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The Effects of Locus of Control and Method of Goal Setting on Task Motivation

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The Effects of Locus of Control and Method of Goal Setting
on Task Motivation

A Thesis

Presented to the

Department of Psychology

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

University of Nebraska at Omaha

by

Paula Coburn

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Thesis Acceptance

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Science, University of Nebraska at Omaha.

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Abstract

Motivation is a central issue in academics. Previous research has shown that goal setting is one method of increasing motivation, with specific goals being more motivating than nonspecific, do your best goals. Research has also shown that self-selected goals increase motivation more than externally imposed goals. The present study examined the effects of self-selected, externally imposed, and do your best goals on task motivation when the personality factor locus of control was controlled by blocking subject groups. It was shown that an interaction exists between method of goal setting and locus of control. It was also found that method of goal setting does not affect the level of motivation of individuals who hold an internal locus of control perspective. However, method of goal-setting was found to affect the motivation of individuals who hold an external locus of control perspective. The results of the study are discussed in terms of academic applications, and suggestions for further research are offered.

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Table of Contents

	Page
Abstract.	3
Acknowledgments	4
Index of Tables	6
Introduction and Review of Literature	7
Goal setting and motivation.	7
Locus of control	12
Teaching internal locus of control	13
Methodology	17
Subjects	17
Instruments.	17
Procedure.	21
Results	23
Discussion.	26
References.	30
Appendices	
A--Internal-External Scale	34
B--Motivation Scale.	39

Index of Tables

	Page
Table 1 Means and Standard Deviations for Internal-External Scale.	18
Table 2 Motivation Scale Item Selection.	20
Table 3 Motivation Scale Means and Standard Deviations.	23
Table 4 Analysis of Variance Summary Table	24
Table 5 Simple Main Effects Results.	25

Introduction and Review of Literature

A primary concern in the field of education is the identification of methods that will enhance student motivation and, ultimately, student achievement. Academic achievement is currently a highly prized commodity in society. Therefore, any steps that may increase a student's chances for academic success need to be investigated. The present study was geared toward analyzing the effects of method of goal setting, a commonly used motivation strategy, and locus of control, on task motivation. Specifically, the study sought to investigate the possibility of an interaction between method of goal setting and locus of control. The purpose of the investigation was to determine which method of goal setting maximizes motivation and how perceptions of causality and control could mediate the effects of goal setting.

Goal Setting and Motivation

Various theorists (Dweck, 1986; Locke, 1968; Rotter, 1966) have proposed that motivation has a direct impact on performance and levels of achievement in both academic and industrial contexts. Goal setting is seen by these theorists as one means of increasing both motivation and achievement.

Locke (1968) formulated a theory of motivation that was applied to industrial/organizational settings. A series of studies conducted by Locke showed that difficult goals improved performance, even though the difficult goals were not always reached. Locke also stated that the effects of the specific goals were greater than the effects of the

nonspecific or do your best goals. Performance was seen to improve as a function of the motivating effects of the goal setting procedure.

Locke's (1968) theory is readily applied to work situations. Latham and Baldes (1975) conducted a study of logging camp drivers that was based on Locke's theory of goal setting. Drivers of log carrier trucks were assigned a goal of loading the trucks to 94% of their legal capacity. Results of the study showed an increase in worker productivity in terms of loading trucks to their legal weight. This meant fewer trips had to be made to transport materials, saving money by conserving diesel fuel and man-power as well as reducing the wear-and-tear on the trucks. The authors explained that these findings were likely due to the information provided by the goals, which told the workers what was expected of them on the job.

Punnett (1986) looked at goal setting as a means of motivation in a study of Caribbean women who were employed to sew smocks on children's clothing. The pay was based on the number of pieces completed. Punnett found that the women who participated in the goal setting process showed a 99% improvement in wages over the control group and a 47% improvement over the nonspecific (do your best) goal group (Punnett, 1986, p. 171). These results indicate that the motivating effects of goal setting are not culture-bound.

Gaa (1979) examined the effects of goal setting in an academic context. It was found that students who used goals established during weekly conferences exhibited higher levels of achievement than students in

conference groups without goals and students who were in control groups, who received no goals and had no conferences.

However, goal setting does not invariably increase motivation and performance. Sagotsky, Patterson, and Lepper (1978) found in one study that self-monitoring techniques enhanced student achievement, but neither goal setting nor a self-monitoring and goal setting interaction produced the same effects. Performance on a lateral jumping task was examined by Landin and Lee (1987), a study which also failed to produce significant differences due to goal effects. Results showed that there were no significant differences in performance between goal groups and no-goal groups. The authors attributed the lack of significant results to the exhausting physical nature of the task.

Other researchers (Dickerson & Creedon, 1981; Mizes and Schuldt, 1981; Pearson, 1987; Schuldt & Bonge, 1978; Schunk, 1984, 1985) have looked at the relative effects of self-selected goals and externally imposed goals. The results of these studies generally show that self-selection of goals or participation in the goal setting process leads to higher motivation and performance than does the use of externally imposed goals.

Dickerson and Creedon (1981) studied 30 elementary-age students who were assigned to one of three treatment groups: self-selected achievement standards, teacher-imposed achievement standards, or a control group that did not use goals. Rewards in the experimental groups were contingent upon correct responses on writing and math tasks, while the control group received noncontingent rewards. Students who held self-selected

standards were found to exhibit higher performance on each type of task than did the teacher-imposed standards group or the control group.

Schuldt and Bonge (1979) found similar results when college students were assigned a crank-turning task. The study included four conditions: self-selected goal, imposed goal, apparatus feedback condition without goal, and no-goal control condition. As was predicted by the authors, the subjects in the self-selected condition exhibited the fastest rate of crank-turning.

Mizes and Schuldt (1981) expanded the study of goal setting. Four groups were used in the study: a no-goal baseline dimension, implicitly assigned goal condition, explicitly assigned goal condition, and self-selected goal condition. The performance of college students on a wheel-turning task was assessed. Significant differences were found between the self-selected standards group (best performance) and the explicitly assigned standards group. Also, consistent with other research (Gaa, 1979; Latham & Baldes, 1975; Punnett, 1986), subjects in all goal setting conditions performed better than subjects in the no-goal baseline (control group) condition.

Schunk (1984, 1985) found that self-selected goals are also useful with special populations. Schunk found that learning disabled students were able to increase their achievement when they took part in goal setting procedures. Schunk proposed that the participation in goal setting raised the students' perceptions of self-efficacy which then led to increases in student performance.

The effectiveness of self-imposition of goals is not limited to academic tasks. Pearson (1987) obtained results that showed that participation in goal setting among members of railroad track maintenance gangs in Australia led to both increased job performance and greater participation in decision-making processes. The self-selected goal process also led to some increases in job satisfaction among the workers.

Shalley, Oldham, and Porac (1987) conducted a study which did not find that self-selected goals are more motivating than imposed goals. The study looked at the variables of goal setting method, goal difficulty, and expected evaluation on intrinsic motivation and task performance. The task used in the study was assembling model helicopters using Tinkertoys. Results showed that subjects who were assigned goals were more motivated than subjects who self-selected their goals. Performance was affected by expected evaluation, goal difficulty, and the interaction between method of goal setting and goal difficulty; however, there was no main effect for method of goal setting on performance. Intrinsic motivation was affected by method of goal setting alone.

Goal setting, as the evidence previously cited indicates, can generally be seen as enhancing motivation and achievement. Dweck (1986) has therefore taken many aspects of Locke's (1668) goal setting theory and applied them to academic situations. Dweck views the study of learning and motivation from a social and cognitive standpoint, seeing the research as important to the understanding of the motivation process and to the effective planning of interventions to change maladaptive behaviors

that may hinder motivation. Dweck, like Locke, sees goals as extremely important to motivation.

Dweck proposes two subtypes of goals not included in Locke's (1968) original theory. This subtyping is specifically geared to academic situations. Dweck differentiates between performance goals, which are based on ability, and learning goals, which are based on effort. When performance goals are present, perception of high ability leads to high motivation and persistence, while perception of low ability leads to helplessness. Therefore, perception of ability, as well as goals, may be seen as affecting motivation.

Locus of Control

The perception of personal ability is related to personal control, and also to the relative roles of ability and luck in task outcomes. The perception of internal and external causality, or locus of control, was described by Rotter (1966) as being "of major significance in understanding the nature of learning processes in different kinds of learning situations" (Rotter, 1966, p. 1). Rotter generally associated locus of control with reinforcement contingencies, but he also recognized the relationship between locus of control and achievement motivation. Rotter stated that in most situations, persons with an internal locus of control orientation are more motivated than persons with an external control orientation. One exception to this may be college students, who continue to exhibit performance behaviors characteristic of high motivation but who explain failure from an external locus of control perspective.

Bar-Tal and Bar-Zohar (1977) examined more closely the relationship between locus of control and achievement. The authors proposed that locus of control affects motivation, which in turn affects performance on academic tasks. Individuals who hold an internal locus of control, as previously theorized (Rotter, 1966), tend to be more motivated and to experience more academic success than individuals who hold an external locus of control. Bar-Tal and Bar-Zohar further noted that persons with an external locus of control perspective feel a sense of helplessness, and that events are perceived as being determined by luck or fate.

It should be noted that the effects of locus of control on motivation are not restricted to certain cultures. Mwangwenda and Mwangwenda (1986) conducted a study in the Republic of Transkei, Southern Africa, that showed that individuals with an internal locus of control orientation performed better in teacher training programs. Students enrolled in a three-year teacher training program were given a locus of control scale. The results of final exams were used as measures of achievement motivation. Results showed that individuals that held internal locus of control views were more motivated and performed better on the examinations. Overall, the authors concluded that it is best to encourage internality in students to promote higher levels of achievement.

Teaching Internal Locus of Control

As has been shown consistently, individuals with an internal locus of control perspective show higher levels of motivation and performance than do individuals with an external locus of control perspective.

It is, therefore, beneficial to teach students to operate from an internal locus of control perspective whenever possible. The ability to teach or train individuals to operate from an internal locus of control standpoint has been documented by research. Operant training, Rational Emotive Education, and group counseling are just a few of the methods used to teach internality.

Charlton (1986) studied British sixth-grade boys who had been classified as external locus of control using the Nowicki-Strickland Locus of Control Scale for Children (Nowicki & Strickland, 1973). The scale was administered as a pretest and posttest. Three groups were used in the study: counseling alone, operant conditioning, and no-treatment control group. The counseling group participated in role-playing to learn internal behaviors. The operant conditioning group received reinforcers from teachers for appropriate internal perspective behaviors. The control group received no treatment. Charlton found that the counseling and operant conditioning groups changed their locus of control beliefs for the causation of reinforcement, while the operant conditioning group showed the most significant change.

Omizo, Lo, and Williams (1986) utilized a Rational Emotive Education (REE; Knaus, 1974) approach to modify the self-concept and locus of control of learning disabled students. The study used education session meetings over a 6-week period, during which the students were taught how to eliminate irrational beliefs. The students completed as pretest and posttest measures the Dimensions of Self-Concept (Michael & Smith, 1977, 1978) and the Rotter Internal-External Scale (Rotter, 1966). Following the

education sessions, significant differences were found between the pretest and posttest measures for both scales. The authors indicated that REE was a useful method of modifying the perceptions of students who are diagnosed as learning disabled.

Noel, Forsyth, and Kelley (1987) used video tapes and fictionalized self-reports of failing college students to modify the perceptions of students who had received a D or F on the first two examinations in a beginning psychology course. The tapes and self-reports told the stories of other failing students who had realized that they held the responsibility for failure or success, and that this realization had helped them improve academically. A locus of control scale developed by Kelley and Forsyth (1984) was used to measure the perceptions of the subjects. Posttest measures showed that the subjects experienced changes in locus of control as well as improving test performance on the third, fourth, and final exams.

The present study examined the role of locus of control and method of goal setting on task motivation. The study was designed to answer the questions of how locus of control and method of goal setting affect task motivation, and whether or not an interaction effect on task motivation exists between locus of control and method of goal setting. Also, if an interaction exists, how is task motivation influenced? To investigate these questions, locus of control was used as a subject blocking variable, and method of goal setting was used as the independent variable. Task motivation was measured as the dependent variable. The null hypothesis of the study stated that the groups would not differ on level of motivation.

Several alternative hypotheses were investigated in the study. Hypothesis one predicted a significant interaction effect between method of goal setting and locus of control. This was based on the understanding that individuals with internal and external perceptions of causality hold different views on personal responsibility for task outcome. Generally, persons with internal views take more responsibility for task outcome. Conversely, persons with external views take less responsibility for task outcome. It was predicted that these different perceptions would influence the effects of method of goal setting on task motivation.

Hypothesis two predicted a significant difference in level of motivation between the subjects with an internal locus of control and the subjects with an external locus of control. Differences in level of motivation are consistent with locus of control theory.

Hypothesis three predicted significant differences among the various goal setting conditions. This hypothesis was based on earlier research findings that levels of motivation and performance vary with different goal setting methods.

Hypothesis four predicted a significant difference among the different goal setting groups for subjects holding an internal locus of control. These differences were assumed to be a function of the perceived high level of personal control of individuals with an internal locus of control and the actual control the individuals held in the goal setting situation.

Hypothesis five predicted significant differences among the different goal setting groups for the subjects holding an external locus of control.

The reasoning behind this hypothesis was identical to the reasoning behind hypothesis four. It was assumed that differences in motivation exist among subjects with an external locus of control due to the perceived low level of personal control and the actual level of control experienced in the goal setting situation.

Method

Subjects

Subjects were 150 students enrolled in undergraduate psychology courses at the University of Nebraska at Omaha. Subjects volunteered to take part in the study to earn extra-credit in various psychology courses. Both males (n=63) and females (n=87) were included in the study. Age of the subjects ranged from 18 to 48 years old, with a mean age of 25 years old.

Instruments

The subjects' perceptions of locus of control were assessed using the Internal-External Scale (Rotter, 1966). This instrument consists of 29 forced-choice items, 23 of which are scored and 6 of which are included as fillers. The filler items were included by Rotter to make the purpose of the scale ambiguous to the examinee. The items present statements with both an internal and an external locus of control perspective. Examinees are required to choose the statement that best reflects their personal attitude towards the situation given in the statement. Rotter's studies for the standardization of the scale, conducted with 400 subjects, showed that the scale possessed fair to good reliability, ranging from .49 to .83 for test/retest and .65 to .75 for internal consistency. Cronbach's

coefficient alpha method was used to calculate the reliability index for the Internal-External Scale for the present study. A reliability index of .75 was obtained. This compares favorably with earlier reliability estimates of this scale. Table 1 shows the means and standard deviations for the Internal-External Scale for the present study. The items included on the Internal-External Scale are shown in Appendix A.

Table 1

Means and Standard Deviations for Internal-External Scale

Group	Mean	Standard Deviation
Self goal, internal locus	5.60	3.86
Imposed goal, internal locus	5.80	4.16
No goal, internal locus	5.48	3.77
Self goal, external locus	11.84	7.49
Imposed goal, external locus	12.00	7.12
No goal, external locus	11.68	6.62

The Digit Span subtest of the Wechsler Adult Intelligence Scale-Revised (WAIS-R; Wechsler, 1981) was used as a group memory task. This subtest was chosen to simulate a classroom task, during which material is presented and must be recalled. The numbers for both the Digits Forward task and the and the Digits Backward task were administered. However, the Digits Forward format only was used (subjects were not required to recall any digit sequences in reverse order). It should be noted that the results of the

recall task were not a variable of interest in the present study. This task was a means of providing the subjects with a motivating challenge.

A subsequent measure examined how motivated to succeed the subjects had been on the memory task.

The measure of motivation used in the study was comprised of questions taken from Wherry and South's (1977) Worker Motivation Scale. The original version of the Worker Motivation Scale was a 66 item questionnaire designed to measure 14 content areas containing both extrinsic and intrinsic motivation issues. Items were scored on a 5-point scale depending on the extent to which a statement described an examinee's attitude towards work. The scale was standardized using 240 examinees, all of which were employed full-time by various companies at the time of testing. Reliability of the full-length questionnaire was calculated to range from .71 to .85 using internal consistency methods. The items chosen from the original scale to be included in the motivation scale for the present study are shown in Appendix B. These items, administered in a forced-choice format (yes, the statement describes me; no, the statement does not describe me), were chosen on the basis of having an intrinsic motivation content that would generalize to academic situations. Items included in the scale were statements that show a desire to demonstrate skills/abilities, on-task behavior, high output motivation, a desire to reach goals, placing work above leisure, persistence, a sense of responsibility for assigned tasks, and attention to tasks. Items with content that was explicitly job related or oriented to external rewards were excluded from the scale. The items

chosen resulted in a 12 item motivation questionnaire. Following the study, the full-length original scale was presented to three independent judges, along with the criteria for inclusion in the short scale. Each judge was asked to choose the 15 items that they felt best agreed with the criteria provided by the experimenter. The validity of the motivation scale was calculated using the responses of these judges. The items chosen by each judge were compared to the items chosen by the experimenter to determine the percent agreement. Table 2 summarizes the item selection of each judge.

Table 2

Summary of Agreement on Motivation Item Selection

Item number	Chosen by:	Judge 1	Judge 2	Judge 3
1		x	x	x
2		x	x	
3		x	x	x
4		x		x
5		x	x	x
6		x	x	x
7		x	x	x
8		x	x	x
9		x	x	
10				
11		x	x	x
12		x	x	x

Averaged across the three judges, the percent agreement with the experimenter as to which items match the content specified was 83%. Item 10 (see Appendix B) was the only item that was not chosen by any of the judges. The inclusion of this item did not affect the reliability index of the motivation scale for the present sample.

The motivation scale was analyzed using the Cronbach coefficient alpha method. The procedure resulted in a reliability coefficient of .65. This somewhat low reliability likely reflects the brevity of the scale.

Procedure

Subjects were given the Internal-External Scale (Rotter, 1966) at the start of each experiment session. Subjects were blocked into groups according to the scores on the scale. Rotter classified persons as having an internal or external locus of control orientation according to the number of items endorsed on the scale. Externals endorse more items than do internals. In Rotter's (1966) study, the 50th percentile was found to correspond approximately to a score of eight items endorsed on the scale. Accordingly, in the present study, subjects scoring nine or above on the Internal-External Scale were classified as having an external locus of control orientation; subjects scoring eight or under were classified as having an internal locus of control orientation.

Subjects were subsequently randomly assigned to one of three goal setting conditions by randomly distributing condition-specific answer sheets for the group memory task. The goal setting conditions consisted of a self-selected goal group, an imposed goal group, and a no-goal control

group. The subjects in the self-selected goal condition received answer sheets with an area to record a goal, and were told to set a goal for the number of digit sequences they would correctly recall. The subjects in the imposed goal condition were given an answer sheet with a previously selected goal of 15 digit sequences to be correctly recalled. A score of 15 on the memory task meant that the subjects would be required to recall sequences whose maximum number of digits was nine. This goal presented a challenge to the examinees as the task continued, but the goal was not unattainable. The subjects in the no-goal condition were given answer sheets without a goal area and were told to do their best.

Following administration of the Internal-External Scale (Rotter, 1966), and the distribution of the answer sheets, the subjects participated in the memory task. For this task, a tape recorder was used to present the digit sequences from the Digit Span subtest of the WAIS-R (Wechsler, 1981). The subjects were required to write down the digits immediately after each sequence of numbers was completed. The numbers were presented at the rate of one number per second, with a 10-second interval occurring between each sequence. The digit sequences were presented to the group using a tape recorder to insure identical presentation conditions for each group experiment session. The subjects were told that they were going to hear 28 sequences of numbers, ranging from two to nine digits in length. The subjects were instructed to recall the numbers and write them down on the answer sheet in the same order in which they were presented. At this time, the subjects in the self-selected goal condition were instructed to

record a goal in the area marked goal on the answer sheet, the assigned goal was explained to the subjects in the imposed goal condition, and the subjects in the no-goal condition were told "do your best."

Following the memory task, a motivation scale made up of questions taken from the Worker Motivation Scale (Wherry & South, 1977) was given to measure the subjects' motivation on the memory task. The items presented were those selected using the previously detailed criteria.

Results

The hypotheses of this study were tested using a factorial analysis of variance. The interaction between locus of control and method of goal setting and the main effects of locus of control and method of goal setting were examined. The means and standard deviations for the treatment groups are shown in Table 3. The means and standard deviations are based on the responses to the modified motivation scale.

Table 3

Motivation Measure Means and Standard Deviations

Group	Mean	Standard Deviation
Self goal internal locus	10.12	1.42
Imposed goal internal locus	10.08	1.66
No goal internal locus	9.56	1.63
Self goal external locus	9.04	2.28
Imposed goal external locus	7.96	1.90
No goal external locus	9.48	1.69

A significant interaction was found to exist between method of goal setting and locus of control $F(2, 144)=4.08, p=.019$. Hypothesis one, which predicted an interaction between locus of control and method of goal setting, was supported by these results. Significant differences between subjects with an internal locus of control orientation and subjects with an external locus of control orientation supported hypothesis two, which predicted differences due to locus of control, $F(1, 144)=14.07, p<.001$. Hypothesis three, which predicted differences in level of motivation due to method of goal seeing, was not supported, $F(2, 144)=1.48, p=.230$. Table 4 summarizes the results of the factorial analysis of variance.

Table 4

Summary Table for Analysis of Variance Results

Source	SS	DF	MS	F	Probability
Goal setting (A)	9.45	2	4.73	1.48	.230
Locus (B)	44.83	1	44.83	14.07	<.001
AB	26.01	2	13.01	4.08	.019
Within cell	458.80	144	3.19		

Hypothesis four, which predicted differences among goal setting groups for internal locus of control subjects, was not supported by an analysis of simple main effects, $F(2, 144)=.76, p>.05$. Hypothesis five, which stated that differences in motivation would be found among the different goal setting groups for the external locus of control subjects, was

supported by the analysis of the simple main effects, $F(2, 144)=4.79, p<.01$. Significant differences were also found for simple main effects that had not been hypothesized. Significant simple main effects were found between internal and external locus of control subjects when an imposed goal was used, $F(1, 144)=17.61, p<.01$, and when a self-selected goal was used, $F(1,144)=4.57, p<.01$. No significant differences were found between the subjects with an internal locus of control perspective and subjects with an external locus of control perspective in the no-goal control condition, $F(1, 144)=.03. p>.05$. Table 5 shows the results of the analysis of the simple main effects.

Table 5

Results of Simple Main Effects Analysis

Source	SS	DF	MS	F	Probability
Goal/internal locus	4.88	2	2.44	.76	>.05
Goal/external locus	30.59	2	15.29	4.79	<.01
Locus/self goal	14.58	1	14.58	4.57	<.05
Locus/imposed goal	56.18	1	56.18	17.61	<.01
Locus/no goal	.08	1	.08	.03	>.05

The finding of significant differences across the three types of goal setting conditions for externals led to the use of Duncan's Multiple Range Test. These comparisons showed a significant difference ($p<.01$) between the no-goal group and the self-selected goal group for subjects with an

external locus of control orientation. A comparison of cell means showed that the no-goal group had a higher level of motivation than the self-selected goal group. A significant difference ($p < .05$) was also found between the imposed goal group and the self-selected goal group. In this instance, the imposed goal group showed higher motivation. The difference between the imposed and no-goal groups was not significant, $p > .05$. It should be noted that, while the difference was not significant, the no-goal group showed higher motivation than the imposed goal group.

Discussion

Hypothesis one, that motivation is influenced by an interaction between locus of control and method of goal setting, was supported. This finding, in particular, has educational implications. When teachers choose goal setting as a motivational tool, the method of goal setting should fit the personality characteristics of the students. The present study showed that locus of control interacts with goal setting to affect level of motivation. Teachers should examine the locus of control orientation of students who are experiencing difficulty meeting goals, as the student's perceptions mediate the effectiveness of the goal setting method.

Hypothesis two, which stated that significant differences in motivation exist between individuals with an internal locus of control perspective and individuals with an external locus of control perspective, was also supported. This finding is in agreement with earlier research findings that persons who hold an internal locus of control are more motivated than persons who hold an external locus of control perspective. This

finding also has classroom applications. Teachers must take care to foster an internal locus of control orientation in students to increase motivation. This may be accomplished simply by demonstrating the relationship of studying to grades on exams.

Hypothesis three, which stated that significant differences exist between groups due to goal setting methods, was not supported. This is not surprising, in light of the somewhat ambiguous results of earlier research in this area. In the classroom this means that altering goal setting methods alone will not affect student motivation. Locus of control is a factor that must be considered when attempting to increase motivation.

Hypothesis four predicted that significant differences exist among different goal setting groups for subjects with an internal locus of control perspective. This hypothesis was not supported. This means that a teacher has more flexibility in choosing instructional strategies with students who hold an internal locus of control orientation. Individuals with an internal locus of control perspective appear to be able to maintain a high level of motivation regardless of task structure.

Hypothesis five, which predicted that differences exist among goal setting groups for subjects with an external locus of control orientation, was supported. Comparisons showed that the level of motivation of subjects with an external locus of control perspective was maximized when the no goal situation was in effect. It is possible that the presence of goals adds pressure to individuals with an external locus of control, adding to a sense of helplessness when a perception of low ability already exists.

The "do your best" strategy works best for externally oriented students. Teachers who work with student populations that are known to be externally oriented, such as learning disabled students, should try to develop student motivation by encouraging the student to do his/her best work, without the added pressure of specific goals. This strategy would also seem to be appropriate for young school children, who are faced with a variety of novel, demanding, and often frustrating tasks that are difficult to master with even a great deal of effort.

The psychologist working in the school could readily apply the results of this study when devising educational programs. This study showed that individuals who hold internal locus of control orientations are more motivated than are individuals who hold external locus of control orientations. New curriculum programs could include teaching methods and behavior modification programs that are designed to foster internal locus of control beliefs.

School psychologists, in particular, need to recognize the link between locus of control and motivation strategies that may be used in the classroom. School psychologists work with groups of students who are known to lack motivation because of chronic learning difficulties. These difficulties may be, in many cases, related to faulty locus of control perceptions. The psychologist needs to work with students to strengthen perceptions of ability and the relationship of effort to success while assessing the academic strengths and weaknesses.

The results of this study are somewhat limited by the subject sample. These findings deal with college-level students who do not exhibit specific learning difficulties. Generalization to special populations and to populations of younger students should be done with caution. Another limitation of the study is the questionable psychometric properties of the motivation scale. A more reliable measure of motivation would lead to more confidence that the level of motivation of the subjects would be similar if measured at a different time, under the same conditions. The motivation scale should also be subjected to more rigid standards of validity than are obtained when using content validity. Also, for the present study, locus of control was assumed to be a dichotomous variable (individuals have either an internal locus of control perspective or an external locus of control perspective). It is possible, and likely, that locus of control is a variable that should be viewed on a continuum, with individuals having a tendency to lean towards one orientation or the other.

Future research should focus on varying the method of goal setting for special needs students after assessing locus of control. Research could examine which type of goal setting is most effective for increasing the motivation of these special students. Research on this subject should be conducted in the classroom, using level of motivation on actual classroom tasks as the dependent variable. Research should also be conducted to develop a measure of motivation that is reliable and valid, so results may be interpreted with confidence.

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Appendix A

Internal-External Scale (Rotter, 1966)

1. a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7.
 - a. No matter how hard you try some people just don't like you.
 - b. People who can't get others to like them don't understand how to get along with others.
8.
 - a. Heredity plays the major role in determining one's personality.
 - b. It is one's experiences in life which determine what they're like.
9.
 - a. I have often found that what is going to happen will happen.
 - b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.
 - a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
 - b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11.
 - a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
 - b. Getting a good job depends mainly on being in the right place at the right time.
12.
 - a. The average citizen can have an influence in government decisions.
 - b. This world is run by the few people in power, and there is not much the little guy can do about it.
13.
 - a. When I make plans, I am almost certain that I can make them work.
 - b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad luck.
14.
 - a. There are certain people who are just no good.
 - b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.
b. Many times we might just as well decide what to do by flipping a coin.
16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
b. There really is no such things as "luck."
19. a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.
b. How many friends you have depends upon how nice a person you are.
21. a. In the long run the bad things that happen to us are balanced by the good ones.
b. Most misfortunes are the results of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.
b. It is difficult for people to have much control over the things politicians do in office.
23. a. Sometimes I can't understand how teachers arrive at the grades they give.
b. There is a direct connection between how hard I study and the grades I get.
24. a. A good leader expects people to decide for themselves what they should do.
b. A good leader makes it clear to everybody what their jobs are.
25. a. Many times I feel that I have little influence over the things that happen to me.
b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a. People are lonely because they don't try to be friendly.
b. There's not much use in trying too hard to please people, if they like you, they like you.
27. a. There is too much emphasis on athletics in high school.
b. Team sports are an excellent way to build character.
28. a. What happens to me is my own doing.
b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.
- b. In the long run the people are responsible for bad government on a national as well as on a local level.

Appendix B

Motivation Scale

1. I want a chance to show my skills and ability.
2. I take pride in demonstrating my skills and abilities.
3. I feel personally responsible for work assigned to me.
4. Wasting time makes me feel uneasy.
5. I like to keep my output at a high level.
6. I keep plugging away--seldom goof-off.
7. I would rather work than loaf.
8. I believe in setting goals and achieving them.
9. I keep my attention level at a high level at all times.
10. No job is too hard for me--I like to work.
11. I like goals which require my best effort to achieve them.
12. I always try to do everything I intended to do.