

6-19-1995

# Relationship of perceived autonomy and grade point average

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RELATIONSHIP OF PERCEIVED AUTONOMY AND  
GRADE POINT AVERAGE

by  
Nancy J. Benninger

A THESIS

Submitted in partial fulfillment of the requirements of the  
Master of Science in Teaching of  
Rowan College of New Jersey  
1995

Approved by

MST Advisor

Date Approved

June 19, 1995

## ABSTRACT

Nancy J. Benninger  
Relationship of Perceived Autonomy and Grade Point Average  
1995  
Dr. Randall Robinson, Thesis Advisor  
Master of Science in Teaching

This correlational study examined the relationship between perceived autonomy and grade point average. The sample was twenty-six ten and eleven year old fifth grade students in one class of an elementary school. Perceived autonomy was measured by the Nowicki-Strickland Locus of Control Scale, a forty item self-report questionnaire. Grade point average was calculated for the first three marking periods of the school year. The Pearson  $r$  calculation was not significant at the .01 level. Results did indicate a positive relationship between perceived autonomy and grade point average.

## MINI - ABSTRACT

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## ACKNOWLEDGMENTS

The writer is indebted to the following people who assisted in the completion of this thesis:

Dr. Randall Robinson, Graduate Advisor, Rowan College of New Jersey, whose patient and expert guidance contributed to the successful completion of this thesis.

Robert Benninger, my husband, whose computer assistance, suggestions, and encouragement during the writing of this thesis were greatly appreciated.

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## Chapter I

### Scope of the Study

#### Introduction

In an article about student motivation and autonomy Benjamin Levin states that effective student motivation requires that students have significant influence "over what they study, how they study, and when they study" (Levin, 1994, P. 760). Student decisions as to what, how, and when they study are examples of autonomy. There is empirical evidence that autonomy is an important source of intrinsic motivation. Studies have shown that giving students a degree of responsibility in the classroom can positively effect student interest, participation, and achievement (Connell & Wellborn, 1991; Kinzie, Sullivan, & Berdel, 1988; Patrick, Skinner & Connell, 1993; Skinner & Belmont, 1993). Encouraging student autonomy may also assist students in learning to make decisions (Kamii, 1991; Kohn, 1993; Levin, 1994).

#### Statement of the Problem

Motivation is a key element in education. Research has indicated that highly motivated students are more enthusiastic, interested, involved, and persistent in their learning (Ryan, Connell, & Deci, 1985). What can teachers do to motivate their students? One motivational strategy is to encourage student autonomy in the classroom. Autonomy is encouraged when students are allowed to make decisions as to what, when, and how they learn. This study considered the relationship of perceived autonomy with the grade point

average of elementary school students. A significant positive correlation between perceived autonomy and achievement, as measured by grade point average, may encourage teachers to use strategies to strengthen the sense of autonomy of their students.

#### Statement of the Hypothesis

The hypothesis of this study was that a positive correlation exists between perceived autonomy and grade point average for students in the fifth grade.

#### Definition of Terms

For the purpose of this study the following definitions were provided for five terms:

Autonomy - is the degree of self-determination students are given in the classroom (Raffini, 1993). Autonomy is supported when students are allowed to decide what, when, and how they learn. Autonomy also encourages students to accept responsibility for their own learning (Kohn, 1993).

Perceived autonomy - is the degree of self-determination students sense or think they have been given in the classroom (Deci & Ryan, 1985; Patrick, Skinner & Connell, 1993).

Locus of control - is the degree of control students believe they have over the events in their lives (Findley & Cooper, 1983). Locus of control beliefs form a continuum between internal control and external control.

Internal Control - indicates that students feel responsible for the events in their lives.

External Control - indicates that students believe that events in their lives are caused by other people or outside forces.

#### Limitations of the Study

A major limitation of this study was that the subjects represented one grade in an intact classroom. This narrow focus on one grade in one school district limits the generalizability of the results of this study to other populations.

A second limitation was that there was no measure of teacher orientation toward control versus autonomy. Research indicates that teacher orientation influences student autonomy (Green, 1986; Ryan, Connell, & Deci, 1985; Skinner & Belmont, 1993). Whether the teacher of the intact classroom discourages or supports autonomy in students may influence the perceived autonomy of the subjects. Therefore, teacher orientation may be a confounding variable in this results of the research.

This study made the assumption that an instrument designed to measure locus of control is a valid measure of perceived autonomy. The assumption was made because both locus of control and autonomy are measures of the degree of responsibility an individual assumes on an internal to external continuum. This is a limitation in that the results of this study will only be valid for those who accept this assumption.

## Chapter II

### Review of Related Literature

#### Introduction

Motivation provides reasons for people to behave in a certain way. In education motivation is a key element in learning and has been the subject of systematic research since the 1930's (Weiner, 1990). Weiner states "for the educational psychologist, the prime issue always has been how to motivate people to engage in new learning" (Weiner, 1990, p.618). Today researchers and psychologists continue to focus on motivation as a way to increase student learning.

Motivation can have an extrinsic or intrinsic orientation. Extrinsic motivation is the use of rewards or punishment to influence student behavior. Intrinsic motivation is the enjoyment or positive feelings a student has for a learning task. Teachers can implement specific strategies in the classroom that will encourage the extrinsic or intrinsic motivation of students (Brophy, 1987). Researchers have studied these strategies to determine their effect on student learning (Marshall, 1987; Newby, 1991).

One source of intrinsic motivation is student autonomy. This study focused on student autonomy as a motivational strategy.

#### Extrinsic Motivation

Teachers often use extrinsic motivation to increase student attention and performance. Extrinsic motivation links successful task performance with rewards (Brophy, 1987).

Rewards may be a party or points or tokens, but the goal of the learner is the attainment of the reward and not the task (Newby, 1991). There is evidence that extrinsic motivation does not increase student attention.

Newby found in his study of the motivational strategies used by first year teachers that extrinsic motivational strategies were used more frequently than intrinsic motivational strategies (Newby, 1991). Extrinsic motivational strategies included the removal of recess time, giving stickers, points for a party, and allowing a student to be first in the lunch line. Newby states these extrinsic motivational strategies produced a lower level of on-task behavior than intrinsic motivational strategies.

In a second study Marshall examined the motivational strategies of three fifth grade teachers and the effect of these strategies on student learning (Marshall, 1987). Extrinsic motivational strategies used by the teachers included displaying good papers, reminding students of a test, and threatening poor grades for poor performance. These extrinsic strategies were less effective in keeping students focused on the learning task than intrinsic strategies. Other researchers agree that extrinsic motivation is not as effective as intrinsic motivation for effective learning outcomes (Brophy, 1987; Deci & Ryan, 1985; Fulk & Montgomery-Grymes, 1994).

#### Intrinsic Motivation

Intrinsic motivation occurs when students engage in a task for their own enjoyment or satisfaction (Raffini, 1993). Deci and Ryan (1985) theorize that intrinsic motivation is the innate need for competence and self-determination. They state, "the desire to explore, discover, understand, and know is intrinsic to people's nature and is a potentially central motivator of the educational process" (Deci & Ryan, 1985, p.245). Newby reported in his study of the motivational strategies of first year teachers that intrinsic motivational strategies increased the on-task behavior of students (Newby, 1991). One effective

intrinsic motivational strategy employed by the teachers was relating a learning task to the personal experience of the students. A second effective strategy was explaining why learning a task was important. Marshall also found the intrinsic motivational strategy of relating a lesson to student interest to be effective in increasing student attention (Marshall, 1987). Additional research has shown intrinsic motivation effective in increasing student engagement in learning (Malone & Lepper, 1987; Patrick, Skinner, & Connell, 1993; Skinner & Belmont, 1993).

#### Autonomy

There are many sources of intrinsic motivation. Malone and Lepper's (1987) taxonomy of sources for intrinsic motivation include challenge, curiosity, control, and fantasy. Malone and Lepper define control as student feelings of self-determination and autonomy. Hootstein (1994) identified "giving students a sense of control" as one of the four intrinsic strategies to enhance student motivation. The theoretical model of Deci and Ryan (1985) suggest competence, relatedness, and autonomy as three sources of intrinsic motivation. All of these researchers identify autonomy as a major source of intrinsic motivation.

Autonomy as it relates to intrinsic motivation in education can be defined as allowing students a degree of self-determination in the classroom. Autonomy is encouraged when students make decisions relating to what they learn, how they learn it, how to solve behavioral problems, and how they are tested. Student autonomy is displayed whenever students are allowed to make a decision in the classroom (Kohn, 1993).

In their article supporting student autonomy, Kamii, Clark, and Dominick give the following example of student autonomy. A third grade teacher gave students oral book reports as an assignment. She asked her class to decide how many minutes should be allotted for each oral report. After considering that there are 22 students in the class, the

students decide the oral reports should be three minutes (Kamii, Clark & Dominick, 1994).

### Autonomy and Student Engagement

Research provides evidence that student autonomy has a positive effect on student engagement. Student engagement occurs when a student is attending to the learning task. Student engagement is necessary for students to learn the subject content or skills (Brophy, 1987). Four studies were reviewed that indicate student autonomy increases student engagement.

In the first study Skinner and Belmont (1993) examined the relationship of teacher involvement, structure and autonomy support on student engagement. They studied the effect of these three dimensions of teacher behavior on 144 students in the third, fourth, and fifth grades. There were fourteen teachers in the study. Both teachers and students completed questionnaires to assess the effects of teacher involvement, structure, and autonomy support. This correlational study found that teacher involvement was the most powerful factor in increasing student engagement. However, autonomy support did positively effect student engagement. The authors noted that the effect of autonomy support may not have been as strong as teacher involvement because fewer teachers employed this strategy.

In the second study reviewed Patrick, Skinner, and Connell (1993) investigated the relationship of perceived control and autonomy on student behavior and emotion. The subjects of this correlational study were 246 students in the third, fourth, and fifth grades. Students completed a questionnaire to assess their perceived control, autonomy, and engagement in the classroom. Patrick, Skinner, and Connell found a significant combined effect for perceived control and autonomy on student engagement. Although the correlation for autonomy alone was not significant, autonomy did uniquely contribute to

behavior and emotion. As a result of their study, the authors described optimal motivation as the result of both perceived control and autonomy. They defined autonomy support as allowing student choice, a lack of teacher coercion, and providing learning that is relevant to student interest.

In the third research report Wang and Stiles (1976) studied the effect of a Self-Schedule System with 134 students in second grade at two public schools. The Self-Schedule System allowed students to choose when to do their teacher assigned tasks and some choice in what they were studying. Weekly task completion rates were used to assess learning performance. This experimental study used a A-B-A-B design with the A representing the baseline period and the B representing the experimental period. The authors reported a significant main effect for task completion during the periods when the Self-Schedule System was used by students. Students who were allowed to decide when and what to study completed more work than those who were not allowed to decide.

In the final study Marshall (1987) examined the teaching styles of three fifth grade teachers to identify strategies that support motivation. The study focused on structure of tasks, grouping practices, locus of responsibility for learning, motivation, feedback and evaluation, teacher expectations, and teacher-student relationships. Data for the study was obtained through trained observers, scores from the California Test of Basic Skills, and teacher interviews. The teacher whose style emphasized student responsibility for learning spent less time than the other two teachers refocusing student attention on task. This teacher allowed students to evaluate their own work, freedom to make choices, and encouraged students to accept responsibility for their own work. She was more successful at maintaining student interest. Marshall concluded that intrinsic motivation was more effective than external rewards in increasing student attention.

### Autonomy and Student Achievement

Research has also shown that autonomy positively affects student achievement. Connell and Wellborn (1991) studied the relationship of perceived autonomy, student engagement, and academic performance. In their study perceived autonomy was measured by student self-report on a Relative Autonomy Index. Student engagement was measured by a teacher report based on student observation. Academic performance was measured by composite scores of grade point average and achievement test scores. The study included students in grades three to six in a rural/suburban and a suburban working-class school district. They reported "students who experience themselves as regulating their own behavior in school are more engaged in this domain and these engaged patterns of action are associated with higher levels of academic accomplishment" (Connell & Wellborn, 1991, p. 63). In this study students who had a higher sense of autonomy were more attentive to school tasks and had a higher level of school performance.

Kinzie, Sullivan and Berdel (1988) studied 98 eighth grade students in science computer-assisted instruction. The learner control group was able to decide whether or not they wanted to review the science lesson if they answered a review question incorrectly. The program control group students had to review the material if they answered a question incorrectly. The posttest used to measure student learning consisted of 25 multiple choice questions on the computer science lesson. The learner control group had higher posttest scores than the program control group. In this study an instructional choice resulted in increased academic performance.

However in the following year when Kinzie and Sullivan (1989) conducted a similar study, there was no significant difference in student learning between the learner control and the program control group on the posttest. In this second study 64 ninth and tenth grade students were engaged in a computer assisted science lesson. The learner control group was allowed to decide if they wanted to review the science lesson if they answered

a question incorrectly. The program control group had to review the science lesson if they answered a question incorrectly. The posttest for assessing student achievement was a fifteen minute multiple choice test on the science lesson. There was no significant difference in academic achievement for the learner control group and the program control group. The authors state that the lack of difference may be due to the fact that both the learner control group and the program control group received a strong base of instruction. Both groups were provided with instruction, practice, and feedback on the science lesson. The results of a questionnaire administered after the posttest indicate strong student preference for the learner control option. The ability to decide whether or not to review the science lesson increased student interest and motivation.

#### Autonomy and Student Decisions

Educators identify a third positive role for student autonomy in education. According to Kamii (1991), student autonomy is instrumental in teaching students how to think critically and to make moral and social decisions. She says, "Children can learn to make choices only by making their own decisions and evaluating the results of their decisions" (Kamii, 1991, p. 387). Kamii, Clark, and Dominick state that autonomy should be a major aim of education, (Kamii, Clark & Dominick, 1994). They believe that autonomy teaches students to make educated decisions and solve problems.

Other researchers and educators stress the importance of allowing student choice in the classroom as often as possible. They agree student choice increases student motivation as well as student ability to make decisions ( Kohn, 1993; Levin, 1994; Raffini, 1993).

#### Summary

In summary, research indicates that autonomy is an important source of intrinsic motivation. Autonomy has been shown to positively effect student engagement and to a lesser degree academic achievement. Student autonomy may also teach students how to think critically and be effective decision makers.

## Chapter III

### Procedures and Design of the Study

#### Introduction

The hypothesis of this study was that a positive correlation exists between perceived autonomy and grade point average for students in the fifth grade.

#### Population and Sample

The population in this study was fifth grade students in elementary schools in southern New Jersey. The sample was 26 fifth grade students in one class of an elementary school in southern New Jersey. The sample included eighteen girls and eight boys ages ten and eleven. The school was located in a small town with a predominantly white, middle class population.

#### Research and Design of Procedure

This was a correlational study of the relationship of perceived autonomy and achievement. Perceived autonomy was measured by the Nowicki-Strickland Locus of Control Scale. Grade point average for each student was calculated for the first three marking periods of the 1994-1995 school year as a measure of achievement. Grades were scored on a five point continuum, F = 1 through A = 5. The Pearson product moment correlation was used to calculate the correlation coefficient. The statistical significance of the coefficient was measured at the .01 significance level.

Permission to administer the Nowicki-Strickland Locus of Control Scale was requested by letter and granted by the local school board of education (see appendix A). Parental permission was requested by letter and received for each participating student (see appendix B).

The scale was administered to the students in their classroom. Students were given the following information before they answered the questionnaire. Students were told the questionnaire was asking for their opinion, there were no right and wrong answers, and the questionnaire results would not effect their grades. They were also told the results of the questionnaire would be confidential.

Each question was read aloud twice to the students. Subjects were directed to circle yes or no after each question was read. Questions were read aloud to make the questions easier to understand.

#### Description of the Instrument

The Nowicki-Strickland Locus of Control Scale is a paper and pencil measure. It consists of 40 questions that require the subject to circle a yes or no answer. Scores range from internal to external control with lower scores indicating greater autonomy (see appendix C).

The Nowicki- Strickland Locus of Control Scale has been tested for internal consistency, test-retest reliability, and construct validity. Estimates for internal consistency using the split-half method and corrected by the Spearman-Brown formula are  $r = .63$  for grades three, four, and five and  $r = .68$  for grades six, seven, and eight (Nowicki & Strickland, 1973). Nowicki and Strickland state that the internal consistency of the test is underestimated by the split-half method due to the additive nature of the scale and that the items are not comparable. The test-retest reliability for third grade was .63 and .66 for seventh grade. To examine construct validity Nowicki and Strickland compared their scale to Crandall's Intellectual Achievement Responsibility Questionnaire

and Bialer's Locus of Control Questionnaire. They found significant correlations with both of these questionnaires.

**Chapter IV**  
**Analysis of Findings**

**Introduction**

The hypothesis of this study was that a positive correlation exists between perceived autonomy and grade point average for students in the fifth grade. Perceived autonomy was measured by the Nowicki-Strickland Locus of Control Scale.

**Presentation of Raw Scores**

The range of possible scores on the Nowicki-Strickland Locus of Control Scale is 0 to 40. Lower scores indicate greater perceived autonomy. Table 1 is a grouped frequency distribution of the raw scores. Scores are grouped in intervals of five. The frequency of scores is indicated for each interval. Scores ranged from 4 indicating a high level of

table 1

A Grouped Frequency Distribution of Scores

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Class Intervals	Frequency
0-5	1
6-10	5
11-15	12
16-20	6
21-25	2
26-30	0
31-35	0
36-40	0

Scores are grouped in class intervals of five. The frequency of scores is indicated for each interval.

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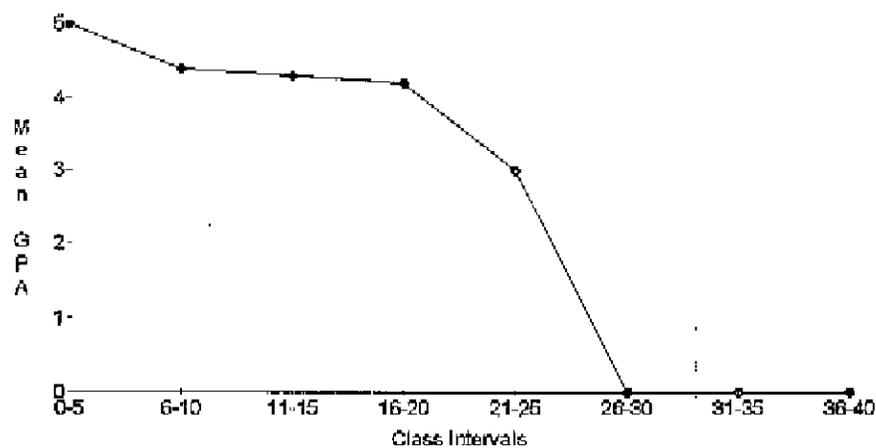
perceived autonomy to 23 indicating a lower level of perceived autonomy. The mean of the scores was 13.1 and the standard deviation was 4.6. (See appendix D for individual scores and grade point averages).

#### Analysis of Findings

In this study the Nowicki-Strickland Locus of Control Scale score was correlated with grade point average of the first three marking periods for each student. The Pearson product moment correlation coefficient was calculated to determine the correlation coefficient. The Pearson  $r$  was  $-.43$ . The negative value reflects an inverse relationship between test scores and grade point averages. A low score on the scale indicates high perceived autonomy and correlates with a higher grade point average. A high score on the scale indicates low perceived autonomy and correlates with a lower grade point average. The degrees of freedom for determining significance were 24. The coefficient value was

figure 1

#### Graphic Illustration of Correlation



The graph illustrates the correlation of the mean GPA of students in each class interval with their scale scores. Grades were scored on a five point continuum, F=1 through A=5. The range of possible scores on the Nowicki-Strickland Locus of Control Scale is 0 to 40. Scores are grouped in intervals of five.

not significant at the .01 level. It was significant at the .05 level. Figure 1 is a graphic illustration of the correlation of mean grade point average of the students in each class interval with their scale scores.

The hypothesis of this study was that there would be a positive correlation between perceived autonomy and grade point average. Both the raw scores and the Pearson  $r$  correlation coefficient support this hypothesis. However, the findings are not statistically significant. This research does not provide strong support for the hypothesis.

#### Discussion of Findings

Several factors may have influenced the findings of this study. One major limitation of the study was the selection of the sample. The twenty-six subjects of the study were from the same fifth grade classroom. These students had similar backgrounds, attended the same school, and lived in the same community. Therefore, this was not a random sample, but a homogeneous group. In addition, the sample size of twenty-six subjects was small. The minimumally acceptable sample size is thirty subjects. If a large random sample had been selected, the correlation between perceived autonomy and grade point average may have been statistically significant.

Teacher orientation may have been a confounding variable in this study. Research indicates that teacher orientation influences student autonomy (Green, 1986; Ryan, Connell, & Deci, 1985; Skinner & Belmont, 1993). The twenty-six subjects in this study had the same teacher. The degree to which the teacher discouraged or supported autonomy in the students may have influenced the perceived autonomy of the students.

## Chapter V

### Summary, Conclusions, and Recommendations

#### Introduction

Autonomy is a measure of self-determination students are given in the classroom. Research has shown that a greater degree of autonomy may positively affect student attention and achievement.

#### Summary of the Problem

This study focused on the relationship between perceived autonomy and grade point average. Will greater perceived autonomy be positively related to a higher grade point average? Are teachers able to increase achievement by encouraging student autonomy in the classroom? This research study addressed these two questions.

#### Summary of the Hypothesis

The hypothesis of this study was that a positive correlation exists between perceived autonomy and grade point average for students in the fifth grade.

#### Summary of the Procedure

This was a correlational study of the relationship of perceived autonomy and achievement. Perceived autonomy was measured by the Nowicki-Stickland Locus of Control Scale. The measure of achievement was the grade point average for each student for the first three marking periods of the school year. The Pearson  $r$  was used to calculate the correlation coefficient.

### Summary of the Findings

Based on the Pearson  $r$  the findings of this study are not statistically significant at the .01 level. However, a positive correlation does exist between perceived autonomy and grade point average.

### Conclusions

Although this research does not offer strong support for the hypothesis, there was a positive relationship between perceived autonomy and grade point average. Students with a stronger sense of internal control as measured by the Nowicki-Strickland Locus of Control Scale had a higher grade point average. In this study a stronger sense of internal control indicated greater perceived autonomy. Students with greater perceived autonomy saw themselves as decision makers who were able to influence events in their lives. In the classroom setting, higher perceived autonomy was linked with higher grades.

### Implications and Recommendations

I would recommend additional research to explore the relationship of these two variables. If there is a strong positive correlation between perceived autonomy and achievement, teachers will want to implement strategies to enhance perceived autonomy. There are many ways to enhance student autonomy. Within the confines of curriculum students may decide what and how they want to learn. They may be allowed to choose which novel they want to read or whether to do a written or oral report. Classroom management decisions such as classroom rules, seating arrangements, and the use of bulletin boards may all receive student input. Students may decide how they want to use independent study time (Kohn, 1993). There are many other ways students may be involved in making classroom decisions. Increasing the role of students as decision makers may also increase their interest and involvement in learning.

The research in this study was based on a small convenience sample. Future research should be based on a larger, randomly selected sample.

This study used a locus of control scale to measure perceived autonomy. Future studies may find a scale designed to measure perceived autonomy a more accurate instrument for measuring this quality.

**Appendix A**

**Letter to the Board of Education**

Dear Superintendent,

I am a student teacher working with a fifth grade class in your school district. I am also a full time graduate student enrolled in Rowan's Master of the Science of Teaching Program. In addition to student teaching, I am required this semester to conduct the research component of my thesis, preferably with the class of my student teaching assignment.

My thesis is a study of student autonomy in the classroom and its relationship to student achievement. My proposed research will consist of administering a Locus of Control Scale to the fifth grade and correlating the results with the grade point average of each student for the first three marking periods of the school year.

Enclosed is a copy of the Nowicki-Strickland Locus of Control Scale which will be used to measure perceived autonomy. It is a 40 question scale requiring a "yes" or a "no" answer. With the permission of the Board of Education, I would like to administer this scale to the fifth grade in the month of April. I have also enclosed a proposed letter of explanation to the parents of the fifth grade students, requesting their permission for their child to participate.

The results of this research will be confidential. There will be no identification by name of students, teachers, a school, or a school district. The school will be identified in my thesis as an elementary school located in a small town in southern New Jersey.

Thank you for your willingness to discuss this research proposal with the school board. I also appreciate the opportunity to learn as a student teacher in your school district.

Sincerely,

Nancy Benninger

**Appendix B**  
**Letter to the Parents**

Dear Parents,

My name is Nancy Benninger. I have been observing and teaching the fifth grade since the middle of January as a student teacher. Student teaching twenty-seven enthusiastic fifth graders has been a great learning experience!

I am enrolled in a graduate program at Rowan College that will result in a master's degree and a teaching certificate. For my master's degree I am required to submit a research thesis and to conduct the research during my student teaching assignment. My research will consist of giving the students a test that will measure student attitudes. The test has 40 questions that will require a "yes" or a "no" answer.

The results of this research will be confidential. There will be no identification by name of students, teachers, a school or a school district. The results will have no effect upon student grades and will not appear in student school records.

Please complete and return the permission slip below to indicate your permission for your child to participate. Thank you for you and your child's assistance in helping me to complete my master thesis requirements.

Sincerely,

Nancy Benninger

\_\_\_\_\_ has my permission to take the attitude test to be given in  
Child's Name

April by Mrs. Benninger. It is my understanding that the results will be confidential and my child's name will not appear in the thesis.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Parent's Signature

**Appendix C**

**The Nowicki - Strickland Locus of Control Scale**

THE NOWICKI - STRICKLAND  
LOCUS OF CONTROL SCALE\*

1. Do you believe that most problems will solve themselves if you just don't fool with them? Yes No
2. Do you believe that you can stop yourself from catching a cold? Yes No
3. Are some kids born lucky? Yes No
4. Most of the time do you feel that getting good grades means a great deal to you? Yes No
5. Are you often blamed for things that just aren't your fault? Yes No
6. Do you believe that if somebody studies hard enough he or she can pass any subject? Yes No
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway? Yes No
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do? Yes No
9. Do you feel that most of the time parents listen to what their children have to say? Yes No
10. Do you believe that wishing can make good things happen? Yes No
11. When you get punished does it usually seem it's for no good reason at all? Yes No
12. Most of the time do you find it hard to change a friend's (mind) opinion? Yes No
13. Do you think that cheering more than luck helps a team to win? Yes No
14. Do you feel that it's nearly impossible to change your parent's mind about anything? Yes No
15. Do you believe that your parents should allow you to make most of your own decisions? Yes No

16. Do you feel when you do something wrong there's very little you can do to make it right? Yes No
17. Do you believe that most kids are just born good at sports? Yes No
18. Are most of the kids your age stronger than you are? Yes No
19. Do you feel that one of the best ways to handle most problems is just not to think about them? Yes No
20. Do you feel that you have a lot of choice in deciding who your friends are? Yes No
21. If you find a four- leaf clover do you believe that it might bring you good luck? Yes No
22. Do you often feel that whether you do your homework has much to do with what kind of grades you get? Yes No
23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her? Yes No
24. Have you ever had a good luck charm? Yes No
25. Do you believe that whether or not people like you depends on how you act? Yes No
26. Will your parents usually help you if you ask them to? Yes No
27. Have you felt that when people were mean to you it was usually for no reason at all? Yes No
28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today? Yes No
29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them? Yes No
30. Do you think that kids can get their own way if they just keep trying? Yes No
31. Most of the time do you find it useless to try to get your own way at home? Yes No

32. Do you feel that when good things happen they happen because of hard work?  
Yes No
33. Do you feel when somebody your age wants to be your enemy there's little you can do to change matters? Yes No
34. Do you feel that it's easy to get friends to do what you want them to? Yes No
35. Do you usually feel that you have little to say about what you get to eat at home?  
Yes No
36. Do you feel when someone doesn't like you there's little you can do about it?  
Yes No
37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are? Yes No
38. Are you the kind of person who believes that planning ahead makes things turn out better? Yes No
39. Most of the time, do you feel that you have little to say about what your family decides to do? Yes No
40. Do you think it's better to be smart than to be lucky? Yes No

\* From Nowicki and Strickland (1973).

**Appendix D**  
**Individual Scale Scores and Grade Point Averages**

## Individual Scale Scores and Grade Point Averages

<u>Student Number</u>	<u>Scale Score</u>	<u>Grade Point Average</u>
1	4	5
2	6	4
3	8	5
4	8	4
5	9	5
6	10	4
7	11	5
8	11	4
9	11	5
10	11	5
11	11	4
12	11	3
13	12	4
14	13	5
15	13	5
16	14	4
17	15	4
18	15	3
19	16	4
20	17	3
21	17	5
22	18	5
23	18	4
24	19	4
25	21	4
26	23	2

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