concept of motive to avoid success as an attempt to explain sex differences in achievement behaviors.

> It is identified as an internal psychological representative of the dominant societal stereotype which views competence, independence, competition, and intellectual achievement as qualities basically inconsistent with femininity even though positively related to masculinity and mental health. (Horner, 1972, p. 157)

The author viewed females as expecting negative results from successes in achievement situations. This expectation arouses a fear of success which interferes in a negative manner with female performance and level of aspiration.

The work by V. J. Crandall et al. (1960, 1962) on the development of a theory of achievement motivation in children has been discussed previously. One important point which distinguishes the authors' theory from the others cited is the position that the factors involved in achievement motivation may be different as the achievement situations vary.

Solomon (1969) provided support for the idea that achievement behavior may be influenced by factors in the situation. The author indicated that academic achievement

"relates only moderately or slightly to achievement behavior in various situations" (Solomon, 1969, p. 121). The achievement behavior of individual children is influenced by the characteristics of the task.

Expectancy

V. C. Crandall (1969) described three ways in which the concept of expectancy can be defined. Expectancy may be viewed in relation to the type of reinforcement which can be experienced in a specific situation.

> This form of expectancy is synonymous with the individual's perception of the kind of reinforcement which he sees as likely to ensue from his behavior in a particular situation. (V. C. Crandall, 1969, p. 12)

When using the term "expectancy" in this way a person's individual need and his perceptions as to what extent reinforcement will be positive or negative in relation to the need are considered.

Expectancy is also denoted as being directly related to the attribution of a specific outcome to a specific cause. "This is the individual's expectation that his own behavior is or is not responsible for an outcome event" (V. C. Crandall, 1969, p. 13). The third way in which the author defined expectancy is in terms of an individual's success in receiving a specific reinforcement.

> It is the height of the probability held by the individual that his instrumental behavior will be adequate to obtain a single, specified reinforcement, or alternatively, the level of reinforcement on a single continuum which he predicts his behavior is able to elicit. (V. C. Crandall, 1969, p. 13)

Within the context of this third definition of expectancy the present research study was conducted.

A relationship between expectancy and performance has been documented in the literature. Studies by Feather (1963b, 1966) and Feather and Saville (1967), using adult populations, demonstrated that prior successes or failures affect an individual's expectations for success. Expectancy scores decrease after failure and increase after success. Feather (1963b) stated that:

> A person's actual experience at a task and at related tasks, the frequency and patterning of his successes and failures, appear to be the dominant influences which shape his present expectations. (p. 237)

The persistence at a task component of performance which is also viewed as a component of motivation or achievement behavior has been shown to be related to expectancy. Feather (1963a) used an adult male population in a study of the relationship between task persistence and expectancy. The author found that individuals with high expectancies for success, who also have a high achievement motivation and are low in anxiety

level, persist at a task for a longer period of time than individuals with low expectancies for success.

Battle (1965) studied the relationship between task persistence and expectancy in children. Using a population composed of seventh-, eighth-, and ninth-grade students, task persistence at a mathematics problem was investigated. Expectancy was one of the main independent variables. The author found a significant positive correlation between level of expectancy and task persistence. Subjects with positive levels of expectancy persist at the task longer than do subjects with low levels of expectancy. The author also noted a sex difference in relation to this finding which indicated that the correlation between task persistence and expectancy is stronger for males than females.

The positive correlation between expectancy and academic competence was demonstrated by V. C. Crandall and McGhee (1968) in their review of five studies. The authors established that a higher level of expectancy is associated with a higher level of academic performance for both males and females.

The finding of a difference in expectancy levels on the basis of the subjects' sex has been demonstrated in several studies. Feather (1968, 1969) using adult

populations found that female expectancy levels are lower than male expectancy levels. "Females were lower in initial confidence, higher in external attribution, and higher in feelings of inadequacy than were males" (Feather, 1969, p. 129). The author suggested that these findings might be indicative of the way in which females perceive their feminine role in culture. Females may feel that modesty is a feminine trait while self-confidence may be considered to be a more masculine trait.

V. C. Crandall (1969) presented four studies which demonstrate sex differences in expectancy. The sample populations consisted of 41 children, ages 7 years 2 months to 12 years 2 months; 380 adults, ages 18 years to 26 years; and 256 students in the eighth grade. In all populations studied data affirmed that female expectancies are lower than male expectancies.

V. C. Crandall (1969) suggested that this finding might be due to one or more factors. Stated expectancies may not be accurate measures of internally held expectancies due to influences such as cultural demands for modesty in females and self-confidence in males. The author reported that suitable tools for investigating this influence are not available, and, therefore, the

effects of sociocultural demands on sex-role behavior in the area of expectancy stating can neither be supported nor refuted.

According to V. C. Crandall (1969), another influencing factor may be the value of intellectual-academic reinforcement the individual perceives. The author reported that research findings related to this factor do not allow comparison, and that the issue cannot be resolved at the present time.

V. C. Crandall (1969) suggested that males and females may develop different expectations because of receiving different reinforcement during their lives. Girls receive more positive reinforcement in grading during school age, but the author suggested that more actual praise may be given to boys and more actual criticism may be given to girls. Further research in this area is called for by the author.

The final possible explanation for sex differences in expectancies suggested by V. C. Crandall (1969) is that these expectancy differences may indicate a difference on the basis of sex in sensitivity to positive and negative reinforcement. This factor was a major focus in studies presented by the author. No significant sex difference in assimilation of reinforcement is identified.

The following conclusions are identified by V. C. Crandall (1969):

> That girls give estimates of their own intellectual and academic capabilities lower than do boys seems quite well established and consistent over the various ages studied. Relative to their own past academic performance, the boys are over-optimistic while the girls are at first slightly hopeful but become more pessimistic as their college careers progress. As to their capability in new intellectual situations, the girls' estimates are relatively lower than their past performance would indicate; the boys' estimates are equivalently higher. (p. 41)

Sex differences in expectancies of children are further documented in research studies. Montanelli and Hill (1969) studied achievement expectations and performance in 54, 10-year-old subjects. Boys are found to have higher initial achievement expectancies than girls. This finding is also documented in studies done by Nicholls (1975) on a population composed of 96 fourth-graders and by Wylie (1963) on a population composed of 823 junior high school students.

The question of whether the actual act of stating expectancies affects performance has been addressed in research studies. Zajonc and Brickman (1969) found that when no other feedback is provided adult behavior is affected by stating expectancies with greater improvement in performance by individuals whose expectancy is high

than by individuals who express low expectancy. Dweck and Gilliard (1975) studied the effect of expectancy stating on the performance of 60 fifth-graders. The authors varied the schedule of expectancy stating within the population:

> Patterns of both persistence and expectancies varied strikingly with the schedule of statements, and, more important, major effects were in opposite directions for the two sexes. For example, initial statements heightened boys' persistence but tended to decrease girls' persistence. (Dweck & Gilliard, 1975, p. 1077)

Social Reinforcement

The relationship between various types of reinforcement techniques and task performance and persistence has received attention in the literature. Bergan, McManis, and Melchert (1971) examined the difference in performance of 48 students in the fourth grade under three treatment conditions. One group received no reinforcement, one group received social reinforcement in the form of verbal praise statements, and one group received token reinforcement in the form of chips having a monetary value. The task consisted of the WISC Block Design. The authors found that boys respond to both token and social reinforcement with gains in accuracy under the token conditions and speed gains under the social condition.

Girls show gains in accuracy and losses in speed under all treatment conditions.

> Girls showed significantly greater gains in accuracy than boys under social reinforcement, while boys showed significantly greater speed gains than girls under social reinforcement. (Bergan et al., 1971, p. 871)

Unikel, Strain, and Adams (1969), using children ages 5 and 6 years, also found that the use of tangible or social reward affects learning task performance. The authors identified no difference in effectiveness of the two types of reinforcement or in effectiveness on the basis of the sex of the subjects.

In 1972, Spear and Spear studied the effects on performance produced by giving children from the first, second, fifth, and sixth grades praise, silence, or criticism on a fixed interval system during a discrimination learning task. The results indicate that subjects take longer to respond in the criticism condition than in either silence or praise conditions. Performance, as measured by number of trials to reach criteria, improves to a greater degree under criticism than praise conditions. When silence is employed, younger children appear to be more affected as indicated by requiring a greater number of trials to reach criteria than older children.

Allen, Spear, and Lucke (1971) examined the effects of social reinforcement in the forms of approval, disapproval, and silence on learning and retention of learning after 8 days. The population consisted of 192 children divided equally on the basis of sex. The children were first-, second-, fifth-, and sixth-grade students. The authors found results which are indicative that disapproval affects motivation and learning. Children who receive criticism respond by slowing their performance rates and making more errors. The younger subjects, and in particular the boys, are affected to a greater degree by negative social reinforcement.

The relationship between social reinforcement and expectancy in children has been documented in the literature. Hill and Dusek (1969), in a study of 8-9-year-old children found that the administration of positive social reinforcement results in an increase in expectancies for both males and females. The reaction is, however, more significant for females. Under the non-reinforcement conditions male and female expectancies remain stable.

Adelman (1969) investigated the effects of nonreaction by an adult on the expectancy of 64 males who had been divided under the descriptions, achievers

and underachievers. The author found that the underachievers react to the neutral or nonreaction condition as if it is positive and raise their expectancies while the achievers view it as negative and lower their expectancies. Positive social reinforcement was found to lead to higher expectancies while negative social reinforcement leads to lower generalized expectancies. The latter finding is supported in the Altshuler (1974) study, which employed a population of 96 fifth-graders composed of members of both sexes.

A child's interpretation of nonreaction or neutral reinforcement is investigated in several studies (Meyer & Seidman, 1961; V. C. Crandall, 1963; V. C. Crandall, Good, & V. J. Crandall, 1964). In all these investigations it was found that in preschool and school-age children neutral reinforcement when paired with positive reinforcement is seen as having negative value by the children. Neutral reinforcement when paired with negative reinforcement is viewed as having positive value by the children.

Sex differences in children's responses to reinforcement techniques have been found. V. J. Crandall and Rabson (1960) noted that girls are more often involved in seeking approval from others than are boys. Girls are

also found to avoid a previously-failed task to a much greater degree than the boys.

Horowitz and Armentrout (1965) studied the effects of positive reinforcement in the form of verbal praise versus negative reinforcement in the form of a buzzer sound. The population was composed of children who were all students in the fourth, fifth, and sixth grades. Performance on a learning task was measured. The authors found that males improve their performances to a significant degree under both positive and negative reinforcement conditions. Females, however, demonstrate improvement under positive reinforcement only.

Cotler and Palmer (1971) studied the relationship between social reinforcement and elementary school children's reading performance. The authors determined that reinforcement does affect reading performance. The boys in this study are seen as being more susceptible to the influences of reinforcement than girls. The authors concluded that elementary school girls are more task motivated than boys, more inner directed, and less dependent upon extrinsic motivational factors.

Babad (1972) noted that girls react more strongly than boys to situations where postiive social reinforcement is either limited in a deprivation situation or

given frequently in a satiation situation. Girls' performance levels are lower than boys under satiation and higher than boys under deprivation.

> This finding seems to be in accord with the popular notion that grade-school girls are more dependent than boys on social approval and thus more sensitive to social reinforcement, reacting more strongly to both deprivation (higher than boys) and satiation (lower than boys) treatments. (Babad, 1972, p. 212)

Studies by Cotler and Palmer (1970), Robertson (1977), and Wright (1968) also provide clear documentation of sex differences in children's responses to social reinforcement techniques. These studies are discussed in detail in the previous chapter.

Language Skills

In the area of language skills, female ability has generally been accepted as being superior to male ability. Maccoby and Jacklin (1974) reviewed numerous studies to determine if female superiority continues to be substantiated in the research literature. The authors suggested that there are specific periods in language development when female ability is superior to male ability. The first period is the earliest stage of language development occurring before the age of 3 years. The authors suggested that there has been

little research in recent years utilizing children in the toddler stage of development.

Studies done in the past support female superiority in language skill ability for the toddler-age group. From age 3 years until 10 years, language skills are similar between the sexes. No significant sex differences in the preschool or early school-age child's language skills are identified in the literature reviewed by Maccoby and Jacklin (1974).

The authors found that beginning around 10 years of age females demonstrate superiority over males in a variety of language skills. This trend continues through adolescence and into the early 20s. Maccoby and Jacklin (1974) noted that the findings depend on the type of testing employed with males doing as well as females on general knowledge tests. "But in tests of verbal power, girls above age 11 frequently do better, and in some studies the difference is fairly large in absolute terms" (Maccoby & Jacklin, 1974, p. 84). The authors summarized their findings concerning sex differences in language skills stating:

> . . . for large unselected populations the situation seems to be one of very little sex difference in verbal skills from 3 to 11, with a new phase of differentiation occurring at adolescence. (1974, p. 85)

A review of studies utilizing children's performance on the PPVT provides support for the previously-discussed position. Studies done on a preschool-age population (Ali & Costello, 1971; Harrison & Nadelman, 1972; Shure, Spivak, & Jaeger, 1971; Sitkei & Meyers, 1969; Williams & Fleming, 1969) demonstrated that male and female performance on the PPVT is not significantly different in the preschool-age group. McCarver and Ellis (1972) administered the PPVT to 60 children 5 and 6 years of age. The PPVT was used as a component of a study of the effects of cultural differences and verbal labeling on short-term memory. No significant sex differences in performance are identified for white, middle-class children or low-socioeconomic-status black children.

Penney (1965) administered the PPVT to 178 children ages 9 years to 11 years. The author found that male and female performance on the PPVT is not significantly different in this age group. In only one study are the results contradictory. France (1973) utilized the PPVT while studying the effects of "white" and "black" voice tones of an examiner on IQ test performance. The population consisted of 250 children ages 6 years to 10 years. Results demonstrated male scores are higher than female scores on the PPVT.

Summary

The review of literature provides support for the identification of a theory of motivation specific to child behavior. The concept of expectancy is seen as a major factor in the motivation process having a relationship to task performance and task persistence. There is good documentation in the literature to support that there are sex differences in expectancies.

Social reinforcement is a factor exerting influence on children's expectancies, task performance, and task persistence. Information concerning consistent sex differences in children's responses to reinforcement techniques is limited and contradictory providing evidence that this is an area where further research is needed.

Finally children's language skills have received research attention. At the present time research indicates that there is no identifiable sex difference in male and female performance in the language skills area and more especially on the PPVT during the preschool and school-age periods.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This study was quasi-experimental in nature utilizing an experimental method of obtaining data to identify sex differences in subjects' responses to the application of the independent variables. Quasi-experiments involve the manipulation of the independent variable or variables but lack a control population or the randomization of the sample. In quasi-experimental designs some attempt at introducing controls into the study is made in order to offset to some degree the absence of a control group and/or randomization (Polit & Hungler, 1978).

A randomized control group pretest-posttest design was used. "In this case, conclusions can be reached about the differential effects of Method A and Method B, without the control group" (Isaac & Michael, 1971, p. 38). This design can be extended in order to investigate variations of the independent variable.

The dependent variables in this study consisted of the subject's scores on the self-evaluation scale, the social comparison scale, and the PPVT. These scores were

collected prior to and after the manipulation of the independent variable. The independent variable was the type of reinforcement the subject received during the study session.

Two forms of the independent variable were employed. One sample group received positive reinforcement. The other sample group received neutral reinforcement. This process constitutes the manipulative component of the chosen design. Following the methodology utilized in the Robertson (1977) study, negative reinforcement was not employed. The decision not to employ negative reinforcement was also based upon anticipated difficulty in obtaining agency permission to conduct the study and parental consent for subject participation.

Randomization of the sample was carried out. This randomization process is further delineated in the discussion of the population and sample.

A control group was not employed in this study. Attempts to introduce some controlling measures are discussed in the delimitations of the population and in the identification of the data collection process.

Setting

This study was conducted in a large private school serving grades kindergarten through 12. The school is in

a metropolitan area with a population of over one million people located in the southwest portion of the United States. Within this setting, a well-lighted space in a quiet area away from classroom activities was used to accommodate the subjects and investigator during the collection of data. The setting was furnished with two chairs and a table. All collection of data was conducted in this area.

Population and Sample

All 80 fourth-grade students at the school were given a letter explaining the purposes and methodology of the study (Appendix A) and asked to take it home to their parents. A consent form (Appendix B) and a demographic questionnaire (Appendix C) were included with the letter. The parents were requested to complete the forms and send them back to the school with their child. The returned forms were reviewed by the contact person at the school for selection of the sample with the following delimitations:

1. The subjects were age 9.0 years to 11.0 years.
2. Parental consent for participation in the study was given.

On the basis of information provided by the school authorities:

3. The subjects had no known learning disabilities or mental handicaps.

4. The subjects had not been exposed to the PPVT prior to this study.

A very limited response was obtained from the first distribution of letters to the parents. For this reason a second distribution containing identical materials was done. A total of 31 consent forms and information sheets were returned to the contact person at the school. The contact person reviewed the completed forms and determined that all of the children met the delimitations of the study. The sample consisted of 16 males and 15 females. The subjects were brought to the investigator in a random order based upon the contact person's and classroom teachers' determinations that the child could be excused from class at a given time. The investigator had no knowledge of the identity of the subjects and assumed no control over the order in which the subjects arrived for the testing session.

Protection of Human Subjects

Permission to conduct the study was requested from the Human Research Review Committee at the Texas Woman's University following the submission of the study proposal and the appropriate forms to the Committee for review

(Appendix D). Permission to conduct the study was requested from the appropriate school authorities following submission of the study proposal and oral presentation of the proposal to them. The Texas Woman's University agency permission form was completed (Appendix E).

Parental consent for the subject's participation in the study was requested after information concerning the purposes of the study and the methodology to be used was provided to the parents. All subjects' parents completed the Texas Woman's University Subject Consent Form (Appendix B). Prior to the subjects' participation in the study verbal consent was obtained from the child after he/she received an explanation of the testing situation from the investigator. The subject was informed that he/she could withdraw from the study at any time without consequence.

The parents of the subjects were advised that the decision as to whether or not to allow their child to participate in the study would have no influence on his/her present school standing. The subjects also received this information. The parents were offered the opportunity to receive the results of the completed study.

A potential human risk to the subjects from participation in this study was emotional upset in response to the task performance situation. The parents were advised that if the child became overtly anxious or upset or chose not to continue during the performance of the task the testing would be discontinued without consequence to the child and/or parent.

To protect the participant's anonymity, the subject's name was not recorded during the collection of data. The investigator was not aware of the subject's identity at any time during the study. The subjects were identified by a numerical code. The subjects were recorded in numerical order as they arrived for the testing session, i.e., Female 1, 2, 3, . . . ; Male 1, 2, 3, ... All scores were recorded under their identifying code number.

Instruments

Expectancy Measures

The expectancy measures consisted of two 12-point scales (Appendix F). The self-evaluation scale is labeled "How Will You Do?" and ranges from "Excellent" through "Good; Average; Poor" to "Terrible." The subject was asked to think about how well he/she would do on the task and then to circle the number on the scale which described this expectation most accurately. The social comparison

scale is labeled "How Will You Do Compared to the Other Children?" The scale ranges from "Will Do The Best" through "Will Do Well; Will Do Average; Will Do Poorly" to "Will Do The Worst." The child was asked to think about how well he/she expected to do on the task compared to the other children, and then to circle the number describing this most accurately (Robertson, 1977).

The expectancy measures used are the same as those developed and employed by Robertson (1977). Permission from the author was obtained prior to the use of the tools in this study (Appendix G). Robertson (1977) pilot-tested these scales and then employed them in a study of 73 children ages 8.0 years to 12.0 years. The author identified no difficulties in administering the scales to children. The discussions of the methodology employed, the data collected, the analysis of data, and the study results contained in the author's paper included no identification of questions concerning the reliability and validity of these instruments. The scales were used successfully in the Robertson (1977) study to measure self-expectation in children. Further validity and reliability of these instruments are provided in that initial expectancies have been measured by means of ordinal or rank-order scales in numerous studies done

(V. C. Crandall & McGhee, 1968; V. J. Crandall et al., 1960, 1962; Spear & Armstrong, 1978).

According to Piaget (1976) the child from age 5-1/2 years to 8 years develops the ability to articulate representative regulations. The author viewed this phase as an intermediatry phase between nonconservation and conservation. The child is able to make beginning connections between states and transformations and demonstrates this ability through such activities as increasing articulations of classifications and relations of order. This indicates that the scales used are a valid methodology for the sample chosen

Peabody Picture Vocabulary Test

The Peabody Picture Vocabulary Test (PPVT) is a nonverbal, multiple-choice test (Dunn, 1965).

> The test was designed to evaluate children between the ages of 2-1/2 years and 18 years who have no hearing disabilities and who can answer "yes" or "no" in some manner. The PPVT was designed to provide an estimate of an individual's verbal intelligence through measuring his hearing vocabulary or receptive knowledge of vocabulary. (Sattler, 1974, p. 236)

The PPVT consists of 150 plates with four pictures on each plate. The plates are arranged in increasing difficulty. The examiner states a word and the child identifies the picture which corresponds to the word

given. The test is untimed and requires between 10 and 15 minutes to complete. There are two forms of the test which differ in that they use different words.

Reliability. The PPVT (both Form A and Form B) was standardized on 4,012 cases (Dunn, 1965). Since the PPVT was introduced, it has been the subject of several reliability studies. The results from 11 of these studies are included in the administration manual.

> In light of evidence to date, coefficients of equivalence and temporal stability appear to be satisfactory for both average children, and for those who have one of a number of disabilities. (Dunn, 1965, p. 32)

Validity.

> Content validity was built into the test when a complete search was made of Webster's New Collegiate Dictionary (G&C Merriam, 1953) for all words whose meanings could be depicted by a picture. . . . As long as the PPVT is assumed to measure hearing vocabulary, its rational validity rests on its content validity. . . . Item validity was established by selecting individual words where the percent of the subjects passing increased from one age group to the next. (Dunn, 1965, pp. 32-33)

Between 1959 and 1964, 33 studies on validity of the PPVT were reported. The results from those studies are included in the administration manual (Dunn, 1965).

> The PPVT may be useful in measuring extensiveness of vocabulary and degree of cultural assimilation of children (Cole, 1966).

> However, PPVT scores should not be considered in isolation from other measures of intelligence or of language ability (Cf. Costello and Ali, 1971). (Sattler, 1974, p. 240)

The PPVT is viewed as a useful additional screening tool with some limitations as a tool for measurement of children's intelligence (Sattler, 1974).

For this study only percentile scores were calculated and used in the data analysis. The PPVT was chosen because it is an enjoyable test for the child, requires no special training for the person administering the test, requires a limited amount of time, has two forms to allow pre-independent variable and post-independent variable measurements, and has validity and reliability as a measurement of receptive knowledge of vocabulary for children ages 9.0 years to 11.0 years.

Data Collection

The subjects were tested individually. The testing was conducted in a quiet area away from classroom activities. The investigator introduced herself to the subject and attempted to make the child comfortable. The task was explained to the subject and verbal consent was then obtained. Each subject was also informed that he/she could withdraw at any time without consequence. After the explanation was given and verbal consent

was received, the subject was asked to complete the Self-Evaluation Form and the Social Comparison Form. Form A of the PPVT was administered.

Following the administration of the PPVT Form A, the even-numbered subjects received positive reinforcement and the odd-numbered subjects received neutral reinforcement. The subject was then asked to complete a second Self-Evaluation Scale and Social Comparison Scale. Form B of the PPVT was administered. The subject was thanked for his/her participation in the study and was escorted back to his/her class.

The standardized rules of administration for the PPVT (Dunn, 1965) were followed at all times with one exception. Rule 3 states that praise should be given generously during the test administration (Dunn, 1965). In order to control what might have been an interfering variable in the test situation and to further differentiate the application of the independent variables the investigator provided encouragement during the test situation in the following manner:

1. All even-numbered subjects who received positive reinforcement between administration of Form A and Form B of the PPVT received positive reinforcement after

every eighth response during both administrations of the PPVT.

2. All odd-numbered subjects who received neutral reinforcement between administration of Form A and Form B of the PPVT received neutral reinforcement after every eighth response during both administrations of the PPVT. (For further procedural details, see Appendix H.)

Treatment of Data

Data collected during the study were recorded in a table format. The following data were collected on each subject.

1. The numerical code given to the subjects as they arrived at the study session. The number code identifies which of the two independent variables was applied. Even-numbered subjects received positive reinforcement. Odd-numbered subjects received neutral reinforcement.

2. The sex of the subject.

3. The two self-evaluation scores.

4. The two social comparison scores.

5. The two percentile scores received on the PPVT administrations.

The data were analyzed utilizing the grouped *t*-test and the paired *t*-test procedures. The *t*-test is used when testing the effect of the independent variable on two groups

of subjects or on one subject when pretreatment and posttreatment measurements are collected.

> The basic parametric procedure for testing differences in group means is the t-test. A distinction must be drawn between the case in which the two groups are independent (such as an experimental and control group, or male versus female subjects) or dependent (as when a single group yields pretreatment and post-treatment scores). (Polit & Hungler, 1978, p. 548)

The grouped t-test or the t-test for independent samples was used when making comparisons between the male scores and the female scores. The paired t-test was used when analyzing the pretreatment and posttreatment measures obtained from subjects in a single group such as the females under the positive reinforcement condition.

CHAPTER 4

ANALYSIS OF DATA

This study was conducted for the purpose of identifying the responses of children to two types of reinforcement conditions. A total of 31 children participated in the study. Each child completed an initial self-evaluation scale and an initial social comparison scale. Form A of the Peabody Picture Vocabulary Test (PPVT), a second self-evaluation scale, a second Social Comparison Scale, and Form B of the PPVT were administered to each subject under either a positive or a neutral social reinforcement condition. The data obtained from the self-expectancy measures and the PPVT are presented and statistically described in this chapter. An attempt is made to determine whether males and females respond differently to positive and neutral reinforcement techniques.

Description of Sample

The sample consisted of 31 school-age children who were fourth-grade students at a private school in a large metropolitan area. A total of 16 males and 15 females participated in the study. The age of the subjects

ranged from 9 years, 5 months to 10 years, 10 months. The mean age for the male subjects was 10 years, 3 months. The mean age for the female subjects was 10 years, 1 month. All subjects met the age delimitations for the sample and were between age 9.0 years and 11.0 years. Parental consent was provided for each subject. Verbal consent from each subject was obtained at the time of the testing session. According to information provided by the school authorities, none of the subjects had known learning disabilities or mental handicaps, and no subject had been exposed to the PPVT prior to this study. Each subject was tested individually on one of three consecutive days of data collection at the school during April 1980.

Findings

Hypothesis 1 stated: Female self-expectancy measures will be higher than male self-expectancy measures prior to reinforcement. All scores on the self-evaluation scale and the social comparison scale administered prior to reinforcement being given were compared using a two-sample *t*-test with grouping according to the sex of the subject. Table 1 lists the scores for each subject, the means for the groups, and the mean differences between the groups.

Table 1

Self-Expectancy Measures--Prior to Reinforcement

Subject Number	Self-Evaluation		Social Comparison	
	Male	Female	Male	Female
1	5	1	6	2
2	3	2	3	4
3	5	4	6	3
4	2	1	3	1
5	2	3	3	4
6	3	4	4	4
7	4	4	5	3
8	2	3	3	6
9	3	3	3	6
10	1	3	2	5
11	1	4	5	3
12	2	4	4	6
13	2	3	1	6
14	2	4	3	4
15	4	4	6	5
16	1		3	
Mean	2.625	3.133	3.750	4.133
Mean Difference		-.5083		-.3833
Standard Deviation		1.196		1.517
p		<0.124		<0.244

N = 31.

The mean self-evaluation score for the male subjects is 2.625. The mean self-evaluation score for the female

subjects is 3.133. The mean difference between the male and female scores is -.5083 with a pooled standard deviation of 1.196. At the 0.05 significance level, there is no significant difference between male and female self-evaluation scores prior to reinforcement being given (t = 1.18; df = 29, p < 0.124).

The mean social comparison score for the male subjects is 3.750. The mean social comparison score for the female subjects is 4.133 for a mean difference between the male and female scores of -.3833 with a pooled standard deviation of 1.517. At the 0.05 significance level, there is no significant difference between male and female social comparison scores prior to reinforcement being given (t = -0.70, df = 29, p < 0.244).

No significant difference between male and female expectancy measures obtained prior to reinforcement is identified. Hypothesis 1 is, therefore, rejected.

Hypothesis 2 stated: Female task performance scores will be higher than male task performance scores prior to reinforcement. Scores on Form A of the PPVT were compared using a two sample t-test with grouping according to the sex of the subject. Table 2 lists the score for each subject, the means for the groups, and the mean difference between the groups.

Table 2

PPVT Scores--Prior to Reinforcement

Subject Number	PPVT-Form A	
	Male	Female
1	98	71
2	84	98
3	92	99
4	86	62
5	84	79
6	95	67
7	46	45
8	90	97
9	64	92
10	99	90
11	84	97
12	86	79
13	57	71
14	97	92
15	98	67
16	92	
Mean	84.50	80.40
Mean Difference	4.100	
Standard Deviation	15.92	
p	<0.24	

N = 31.

The mean score of the male subjects on Form A of the PPVT is 84.50. The mean score of the female subjects on Form A of the PPVT is 80.40. The mean difference between

the male and female scores is 4.100 with a pooled standard deviation of 15.92. Significance was assigned at the 0.05 level. There is no significant difference between the mean scores of males and females on Form A of the PPVT (t = 0.72, df = 29, p < 0.24). Hypothesis 2 is, therefore, rejected.

Hypothesis 3 stated: Female self-expectancy measures will be lower after positive reinforcement. The scores of female subjects on the self-evaluation scale and the social comparison scale obtained prior to and after positive reinforcement was administered were compared using a paired t-test. Table 3 lists the scores for each subject and the average difference between the scores obtained prior to reinforcement and the scores obtained after positive reinforcement was given.

The average difference between female self-evaluation scores obtained prior to and after positive reinforcement was administered is -0.4286. At the 0.05 significance level, there is no significant difference between the scores obtained prior to and those obtained after positive reinforcement was administered (t = -0.891, df = 6, p < 0.204).

The average difference between female social comparison scores obtained prior to and after positive reinforcement was administered is 0.7143. At the 0.05 significance level, there is no significant difference

Table 3

Female Self-Expectancy Measures--
Positive Reinforcement Condition

Subject Number	Self-Evaluation		Social Comparison	
	Form A	Form B	Form A	Form B
2	2	4	4	5
4	1	1	1	1
6	4	3	4	4
8	3	3	6	5
10	3	4	5	4
12	4	6	6	4
14	4	3	4	2
Average Difference	-0.4286		0.7143	

N = 7.

between the scores obtained prior to and those obtained after positive reinforcement was given (t = 1.698, df = 6, $p < 0.07$).

No significant difference between female expectancy measures obtained prior to and after positive reinforcement was given is identified. Hypothesis 3 is, therefore, rejected.

Hypothesis 4 stated: Female self-expectancy measures will be higher after neutral reinforcement. The scores

of female subjects on the self-evaluation scale and the social comparison scale obtained prior to and after neutral reinforcement was administered were compared using a paired t-test. Table 4 lists the scores for each subject and the average difference between the scores obtained prior to reinforcement and those scores obtained after neutral reinforcement was given.

Table 4

Female Self-Expectancy Measures--
Neutral Reinforcement Condition

Subject Number	Self-Evaluation		Social Comparison	
	Form A	Form B	Form A	Form B
1	1	3	2	3
3	4	6	3	5
5	3	5	4	5
7	4	4	3	5
9	3	6	6	6
11	4	5	3	5
13	3	5	6	5
15	4	6	5	6
Average Difference	-1.750		-1.000	

N = 8.

The average difference between female self-evaluation scores obtained prior to and after neutral reinforcement was given is -1.750. Significance was assigned at the 0.05 level. There is a significant difference between the scores obtained prior to and those obtained after neutral reinforcement was administered (t = -5.584, df = 7, $p < 0.001$).

The average difference between female social comparison scores obtained prior to and after neutral reinforcement was given is -1.000. Significance was assigned at the 0.05 level. There is a significant difference between the scores obtained prior to and those obtained after neutral reinforcement was administered (t = -2.646, df = 7, $p < 0.033$).

The data analysis illustrates a significant difference between the pre-reinforcement and post-reinforcement expectancy measures of female subjects receiving neutral reinforcement. The subjects responded under the neutral reinforcement condition by raising their scores on both the self-evaluation scale and the social comparison scale. A stronger effect is seen in the area of self-evaluation. Hypothesis 4 is accepted for this sample.

Hypothesis 5 stated: Male self-expectancy measures will be higher after positive reinforcement. The scores

of male subjects on the self-evaluation scale and the social comparison scale obtained prior to and after positive reinforcement was administered were compared using a paired t-test. Table 5 lists the scores for each subject and the average difference between the scores obtained prior to reinforcement and the scores obtained after positive reinforcement was given.

Table 5

Male Self-Expectancy Measures--Positive Reinforcement Condition

Subject Number	Self-Evaluation		Social Comparison	
	Form A	Form B	Form A	Form B
2	3	3	3	3
4	2	1	3	2
6	3	3	4	4
8	2	2	3	2
10	1	2	2	2
12	2	3	4	4
14	2	1	3	1
16	1	2	3	4
Average Difference	-0.1250		0.3750	

N = 8.

The average difference between male self-evaluation scores obtained prior to and after positive reinforcement was given is -0.1250. At the 0.05 significance level, there is no significant difference between the scores obtained prior to reinforcement and those obtained after positive reinforcement was administered (t = -0.424, df = 7, p < 0.343).

The average difference between male social comparison scores obtained prior to and after positive reinforcement was administered is 0.3750. At the 0.05 significance level, there is no significant difference between the scores obtained prior to reinforcement and those obtained after positive reinforcement was administered (t = 1.158, df = 7, p < 0.143).

No significant difference between the male expectancy measures obtained prior to reinforcement and those obtained after positive reinforcement was given is identified. Hypothesis 5 is consequently rejected.

Hypothesis 6 stated: Male self-expectancy scores will be lower after neutral reinforcement. The scores of male subjects on the self-evaluation scale and the social comparison scale, obtained prior to and after neutral reinforcement was given, were compared using a paired t-test. Table 6 lists the scores for each subject and

the average difference between scores obtained pre-reinforcement and post-reinforcement under the neutral-reinforcement condition.

Table 6

Male Self-Expectancy Measures--Neutral Reinforcement Condition

Subject Number	Self-Evaluation		Social Comparison	
	Form A	Form B	Form A	Form B
1	5	6	6	7
3	5	4	6	4
5	2	5	3	7
7	4	3	5	5
9	3	5	3	3
11	1	5	5	5
13	2	3	1	3
15	4	6	6	5
Average Difference	-1.375		-0.500	

N = 8.

The average difference between male self-evaluation scores obtained prior to and after the administration of neutral reinforcement is -1.375. Significance was assigned at the 0.05 level. There is a significant

difference between the scores obtained prior to and those obtained after the neutral reinforcement was given ($t = -2.200$, $df = 7$, $p < 0.032$).

The average difference between male social comparison scores obtained prior to and after the administration of neutral reinforcement is -0.500. Significance was assigned at the 0.05 level. There is no significant difference between the scores obtained prior to and those obtained after reinforcement under the neutral reinforcement condition ($t = -0.764$, $df = 7$, $p < 0.24$).

The data analysis illustrates a significant difference between male self-evaluation scores for the subjects under the neutral reinforcement condition. The subjects responded by raising their scores on the self-evaluation scale following reinforcement. Unlike the female subjects under the neutral reinforcement condition, the males did not raise their social comparison scores to a significant degree. The difference between male responses on the self-evaluation under the neutral reinforcement condition is in the opposite direction from the stated hypothesis. There is no significant difference in male social comparison scores under the neutral reinforcement condition. Hypothesis 6 is rejected.

Hypothesis 7 stated: Female task performance scores will be higher after positive reinforcement. Female subjects' scores on Form A and Form B of the PPVT obtained under the positive reinforcement condition were compared using a paired t-test. Table 7 lists the scores for each subject and the average difference between the scores on Form A and the scores on Form B for female subjects receiving positive reinforcement.

Table 7

Female PPVT Scores--Positive Reinforcement Condition

Subject Number	PPVT	
	Form A	Form B
2	98	96
4	62	63
6	67	99
8	97	96
10	90	96
12	79	67
14	92	82
Average Difference	-2.000	

N = 7.

The average difference between the scores on Form A and Form B of the PPVT for female subjects under the positive reinforcement condition is -2.000. Significance was assigned at the 0.05 level. No significant difference between the scores is identified (t = -0.362, df = 6, p < 0.365). Hypothesis 7 is rejected.

Hypothesis 8 stated: Female task performance scores will be lower after neutral reinforcement. Female subjects' scores on Form A and Form B of the PPVT obtained under the neutral reinforcement condition were compared using a paired t-test. Table 8 lists the scores for each subject and the average difference between the females' scores obtained under the neutral reinforcement condition.

The average difference between the scores on Form A and Form B of the PPVT for female subjects under the neutral reinforcement condition is 6.375. Significance was assigned at the 0.05 level. No significant difference between the scores is identified (t = 1.254, df = 7, p < 0.125). Hypothesis 8 is, therefore, rejected.

Hypothesis 9 stated: Male task performance scores will be lower after positive reinforcement. Male subjects' scores on Form A and Form B of the PPVT obtained under the positive reinforcement condition were compared using a paired t-test. Table 9 lists the scores

Table 8

Female PPVT Scores--Neutral Reinforcement Condition

Subject Number	PPVT	
	Form A	Form B
1	71	43
3	99	89
5	79	71
7	45	43
9	92	96
11	97	99
13	71	47
15	67	82
Average Difference	6.375	

N = 8.

for each subject and the average difference between the males' scores obtained under the positive reinforcement condition.

The average difference between the scores on Form A and Form B of the PPVT for male subjects under the positive reinforcement condition is 5.250. At the 0.05 significance level, there is no significant difference between the scores (t = 1.194, df = 7, p < 0.136). Hypothesis 9 is rejected.

Table 9

Male PPVT Scores--Positive Reinforcement Condition

Subject Number	PPVT	
	Form A	Form B
2	84	85
4	86	91
6	95	99
8	90	63
10	99	99
12	86	63
14	97	95
16	92	92
Average Difference	5.250	

N = 8.

Hypothesis 10 stated: Male task performance scores will be higher after neutral reinforcement. Male subjects' scores on Form A and Form B of the PPVT obtained under the neutral reinforcement condition were compared using a paired *t*-test. Table 10 lists the scores for each subject and the average difference between the males' scores obtained under the neutral reinforcement condition.

Table 10

Male PPVT Scores--Neutral Reinforcement Condition

Subject Number	PPVT	
	Form A	Form B
1	98	95
3	92	92
5	84	89
7	46	88
9	64	81
11	84	82
13	57	38
15	98	97
Average Difference	-4.875	

N = 8.

The average difference between the scores on Form A and Form B of the PPVT for male subjects under the neutral reinforcement condition is -4.875. Significance was assigned at the 0.05 level. No significant difference between the scores is identified (t = -0.767, df = 7, p < 0.234). Hypothesis 10 is rejected.

Summary of Findings

The results of the data analysis identify no significant differences between male and female expectancy measures or task performance scores prior to reinforcement being administered. Neither females nor males demonstrate significant differences between the self-expectancy measures and task performance scores obtained pre-reinforcement and those scores obtained post-reinforcement under the positive reinforcement condition. Under the neutral reinforcement condition, neither females nor males present significant differences in their task performance scores. Female self-expectancy measures differ significantly under the neutral reinforcement condition. In this situation females raised both their self-evaluation scores and social comparison scores significantly after reinforcement was given. Male self-evaluation scores differ significantly under the neutral reinforcement condition. In this situation, the males demonstrated an increase in their self-evaluation scores after reinforcement was given. Male social comparison scores do not differ significantly under the neutral reinforcement condition. Only one hypothesis, Hypothesis 4, is supported statistically and is accepted. All other hypotheses are rejected.

CHAPTER 5

SUMMARY OF THE STUDY

The purpose of this study was to identify the responses of children to positive reinforcement and neutral reinforcement conditions. An attempt was made to determine whether males and females respond differently to each type of reinforcement applied.

Summary

The subjects who participated in this study were 31 fourth-grade students at a private elementary school. The sample was composed of 16 males and 15 females. The subjects ranged in age from 9 years, 5 months to 10 years, 10 months. Each subject participated in a 30-minute individual evaluation session during April 1980.

The data obtained consisted of the subjects' expectancy measures and task performance scores recorded prior to and after the application of the reinforcement conditions. The subjects, grouped according to their sex, were numbered consecutively as they arrived for the testing session. The subjects received a brief explanation of the task performance situation and were then asked to anticipate their level of success on the first task and

to record their expectancy measures on a self-evaluation scale and a social comparison scale. A higher score on the scales indicated a lower level of self-esteem or self-confidence. Form A of the Peabody Picture Vocabulary Test (PPVT) was administered. The even-numbered subjects received positive social reinforcement, in the form of verbal praise, at controlled intervals during and at the conclusion of the PPVT administration. The odd-numbered subjects received neutral social reinforcement in the form of the verbal "O.K." at the same controlled intervals during and at the conclusion of the PPVT administration. The subjects were asked to anticipate their success on the second task. Their expectancy measures were recorded on a second self-evaluation scale and a second social comparison scale. Form B of the PPVT was administered under the same reinforcement condition the subject had experienced during the administration of the PPVT Form A. The data collected from the subjects were compared using the two sample t-test and paired t-test in order to determine whether the male subjects differed from the female subjects in their responses to the reinforcement conditions.

Discussion of Findings

The results of the data analysis identified no significant difference between male and female expectancy measures obtained prior to reinforcement being given. This finding is inconsistent with those of V. C. Crandall (1969), Feather (1968, 1969), Montanelli and Hill (1969), Nicholls (1975), and Wylie (1963), who reported female expectancy levels are lower than male expectancy levels. Discussion with the principal of the private school attended by the subjects suggests that the female students at the school receive encouragement aimed at increasing their self-esteem, self-confidence, and positive feelings in relation to their femininity. The fact that female expectancy measures were not significantly lower than male expectancy measures may be a reflection of the societal changes taking place with regard to the feminist movement. One example of these social influences may be the commitment by the school personnel to building self-esteem in their female students.

No significant difference was identified between male and female task performance scores obtained prior to reinforcement being administered. This finding is consistent with those of Maccoby and Jacklin (1974), who reported no significant difference in verbal skill

ability between the sexes from age 3 years to age 11 years. The finding is also consistent with those of McCarver and Ellis (1972) and Penney (1965), who reported no significant difference between male and female performance on the PPVT in the school-age group.

Neither the female subjects nor the male subjects demonstrated significant differences in their task performance scores under either of the two reinforcement conditions. These findings neither support nor refute the findings in studies done by Allen et al. (1971), Bergan et al. (1971), Cotler and Palmer (1970, 1971), Spear and Spear (1972), Unikel et al. (1969), and Wright (1968), which demonstrated that task performance is affected by application of various forms of social reinforcement. The lack of significant findings may be related to the limited size of the sample. Discussion with the school principal suggests that frequent positive social reinforcement is given to all students at the school, and that the children in the sample have received this reinforcement throughout their school experiences. This past reinforcement history of the subjects may have influenced their responses to reinforcement in the present study setting. Since differences in performance were not found under either the positive or

the neutral reinforcement condition, this may be an indication that the two reinforcement conditions employed in this study were not sufficiently different in nature.

Neither the female nor the male subjects demonstrated significant differences between pre-reinforcement and post-reinforcement expectancy measures under the positive reinforcement condition. These findings neither support nor refute the findings in studies done by Hill and Dusek (1969) and Robertson (1977), which demonstrate relationships between social reinforcement and expectancy in children. The lack of significant findings may again be related to the limited sample size, the subjects' reinforcement histories, and the nature of the positive reinforcement condition employed.

Female self-expectancy measures differed significantly under the neutral reinforcement condition. Male pre-reinforcement and post-reinforcement self-evaluation scores differed significantly under the neutral reinforcement condition. Both groups raised their post-reinforcement self-evaluation scores. Only the females raised their post-reinforcement social comparison scores under the neutral reinforcement condition. These findings are inconsistent with the findings of Robertson (1977), which demonstrate a difference on the basis of sex in

expectancy setting under a neutral reinforcement condition. The significant difference between female expectancy measures obtained under a neutral reinforcement condition is consistent with the findings in studies by Cotler and Palmer (1970) and Wright (1968), which indicated that females view neutral reinforcement as indicating criticism of their behavior. The significant difference between male self-evaluation scores obtained under the neutral reinforcement condition is consistent with the findings of Adelman (1969), who noted that males, classified as achievers, react to neutral reinforcement negatively and lower their expectations. The school population from which the sample was selected is composed of children of normal to high intelligence levels with the majority of the students potentially classifiable as achievers.

Conclusions and Implications

Two conclusions can be reached based on the findings of this study. The first is that for female school-age children, verbal skill abilities are not significantly different from male verbal skill abilities in the area of receptive knowledge of vocabulary. The finding cannot be generalized due to the limited size and selective nature of the sample. However, there are implications

for individuals involved in the screening and evaluation of children's verbal abilities. They should be aware that differences in receptive vocabulary ability may not be explained on the basis of a sex difference for this age group.

The second conclusion is that the expectancy setting of school-age children is affected by the giving of neutral reinforcement. Females lower their self-confidence and self-esteem under the influence of neutral reinforcement. This conclusion is based upon increases in female self-evaluation scores and social comparison scores after neutral reinforcement was given. The males demonstrated the same response in their self-evaluation scores under neutral reinforcement. There was no significant change in male social comparison scores under the neutral reinforcement condition. The finding cannot be generalized due to the limited size and the selective nature of the population. However, the subjects' responses do suggest that neutral reinforcement may be viewed as a negative factor by school-age children.

All individuals involved in working with children of school age should be aware that neutral verbal reinforcements given by them in responding to the school-age child's behavior may be viewed as criticism by the child.

Clearly positive or clearly negative verbal reinforcements may be better reinforcers for this age group. The school-age child may be less likely to misinterpret the reinforcement in a negative manner if the positive and negative reinforcement techniques are employed.

Recommendations for Further Study

As a result of this study, the following are recommendations for further research in the area of children's responses to social reinforcement techniques.

1. Enlargement of the total sample size and expansion of the age groups studied.

2. Comparison of the responses of children attending public school with those of children attending private school.

3. Comparison of the responses of children from varying socioeconomic backgrounds.

4. Comparison of the responses of children from varying ethnic groups.

5. Study of the relationship between the children's intellectual functioning and their responses to reinforcement techniques.

6. Study of the relationship between children's past reinforcement histories and their present responses to reinforcement conditions.

7. Employment of negative, as well as, positive and neutral social reinforcement conditions.

APPENDIX A

EXPLANATION OF PURPOSES AND

METHODOLOGY OF THE STUDY

Dear Parent:

As partial completion of the requirements leading to a degree of Master of Science from the Texas Woman's University, College of Nursing, I am studying boys' and girls' responses to praise and neutral reassurance. I have been granted permission by the administration at your child's school to conduct the study there. Mrs. Estelle Dickens will act as the contact person at the school.

I am seeking children for participation in this study. The study will require the children to perform two trials of matching words they are given with pictures they are shown. Some children will receive praise for their performances and others will receive neutral reassurance in the form of a simple "okay." The children will be asked to fill out a self-evaluation scale and a scale asking them the question, "How well will you do compared to other children?" prior to administration of each word matching trial. The total time required for participation is 30 minutes.

At no time will the children receive criticism of their performance. If a child becomes anxious or upset during the testing or does not wish to continue, he/she will be escorted back to their classroom. All individual data collected during the testing session are for this study only and will be kept confidential.

By allowing your child to participate in this study, you will be contributing information which may prove beneficial in identifying ways in which all of us who are involved in working with children can best build their self-esteem and help them to perform at their best. After the study is completed, the results of this study will be provided to the school and will be available for your review.

You have the right to allow or refuse to allow your child to participate in this study. Your decision whether or not to allow your child to participate will have absolutely no influence on his/her school standing.

There are no benefits for participation other than the ones contained in the previous paragraph of this letter. There are no penalties for choosing not to have your child participate. You also have the right to withdraw without consequence the consent for your child to participate and to cease your child's participation in the study at any time.

If you agree to allow your child to participate in this study, please read and sign the following attached consent form and fill out the attached information sheet. Please place the consent form and the information sheet in the enclosed envelope and ask your child to return it to Mrs. Dickens. When I have received your consent for your child to participate in this study, I will then inform your child about the study. I will ask your child for his/her verbal consent to participate in the study. If your child consents, I will administer the word matching trials to him/her. If your child consents to participate in the study, he/she will be informed that he/she may stop participation at any time without consequences. If your child does not wish to participate in the study, he/she will be escorted back to his/her classroom.

Thank you.

Sincerely,

Kathleen Geran

Attachments

APPENDIX B

Consent Form
TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

(Form A--Written presentation to subject)

Consent to Act as a Subject for Research and Investigation:

The following information is to be read to or read by the subject. One copy of this form, signed and witnessed, must be given to each subject. A second copy must be retained by the investigator for filing with the Chairman of the Human Subjects Review Committee. A third copy may be made for the investigator's files.

1. I hereby authorize Kathleen Ruth Geran
(Name of person(s) who will perform procedure(s) or investigation(s)

to perform the following procedure(s) or investigation(s): (Describe in detail)

My child will be asked to perform two trials of matching words given with pictures shown. My child will receive either praise or neutral reassurance in the form of a simple "okay" for his/her performance. My child will be asked to fill out a self-evaluation scale and a scale asking him/her the question, "How well will you do compared to other children?" prior to administration of each word matching trial.

2. The procedure or investigation listed in Paragraph 1 has been explained to me by Kathleen Ruth Geran.
(Name)

3. (a) I understand that the procedures or investigations described in Paragraph 1 involve the following possible risks or discomforts: (Describe in detail)

There are no potential physical risks to the human subjects involved in this study. There is, however, a potential psychological risk

to the subjects. The subjects may experience psychological stress related to the individuals' potential concerns that (1) participation or non-participation in the study will influence the subject's present school standing; (2) the subject's name will be identified along with his/her self-expectancy and task performance scores; (3) participation is mandatory if the subject's parents have signed a written consent form; (4) the administration of the word matching trials is a testing situation.

(b) I understand that the procedures and investigations described in Paragraph 1 have the following potential benefits to myself and/or others:

Contribute information which may prove beneficial in identifying ways in which all who are involved in working with children can best build their self-esteem and help them to perform at their best.

(c) I understand that--no medical service or compensation is provided to subjects by the university as a result of injury from participation in research.

4. An offer to answer all of my questions regarding the study has been made. If alternative procedures are more advantageous to me, they have been explained. I understand that I may terminate my participation in the study at any time.

_____ _____

Subject's Signature Date

(If the subject is a minor, or otherwise unable to sign, complete the following.)

Subject is a minor (age_____), or is unable to sign because:

Signatures (one required)

Father	Date
Mother	Date
Guardian	Date
Witness (one required)	Date

APPENDIX C

INFORMATION SHEET

Child's name_____

Child's age_____ Birthdate_____

Child's sex_____

APPENDIX D

TEXAS WOMAN'S UNIVERSITY

Human Research Committee

Name of Investigator: Kathleen R. Geran Center: Dallas

Address: 13709 Preston Road, #204 Date: 2/22/80

Dallas, Texas 75240

Dear Ms. Geran:

Your study entitled Children's Responses to Reinforcement Techniques has been reviewed by a committee of the Human Research Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education and Welfare regulations require that written consents must be obtained from all human subjects in your studies. These forms must be kept on file by you.

Furthermore, should your project change, another review by the Committee is required, according to DHEW regulations.

Sincerely,

Estelle L. Kurtz

Chairman, Human Research Review Committee

at Dallas.

APPENDIX E

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Greenhill School

GRANTS TO Kathleen R. Geran
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

Children's Responses To Reinforcement Techniques

The conditions mutually agreed upon are as follows:

1. The agency (may) (~~may not~~) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (~~may not~~) be identified in the final report.
3. The agency (wants) (~~does not want~~) a conference with the student when the report is completed.
4. The agency is (willing) (~~unwilling~~) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

Date: 2/4/86 Estelle Dickens Head Lower School
Signature of Agency Personnel

Kathleen R. Geran Lorene Zeiter Team leader
Signature of Student

Tommie L Wallace Signature of Faculty Advisor

*Fill out & sign three copies to be distributed as follows: Original - Student; First copy - Agency; Second copy - TWU College of Nursing.

APPENDIX F

EXPECTANCY MEASURES

Self-Evaluation

How Will You Do?

1	2	3	4	5	6	7	8	9	10	11	12
Excellent		Good			Average			Poor		Terrible	

Social Comparison

How Will You Do Compared to the Other Children?

1	2	3	4	5	6	7	8	9	10	11	12
Will Do The Best		Will Do Well			Will Do Average			Will Do Poorly		Will Do The Worst	

APPENDIX G

Susan Robertson, Ph.D.
340 AMSTERDAM AVENUE
NEW YORK, NEW YORK 10024
(212) 580-1637

January 20, 1980

I give permission to Kathleen Geran to use the expectancy scales described in my doctoral dissertation (1977) as measurement tools in her research.

Susan Robertson

Susan Robertson, Ph.D.

APPENDIX H

TEST INSTRUCTIONS

Introduction

Hello, my name is Katie. I'm glad you could come and work on a word game I have planned for you. In order for me to know how you really feel, it's very important that we keep our conversation private so please don't talk about this with the other kids yet. This is not a test. You will not be graded. Only you and I will know how you do with this game. None of this information will be shared with your teacher. There will be two sections to this game and we will take a break between them. I'm sure you realize that not everybody does everything well. Some things a person can do well and some things not so well. I'd like to know how well you think you can do on the word game I'm going to tell you about.

Peabody Picture Vocabulary Test--Form A

I have some pictures to show you. I want to find out how large your vocabulary is. See, there are four pictures on this page. Each of them is numbered. I will say a word, then I want you to tell me the number of or point to the picture which best tells me the meaning of the word. Let us try one. Tell me the number of the picture which best tells the meaning of "crib." Now what number is "fin?" What number is "butterfly?" This is what you will be doing during both parts of the word game today. Do you want to stay and play the game or would you rather go back to your classroom now? If you decide to stay and play the game, you may stop playing it at anytime and I'll take you back to your classroom.

I'd like to know how well you think you'll be able to match the words I give you with the pictures. Here's a scale going from "excellent" to "terrible" and I'd like you to think about how well you'll do with the first part of the word game and mark it on this scale.

I also want to know how well you think you will be able to match the word and pictures compared to the other kids. Here is a second scale going from "best" to "worst"

and I'd like you to think about how well you'll do compared to the other kids and mark it on this scale.

Administration of the Task

Now I'm going to show you some other pictures. Each time I say a word, you tell the number of the picture which best tells the meaning of the word. As we advance through the book you may not be sure you know the meaning of some of the words, but I want you to look carefully at all of the pictures anyway and choose the one you think is right. What number is _____? (Administer Form A of the Peabody Picture Vocabulary Test.)

All even-numbered subjects will receive positive reinforcement after every eighth response during both administrations. They will be told "Fine! That was a good answer."

All odd-numbered subjects will receive neutral reinforcement after every eighth response during both administrations. They will be told, "Okay."

Administration of Reinforcement

I have the second part of the word game here. We will be doing exactly the same thing we did in the first part, matching the words with the pictures.

Praise Condition

I can tell you really did very well on the first part of the word game. Some people have a hard time matching the words with the pictures, but I can tell you're very good at it. You have a very good vocabulary which helped you do a terrific job on this.

Neutral Reassurance Condition

Okay.

I'd like you to think about how well you'll do on the second part of the word game. Here's a scale going from "excellent" to "terrible." Mark how well you think you'll do matching the words and pictures on the second part.

Now, think about how you'll do on the second part of the word game compared to the other kids and mark it on this scale going from "best" to "worst."

Administer Peabody Picture Vocabulary Test--Form B

Conclusion

I want to thank you for your hard work. You really helped me a lot this morning. Do you have any questions about what we've done? I'll walk you back to your classroom now. Thanks again for your help.

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