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ABSTRACT

Theoretical and practical implications of the proposition that teachers' differential behavior toward high and low expectation students serves a control function were tested. As predicted, initial performance expectations were found related to later perceptions of control over performance, even when the initial relationship between expectations and control was removed, while initial control was not found related to later expectations. On a practical level, the effects of teacher participation in an expectation experiment were assessed. "Unalterable" teachers, whose expectations were found most predicatable from the sex and I.Q. of their students, reported not being affected by experiment participation while "alterable" teachers did. Students of "alterable" teachers showed greater relative reading gains over the school year than students of "unalterable" teachers. Means indicate that "alterable" lows closed the gap between themselves and "alterable" highs, and that by the end of the school year "unalterable" lows tended to have lesser effort-outcome covariation beliefs than "unalterable" highs, while students in "alterable" highs showed a relative gain in effort-outcome covariation belief when compared to "unalterable" lows. (Author)

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Intervening in Expectation Communication: The "Alterability" of Teacher Expectations

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Running Head: Expectation Intervention

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Intervening in Expectation Communication: The "Alterability" of Teacher Expectations

The possible implications of teacher performance expectations for student academic achievement have stimulated much research and debate. In reviewing both experimental and naturalistic studies of expectation effects, Brophy and Good (1974) state there is evidence that, at a minimum, performance expectations act to sustain student achievement at a constant level. This sustaining function is realized at the school level through the use of tracking systems and at the classroom level through teachers' differential behavior toward students as a consequence of expectations. The impact of expectations in the classroom, the authors state, is dependent on how appropriate the expectations are (i.e., how closely the expectation mirrors the student's actual ability) and how much of a role expectations play in the teacher's behavioral strategy (either conscious or unconscious) for classroom management.

Rosenthal (1974) has catalogued a variety of teacher behaviors which have been found to vary dependent upon differential expectations. Studies concenred with classroom behavior, however, have been essentially descriptive in nature; the process of inducting general principles from behavioral data is still in its infancy.

Cooper and Baron (1977) have attempted to systematize the

findings relating classroom behavior and performance expectations. They examine the control function which differential behavior toward students at varying performance levels may serve. It is proposed that the generally less supportive and more critical environment which Rosenthal (1974) concludes some teachers create for low expectation students may serve to increase the teachers' control over interactions with these students. By being critical of low expectation students, teachers may be inhibiting these students' initiation of interactions with them. Teachers, it is argued, perceive interactions with low expectation students as more time and energy consuming and more frequently unsuccessful than interactions with other students. Further, when the interaction is initiated by the low expectation student, each of these negative aspects is accentuated. The teacher has not controlled when the interaction will occur and may not be ready for the expenditure of time and effort involved. Also, the teacher has not determined what the content of the interaction will be and therefore has less control over the likelihood that the interactions will end in success.

The use of an unsupportive and more critical environment, it is further proposed, has the effect of mitigating the contingency perceived by the low expectation student between his or her effort on a particular task and the type of response they receive. Relative to their high expectation counterpart, low expectation students are less likely to be praised for good work and more likely to be criticized for poor work,

regardless of the amount of effort the student has put into the performance. This lesser contingency between effort and the response of the teacher may reduce the low expectation student's desire to try hard in the future. He or she may view their effort as less able to control their rewards. Thus, the teacher's initial expectation may serve to sustain some students' performance at a low level.

Cooper (1977) has presented support for this formulation by empirically demonstrating 1) that a teacher's expectations for and perception of control over performance are correlated: lower expectations for performance are associated with less perceived control over performance, 2) that the removal of criticism from teacher-student interactions increases the relative frequency of student initiated interactions by those students previously found most criticized, and, 3) that the amount of criticism the student receives after initiating an interaction is negatively related to the amount of covariation the student perceives between his or her effort and performance outcomes. The present study is a follow up to the Cooper (1977) investigation. It examines some further theoretical aspects of the "personal control" formulation and some of its practical implications.

On a theoretical level, the Cooper (1977) study was able to show the correlation between expectations and sense of control, but because of the naturalistic nature of the study, was unable to provide evidence concerning the causal direction of this relationship. The "personal control" formulation predicts

that expectations influence perceptions of control. From the earlier investigation, it is possible to infer that teachers' beliefs concerning control over student performance lead to performance expectations, i.e. teachers may reason that if it is difficult to control when success will occur then expectations should be lower. While still employing naturalistic methods, the present study addresses this directionality question through the use of time lagged data and multiple regression analyses. Performance expectation and sense of control measures completed by teachers at the beginning and end of a school year serve as data. Consistent with the "personal control" formulation, it was predicted that initial expectation levels would show a stronger association with later perceptions of control than the association found between initial sense of control and later expectations.

The culmination of the study of expectations and student performance necessarily lies in the practical application of the understanding research pursuits bring to us. As a step in this direction, data are also presented which evaluate the effects participation in an investigation concerning teacher expectations and behavior has on two student product measures. Over the course of the school year, teachers participating in the Cooper (1977) study were a) made aware of behavioral research involving performance expectations; b) given individual feedback concerning behavior patterns in their class; made aware of the "personal control" proposition; and d) were ked, for a period of time, to alter their behavior toward highly criticized students. Before the investigation began, measures were taken of the

reading level and effort-outcome covariation belief of students in the participating classrooms. These measures were readministered at the end of the school year, making an assessment of experiment participation possible.

In order to form groups for comparison, it was hypothesized that those teachers whose initial expectations were most closely tied to unalterable characteristics of their students (i.e., sex and I.Q.) would be least likely to be influenced by experiment participation. These teachers, labelled "unalterable", were viewed as being less likely to believe that environmental or interpersonal alterations in classroom activities would be able to bring about performance changes in students. The "unalterable" teachers would also be less likely to respond to student performance on a day-to-day basis since their expectations were based on stable characteristics of the students. Participation in the experiment, therefore, was expected to produce greater beneficial effects for low expectation students in "alterable" teachers' classes than in "unalterable" teachers' classes. Specifically, low expectation students in "unalterable" teachers' classes were expected to show lesser relative gains, or greater relative losses, in effort-outcome covariation beliefs when compared to their high expectation counterparts than low expectation students in "alterable" teachers classes. While reading level represents a more distal measure of sucoess for an expectation intervention procedure, a similar prediction was made for the reading progress of low expectation students.

In sum, the present investigation examines data concerning the causal direction of the relationship between a teacher's expectations for and sense of control over student performance. Further, the effects of participation in an expectation experiment, in joint interaction with a teacher individual difference measure, are examined for student self perception and achievement measures.

Method

Teacher/Classroom Selection. Six female teachers at a rural middle class school serving kindergarten through second grade agreed to take part in the study. Some of the participating classrooms were "family grouped" (i.e., contained students at more than one grade level) and kindergarten students in these classes were excluded from the investigation. Thus, the number of students in each class used in the analyses ranged from 10 to 25, although all classrooms contained 24 or 25 students. A total of 104 students were used in the analyses.

Sex and I.Q. of Students. The student sample contained 51 females and 53 males. Scores on the Metropolitan Achievement Test, assessed for each student three months before the study began, provided the I.Q. data. I.Q. scores were exceptionally high (M=116.95) with a slightly depressed standard deviation (sd=11.87), though the range of scores was acceptably wide (86-144).

Teachers' Perceptions of Control and Expectations for Student Performance. The initial measure of teachers' perceptions of control over student performance were assessed in early October, and expectations for student performance were assessed

approximately six weeks later. In the case of perceptions of control, teachers were asked to rank order students in their class according to how much control they felt over the student's academic performance, or more specifically, "how much influence (they had) over the student's performance outcomes." For expectations, teachers were asked to rank order students in terms of "how likely the student is, when given an academic task, to succeed at it." Higher control and higher expectation students were assigned ranks with larger numbers. Since different teachers ranked differing numbers of students, rankings were standardized within classrooms using Z-score transformations. Thus, all classrooms had a mean control and expectation ranking of zero and a standard deviation of 1.

The final measures of control and expectations were administered in June of the same school year. Questionnaires were worded identically to the initial measures and the same standardization procedures were used.

Reading Measure. Assessments of student reading levels were made in June of the school year before the experiment began and again in June at the conclusion of the experiment. These assessments were not made on the basis of test scores but rather on the student's completed progress through a reading series. While different teachers used different reading series, all students' reading levels were equated to the Ginn 360 series (Ginn and Co.,1975). The equating of reading series was not instituted for the experiment but was an on-going, schoolwide process undertaken by each teacher. Standardized criteria were

employed based on the equivalency of readers in terms of content difficulty. Presented reading levels indicate reader numbers not grade level. Pre-experiment reading levels had a mean of 3.45 and a standard deviation of 2.33. Post-experiment reading levels had a mean of 6.79 and a standard deviation of 1.70.

Effort-Outcome Covariation. In October and June of the school year, each student in the participating classrooms was administered a subsample of items taken from the Intellectual Achievement Responsibility Scale (Crandall,et.al., 1965). The IAR measures the extent to which children view success and failure at achievement tasks as caused by internal, personal reasons or by significant others in their environment. Questions are forced choice format, with the internal answer scored as +1 and the external answer scored as zero. Twelve questions from the IAR were chosen; six of the questions addressed successful outcomes and six unsuccessful outcomes. In addition, three of the success and three of the failure questions were constructed such that the personal cause alternative cited the student's effort (or lack of effort) as the cause for the performance outcome. Thus, a student's IAR Effort score could range from zero to 6, with six indicating the greatest invocation of personal effort as the cause of academic performance. Student's IAR Effort scores in October provided the pre-experiment measure of effort-outcome covariation and the June scores provided the post-measures.

Components of the Experiment. Teachers initially agreed to take part in a study of "teacher-student interaction." Teachers knew only that an undergraduate student from the university would observe their classrooms and that they would be asked to

fill out some questionnaires. The first phase of the study entailed the observation of classrooms through the use of the Teacher-Child Dyadic Interaction System (Brophy & Good, 1969). At this time students were administered the IAR questionnaire and teachers filled out the initial expectation and control rankings. About four weeks after the observations, teachers met with the experimenter as a group. At this meeting, the experimenter presented the results of the first observation. The frequency of the major interaction categories of the dyadic system were presented to the teachers. The sex of the student and the student's I.Q. were used as crossed factors to differentiate between frequency of interactions. Among the interaction categories used were number of public, teacher initiated and child initiated academic interactions, number of behavioral and procedural interactions, and the percentage of praise and criticism use per correct and incorrect academic response. Teachers were also shown the negative relationship, reported in Cooper (1976), between the frequency of criticism use following a student initiated interaction and the student's belief in effort-outcome covariation. Previous experimental outcomes involving performance expectations were also reviewed.

Teachers were then asked to participate in a second phase of the investigation. This entailed refraining from criticizing some students in their classes after the student had sought an interaction. These students were four of the most frequently criticized students as revealed by the dyadic interaction observation. The "personal control" hypothesis was fully explained to

the teachers, including the proposed function of criticism use and the possible effects of criticism contingencies on student motivation. All six teachers agreed to participate in this phase and also to have their classes reobserved. Following the group meeting, teachers were individually given the data for their class and any questions concerning the "personal control" hypothesis or the second phase of the experiment were answered.

A month later, classrooms were observed for a second time and another group meeting of teachers was held. At this meeting, the effects of criticism removal on classroom interactions were presented (see Cooper, 1977). This was followed by a discussion of criticism use and other types of feedback. The conclusion of this discussion was that teachers should attempt to determine the reason for a critical response to student work before the criticism is administered and if the teacher decides that criticism is warranted that the child should be informed about the specific reason for it. While this conclusion was emphasized in the discussion, it was also emphasized that the teacher's decision of whether or not to follow this advice should be based on their own experience and intuition. This meeting was held at the beginning of December. No further contact was made with the teachers until May, when arrangements for the assessment of the final IAR Effort and expectation and control rankings were made.

Determination of "Alterable" and "Unalterable" Teachers. In order to form comparison groups based on the "alterability" of teacher expectations, each teacher's initial performance expectation rankings were used as dependent variables in a multiple

regression analysis with sex and I.Q. of the student used as predictors. Those teachers whose expectation rankings were most predictable from these characteristics of students were designated the "unalterable" group. The squared multiple regression results for the three teachers in the "unalterable" group were .75, .56 and .46. The teachers whose expectation rankings were least predictable from the sex and I.Q. of the students were designated the "alterable" group and had squared multiple regression results of .35, .20 and .03.

Units of Analysis. For the purpose of relating expectations and perceptions of control, the individual student standardized rankings were used as the unit of analysis. For relating teacher alterability differences to student progress it was determined that classrooms (teachers) was the appropriate unit to employ. Within each classroom, students were divided at the median according to the teacher's initial expectation level and were designated as high and low expectation groups. The mean reading level and mean IAR Effort scores were computed for each teacher's two level of expectation groups. These means were then used as the unit of analysis, with expectation level and pre- and post-experiment assessments viewed as four separate assessments for each teacher.

Results

Relationship Between Expectations and Control

The matrix of intercorrelations involving the sex and I.Q. of the students and the teachers' initial and final rankings of expectation and control are presented in Table 1. As Table 1

Place Table 1 about here

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indicates there is a great deal of stability over time in teachers' performance expectations ($r=.79, df=103, p<.01$) and in teachers' perceptions of control over performance ($r=.59, df=103, p<.01$). Also, when performance expectations and sense of control were measured either six weeks apart or concurrently these two perceptual measures were highly correlated (initial $r=.53, df=103, p<.01$; final $r=.63, df=102, p<.01$).

In order to gain a clearer understanding of the relationships between these rankings, separate multiple regression analyses were conducted on the final expectation and control rankings. These regressions used the student's sex and I.Q. and the teacher's two initial rankings as predictors. Results of these analyses are presented in Table 2.

Place Table 2 about here

Initial expectations were found to be the only significant predictors of the teachers' final expectations (standardized Beta-weight$=.71, t(1,99)=9.59, p<.001$). The factors of sex of the student ($B=.24, t(1,99)=3.11, p<.01$), initial sense of control ($B=.29, t(1,99)=3.34, p<.01$) and initial expectations ($B=.36, t(1,99)=4.17, p<.001$) all proved to be significant and independent predictors of final sense of control. Thus, while initial sense of control does not uniquely explain variability in final expectations, beyond

the variability explained by initial expectations, initial expectations contribute to the explanation of final sense of control beyond the variability unique to initial control rankings and common to both. Put more simply, there is no evidence in the data that initial sense of control had an effect on later expectations while there is evidence that initial expectations influenced later rankings of control.

Student Achievement and Self Perception Measures

Check on the Manipulation. At the conclusion of the school year, teachers were asked whether or not participation in the experiment "affected your behavior towards any of the students in your class?" This manipulation check fully substantiated the use of the "alterable-unalterable" distinction: the three teachers in the "unalterable" group said the experiment had not affected their behavior while the three teachers in the "alterable" group said the experiment had affected their behavior.

Reading Level. Three separate analyses were conducted on the students' reading levels. Repeated measures analysis of variance were employed with "alterable vs. unalterable" teachers as a between teachers factor and high vs. low expectations as a within teachers factor. Pre-experiment and post-experiment reading levels were analyzed separately. Also, post-experiment reading levels were regressed on pre-experiment reading levels and the residuals from regression were analyzed. This final analysis allows assessment of changes in a student's reading level relative to other students in the sample, independent of initial reading level of students. Table 3 presents the means

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Place Table 3 about here.

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and standard deviations associated with the two experimental factors for each of the three measures.

The analysis of the pre-experiment reading scores found no significant effects, though there was a trend indicating that high expectation students had higher reading levels than low expectation students before the experiment began (M high=4.45 vs M low=2.62; F(1,4)=4.29, p<.1, eta=.77). The post-experiment analysis revealed a significant difference between high and low expectation student reading levels, in a direction similar to the pre-experiment trend (M high=7.44 vs M low=5.86; F(1,4)=26.75, p<.01, eta=.96). Upon inspecting the pre- and post-experiment means, it is noticeable that the difference between high and low expectation student means varies little for the two assessments (pre-difference=1.83 vs post-difference=1.58). The cause for the difference in statistical reliability for the two assessments is attributable to a large decrease in within-teacher error variability from the beginning to the end of the school year (pre-within error MS=2.34 vs post-within error MS=0.28).

The analysis of residuals from regression found a trend for the main effect of "alterable vs unalterable" teachers. Students of teachers whose expectation rankings were least predictable from the students' sex and I.Q. and who had said the experiment altered their behavior tended to show gains in reading level relative to students of "unalterable" teachers (M alterable= +.49

vs M unalterable= -.49; F(1,4)=5.38, p<.08, eta=.81). No other source of variance approached significance.

IAR Effort. Three analyses of variance were also conducted on the pre-experiment and post-experiment IAR Effort scores and on their residuals from regression. The experimental factors means associated with these analyses are presented in Table 4.

Place Table 4 about here

The analysis of pre-experiment IAR Effort scores found no significant differences between the four groups. The post-experiment measures also produced no significant differences. However, inspection of the means underlying the expectation level by "alterable-unalterable" interaction reveals substantially greater variation in "unalterable" scores than "alterable" scores. The sums of squares for a comparison between the "unalterable" teachers' low and high expectation groups accounted for over 99% of the cumulative variability explained by the expectation group main effect and the two-way interaction. Evaluation of this quantity over a pooled error term produced an F-ratio which approached significance (F(1,8)=4.56, p<.08). Thus, it can be stated that after the experiment was concluded there was a tendency for low expectation students to have lower IAR Effort scores than high expectation students in "unalterable" teachers' classes while in "alterable" teachers' classes the two groups did not differ.

The analysis of residuals from prediction produced results

similar to the post-experiment IAR Effort scores. While no significant effects were revealed, inspection of the underlying means again indicates greater variation in student scores in the "unalterable" teachers' condition. The contrast between "unalterable" teachers' high and low expectation groups accounted for 99% of the cumulative variability for the expectation main effect and two-way interaction. Evaluating this quantity over a pooled error term produced a significant F-ratio ($F(1,8)=5.50$, $p<.05$).[1] It can be concluded, therefore, that high expectation students of "unalterable" teachers showed gains over prediction relative to their low expectation counterparts, while students of "alterable" teachers showed no such differential pattern. This conclusion, based on regression residuals, is supported by the actual magnitude of change for the four groups from the pre- to post-experiment assessments. High expectation students of "alterable" teachers showed an IAR Effort gain of 0.15 and lows showed a gain of 0.07, while highs of "unalterable" teachers showed a gain of 0.35 and lows showed a loss of 0.08.

Discussion

Relationship Between Expectations and Control

The regression analyses support the hypotheses, derived from the "personal control" proposition, that performance expectations 1) are positively correlated with the teacher's sense of control over performance, both at the beginning and end of the school year, and 2) may be a causal influence on sense of control, in that initial expectations contribute uniquely to later sense of control while the reverse is not true.

Student Achievement and Self Perception Measures

The analyses of student outcome measures are informative both for the hypotheses under consideration and for future efforts in the application of performance expectation research.

The congruence between the determination of teachers as "alterable" and unalterable" through the use of statistical procedures and through the self report measure is an important finding of this study. The variability in expectation rankings explained by the sex and I.Q. of the student proved to be a strong predictor of whether or not the teachers reported being influenced by participation in the study. This result, coupled with the influence of this blocking variable for explaining student outcome differences, points to the possible identification of classrooms whose teachers may be influenced by and open to expectation interventions and, perhaps most significantly, to an objective procedure for increasing teachers' awareness about the roots of their personal perceptions and the consequences these perceptions may have for students.

The "alterable-unalterable" distinction was found to be only marginally related to reading progress, though the relationship was in the hypothesized direction. "Alterable" teachers' students tended to show greater reading gains relative to "unalterable" teachers students. Although the expectation level by "alterable-unalterable" interaction was nonsignificant, it is of interest to note that for "alterable" teachers the increase over prediction in reading scores was nearly equal for high and low expectation students while for "unalterable" teachers the decrease under prediction was greater for low expectation students than for high

expectation students. Low expectation students in "alterable" teachers' classes showed a reading level increase of 4.01 and highs and increase of 3.46. In "unalterable" teachers classes, lows showed an increase of 2.47 while highs showed an increase of 2.52. Though the revealed differences are statistically unreliable, it seems that low expectation students in "alterable" classrooms may have"closed the gap" between themselves and high expectation students while lows in "unalterable" classrooms did not.

In regard in effort-outcome covariation, it was found that at the conclusion of the school year there was a trend for low expectation students to have lower IAR Effort scores than high expectation students in "unalterable" classrooms while students in "alterable" classrooms did not differ. This effect was mirrored by the change in relative scores over the year: high expectation students showed gains relative to lows in "unalterable" classes while students did not differ in "alterable" classes. In this case, the measures reveal a widening of the difference in effort-outcome covariation belief between the two expectation groups in "unalterable" teachers' classes.

A final interesting finding of this study was revealed by the analyses of reading progress. While the difference in mean reading level between high and low expectation students bearly changed from the pre- tp post-experiment assessments, the statistical reliability of this difference did change. This finding is attributable to a large decrease in within-teacher error variability from the beginning to the end of the school year. A possible explanation for this decrease may lie in the fact that

pre-experiment reading levels were based on the students' reading progress coming into the teachers' classes. Post-experiment reading levels were based on performance after a year in the teachers' classes. It seems reasonable to propose that student reading levels within a class would become more consistent with teachers' expectations the longer teachers are an influence on students. In essence, the use of teachers as a factor in the pre-experiment analysis is artificial, since at the time of the assessment (the June before entering classes) teachers could not have influenced the students' reading scores.

Unlike the reading level results, there was much similarity in the error terms for the pre- and post-experiment IAR Effort assessments. The reader will remember that the initial IAR Effort assessments were taken in October, a month after the school session had begun. It may be that, in contrast to the initial reading levels, the students' effort-outcome covariation beliefs and the teachers' performance expectations had already begun an influence process.

Two methodological problems must be noted in drawing conclusions from the present study. The first problem is that of separating the effects of the teacher individual difference measure and the effects of participating in the experiment. From the present design, it is impossible to tell whether experiment participation, teacher differences or an interaction of the two caused the observed results. Follow up studies should employ both a present versus absent manipulation for the experimental intervention and a division of teachers within these conditions

into "alterable" and "unalterable" groups. While the present study clearly lacks the inferential power of the above design, it does lend some legitimacy to a teacher individual difference measure in the field of expectation communication. Explanatory concepts for why some teachers are and some are not susceptible to expectation effects are lacking and, when present, have rarely been put to experimental test (see Brophy and Good, 1974). Given the constraints on inference due to the nature of the experiment, therefore, it seems fairest to conclude that a most significant finding of the present study is the introduction and preliminary testing of the "alterable-unalterable" distinction between teachers.

A second problem to be pointed out is that the small size of the sample calls into question the reliability of the mean square estimations. This is a problem many education studies face when it is determined that the classroom is the appropriate unit of analysis. This limitation should be interpreted in relation to another aspect of the results, however. The fact that many comparisons do reach or approach significance indicates extremely large effect sizes underlying the significance levels (etas range from .77 to .96). If, in fact, the effect sizes found in a larger sample are only half those found here, they would still be considered moderate in strength. In sum, then, while estimates of variance are based on a small sample there is reason to accept the reliability of the observed F-ratios.

Summary

Regression analyses of time lagged data supported the hypothesis, derived from the "personal control" proposition, that expectations concerning performance lead to sense of control over performance. Student progress measures revealed, as predicted, that differential consequences of performance expectations were associated with the degree of prediction of expectations possible from student sex and I.Q. and whether or not the teacher reported being influence by participation in an expectation experiment. The implications of the distinction between teachers as "alterable" and "unalterable" may lead to important discoveries into the who's, how's and why's of expectation communication.

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Footnotes

[1] It should be noted at this point that all p-levels presented in association with F-ratios are equivalent to two-tailed tests. Due to the fact that most of the differences that emerged were predicted, effects falling short of traditional significance levels have been reported. The reader should therefore bear in mind that reported p-levels are conservative estimates.

Table 1

Intercorrelation Matrix for Initial and Final Expectation and Control Rankings and the Sex and I.Q. of Students

	Student Sex	Student I.Q.	Initial Expectation	Final Expectation	Initial Control	Final Control
Student Sex	---	-.05	.28	.22	.37	.45
Student I.Q.		---	.37	.39	.32	.32
Initial Expectation			---	.79	.53	.61
Final Expectation				---	.48	.63
Initial Control					---	.59
Final Control						---

Note. Females are coded 1 and males are coded 0. All correlations are significant beyond $p < .01$ except those between student sex and final expectation ($p < .05$) and between student sex and student I.Q. (n.s.). N=104.

Table 2

Multiple Regression Results for Final Expectation and Control Rankings

	Final Expectations			Final Control		
	Standardized B-weight	Unique Variance	Associated t-test	Standardized B-weight	Unique Variance	Associated t-test
Student Sex	0.00	.00	0.23	0.24	.05	3.11**
Student I.Q.	0.10	.01	1.48	0.08	.01	1.11
Initial Expectation	0.71	.34	9.59***	0.36	.08	4.17***
Initial Control	0.08	.00	1.03	0.29	.05	3.34**
Multiple R^2	.633, $F(4,99)=43.17$***			.518, $F(4,99)=26.83$***		

Note. Double Asterisk denotes $p < .01$, triple asterisk denotes $p < .001$.

Table 3

Pre- and Post-Experiment and Residual From Regression Means for Student Reading Levels

		Pre-Experiment	Post-Experiment	Residuals
"Unalterable" Teachers	Low Expectation	3.11 (1.67)	5.58 (1.72)	-.76 (0.64)
	High Expectation	4.86 (1.85)	7.38 (2.02)	-.21 (0.77)
"Alterable" Teachers	Low Expectation	2.12 (1.07)	6.13 (0.28)	+.48 (0.50)
	High Expectation	4.03 (2.34)	7.49 (1.34)	+.49 (0.35)

Note. Post-experiment high and low expectation group means differ significantly ($p < .01$). Three teachers are represented by each mean. Standard deviations are in parentheses.

Table 4

Pre- and Post-Experiment and Residuals From Regression Means For Student IAR Effort Scores

		Pre-Experiment	Post-Experiment	Residuals
"Unalterable" Teachers	Low Expectation	2.57 (.42)	2.49 (.22)	-.38 (.16)
	High Expectation	2.72 (.05)	3.07 (.48)	+.21 (.48)
"Alterable" Teachers	Low Expectation	2.87 (.27)	2.94 (.10)	+.11 (.13)
	High Expectation	2.77 (.34)	2.92 (.38)	+.07 (.34)

Note. Residuals for high and low expectation groups of "unalterable" teachers differ significantly ($p < .05$). Three teachers are represented by each mean. Standard deviations are in parentheses.