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This study examined the effect of self-efficacy, goals, and task strategies on goal choice and task performance. Self-efficacy and task strategies were manipulated through training. Ability, past performance and self-efficacy were the major predictors of goal choice. Ability, self-efficacy, goals and task strategies were all related to task performance. Self-efficacy was more strongly related to past performance than to future performance but was still a significant predictor of future performance when past performance was controlled. Self-efficacy ratings for moderate to difficult levels of performance were the

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best predictors of future performance. This finding was "replicated" when two previous goal setting studies, which has found no positive expectancy-performance relationship across goal group, were re-analyzed. Expectancy ratings within goal groups were often positively related to performance, and the ratings within the moderate to high goal groups were more highly related to performance than those within the easy or impossible goal groups. It is suggested that the concept of self-efficacy might provide an integrating mechanism between the goal setting and social learning theory approaches to task performance.

The Effect of Self-Efficacy, Goals and Task Strategies on Task Performance 1/

Edwin A. Locke, Elizabeth Zubritzky, Cynthia Lee

University of Maryland

and

Philip Bobko

Virginia Polytechnic Institute and State University

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Abstract

This study examined the effect of self-efficacy, goals, and task strategies on goal choice and task performance. Self-efficacy and task strategies were manipulated through training. Ability, past performance and self-efficacy were the major predictors of goal choice. Ability, self-efficacy, goals and task strategies were all related to task performance. Self-efficacy was more strongly related to past performance than to future performance but was still a significant predictor of future performance when past performance was controlled. Self-efficacy ratings for moderate to difficult levels of performance were the best predictors of future performance. This finding was "replicated" when two previous goal setting studies, which had found no positive expectancy-performance relationship across goal groups, were re-analyzed. Expectancy ratings within goal groups were often positively related to performance, and the ratings within the moderate to high goal groups were more highly related to performance than those within the easy or impossible goal groups. It is suggested that the concept of self-efficacy might provide an integrating mechanism between the goal setting and social learning theory approaches to task performance.

The Effect of Self-Efficacy, Goals and Task Strategies on Task Perform

The effect of goals on task performance has been firmly established in the research literature (Locke, Shaw, Saari & Latham, 1981). However, there has been limited research on how goals combine with other factors to determine performance. There is evidence for an interaction between goals and knowledge of progress with goals plus knowledge leading to better performance than any other combination. Further, there is evidence for an additive effect of money and goals. In addition, participation in setting goals has, in some cases, led to higher goals being set that was the case when goals were assigned (Locke et al., 1981).

Two factors that have not been extensively studied in relation to goal setting are task strategies and self-efficacy. In most goal setting studies, goals lead subjects to direct their actions in line with goal requirements, to expend effort in proportion to goal difficulty and/or to persist in a given task until the goal is reached. One might describe these mechanisms as strategies for goal accomplishment, but they are not task strategies in the sense that they involve different ways of actually performing the task. Terborg's (1976) is one of the few studies to have looked at differences in actual task strategies. He found, for example, that subjects with goals were more likely to write notes in the margins than those without goals when they were learning text material. Bandura and

Simon (1977) found that dieting subjects with goals developed eating strategies and plans to help insure goal attainment. Latham and Baldes (1975) observed that truck drivers with goals developed ideas for minor modifications of their trucks in order to help insure goal attainment.

In these previous studies, the subjects were not assigned or trained in the strategies but developed them spontaneously as a method of facilitating goal achievement. In the present study, we demonstrate that task strategies can effect performance even on a relatively simple task when subjects are trained in different task strategies rather than being allowed to develop them on their own.

Self-efficacy is a key concept in Bandura's social learning theory (Bandura, 1977). Self-efficacy is defined as a judgment of "how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). He argues that it is affected by past performance, by modeling (observing others take similar actions), by persuasion and by autonomic arousal, as well as by cognitive processing independent of or in addition to the above. Bandura (1982) has found that self-efficacy is strongly related to actual (future) task performance-even more strongly than to past performance.

The concept of self-efficacy obviously bears a close resemblance to what is called E I in expectancy theory, the belief that one can attain a certain level of performance.

Previous studies have shown a relationship between expectancy and goal acceptance, but little or no relationship between expectancy and performance when ability and goal level are controlled (Mento, Cartledge, & Locke, 1980). However, as will be seen below, expectancy in goal setting studies has not been measured in the same way that self-efficacy is measured (following Bandura's recommended procedure).

The purpose of the present study was to examine the joint effects of goals, task strategies and self-efficacy on task performance across repeated trials. Training in task strategies was used to establish individual differences in the task strategies actually used and in the degree of self-efficacy experienced.

Since this was an exploratory study no specific hypotheses were formulated, but it was expected that all three of the above variables would affect performance. It was conceivable that self-efficacy might affect performance through its effects on goal choice (by affecting the goal level chosen by the subject) or through its direct effect on performance, or possibly both. The design used enabled us to test these various possibilities.

Method

Subjects. The subjects were 209 undergraduates from an introductory management course. They received extra credit in the course for participation. The subjects were run in

groups. (The N's are less then 209 in some analyses due to missing data).

Task. The task was brainstorming, giving uses for common objects. A different object was used on each trial.

Trials. There were 8 1-minute trials in the experiment: 1. Practice; 2-4. Training; 5. Post Training; 6-8: Experimental.

Conditions. After the practice trial, there were five conditions or manipulations for the three training trials. a) High Strategy (N=46). These subjects were trained to use three methods of getting a large number of uses: "walk through", which involved mentally walking through the daily environment looking for uses at or in each place; "similar uses", which involved looking for uses similar to the ones already listed for that object; and "repeated uses", which involved listing uses mentioned on previous trials;. b) Low Strategy (N = 45). These subjects were told to give only good or high quality ideas and not uses that are "crazy and far out". This was an "anti-brainstorming" condition. c) Control (N = 55), or no training. They used the practice trials just to become familiar with the task. d) High Feedback (N = 51). These subjects, witnout knowing it, were given easier objects (based on previously obtained normative data) than the other subjects and 20 sec. of extra time on each training trial (i.e., 80 sec. total). e) Low Feedback (N = 12). These subjects were treated the opposite of the high feedback subjects. Witnout knowing it, they were given

harder objects than the other subjects and 20 sec. less time (i.e., 40 sec.) for each training trail. This condition was dropped after running one group of 12 subjects, because they seemed to become unduly upset over the negative feedback.

Procedure. The task was explained and all subjects were then given a practice trial after which they were asked to fill out a self-efficacy scale. Since the design of this scale may have been crucial to the results, the scale used is shown in Figure 1.

Insert Fig. 1 about here

This same scale was administered after each subsequent trial except the post-training trial. On trial 5, approximately half the subjects from each training condition were assigned a goal of 12 uses (a goal of 12 was chosen because it was difficult but not totally out of reach), while the remaining subjects were asked to set their own own quantitative goal. Goal commitment scales were administered both before and after this trial. On trial 6, all subjects were asked to set a quantitative goal of their own choice. On trial 7, subjects could set any type of goal they wished: a specific number, do best, other, no goal etc. Their choice was indicated on a checklist filled out before the trial.

At the end of the experiment all subjects indicated the task strategies they thought it was important to use or found useful on the last three (experimental) trials (each item used a 5-point scale).

Measures. Two self-efficacy measures were developed: 1. Magnitude: total number of Yes's (1st column of Fig. 1); and 2. Strength: total certainty for performance levels 8, 10, and 12 (uses-2nd column of Fig. 1). In a post hoc analysis of the data, it was found that the certainty ratings for these three goals levels were the best predictors of performance for all three experimental trials. These goal levels were in the moderate to very difficult range (between 4% and 10% of the subjects gave 12 uses or more in the three experimental trials; between 12% and 22% gave 10 uses or more; and between 31% and 54% gave 8 uses or more). The correlation between the above strength measure and total self-efficacy strength (for all performance levels) was .94 for each trial (5, 6, and 7). The conclusions of the study would not have been changed if the total measure (for all performance levels) had been used.

Goal commitment was measured on 5-point scales ranging from "definitely will try (tried) my hardest" to "definitely will (did) not try at all to reach my goal."

The performance measure was the total number of uses given, deleting responses which were not uses (e.g., "break it" for a brick) or which were exact repetitions within the same trial.

RESULTS

Manipulation checks. Significant differences among the experimental groups were found in performance on the post-

training trial, controlling for initial ability ($F = 21.82, p < .001$, d.f., 4,196). The high strategy subjects showed the highest performance, the low strategy subjects the lowest, while the control and feedback groups were in the middle. The feedback manipulation did not affect performance.

There were also significant differences in the self-efficacy of the groups after the last training trial ($F = 10.56$, $p < .001$, df. 4, 191). The results were similar to those for performance except that the high feedback subjects had significantly higher self-efficacy than the low feedback subjects. This can be considered pseudo-efficacy, since it was based on false information and did not translate into performance. Basically, the feedback manipulation was not successful and will not be considered further.

With respect to strategies actually used, as indicated in the post- experimental questions, the high as compared to the low strategy subjects were significantly more likely to say that they: considered it desirable to list large numbers of uses, considered it desirable <u>not</u> to give a wide variety of uses (a possible correlate of "quality"), tried to list uses similar to those already given, tried to think up uses for objects similar to the one listed and tried to repeat previously listed uses. These differences were revealed by one way F tests which included the two strategy groups and the control group ($F's = 3.18$ to 25.24, $p's < .05$, d.f.'s 2,124). In most cases the control group mean was between

that of the two strategy groups, or closer to the low strategy group. A similar test on the feedback groups showed no significant differences.

An index called Strategies Used was compiled by summing the responses to the 5 items above (reverse scoring the variety item) for use as an independent variable in subsequent analyses.

Results

Goal Choice. The first set of analyses concerned the determinants of goal choice. This analysis included those subjects in Trial 5 who set their own goals, all subjects in Trial 6, and subjects in Trial 7 who set a quantitative goal. Hierarchical regression analysis was used; the variables were entered in the order shown in Table 1. Strategy training was coded: high strategy = 3, low strategy = 1, all others = 2.

Insert Table 1 about here

The results shown in Table 1 are quite consistent across the three trials. Ability and post-training performance level (post-training ability) are significantly related to goal level but become progressively less important from trials 5 to 7. Self-efficacy strength is strongly related to goal level chosen on all three trials and self-efficacy magnitude is significantly related in two of the three trials. Strategy training and strategies used, while

significantly correlated with goal level chosen, did not add any additional variance, suggesting that they affect goal level through their effect on self-efficacy.

Performance. An initial analysis was made of the effect of the assigned goal on trial 5 performance and on subsequent performance and on goals set on trials 6 and 7. The results are shown in Figures 2a and 2b.

Insert Figures 2a and 2b here

Subjects assigned a goal of 12 on trial 5 had significantly higher goals than those who set their own goals on trial 5 ($t = 19.28$, $p < .001$, d.f. 207) and performed significantly better ($t = 2.02$, $p < .05$, d.f. 206.) This effect carried over to trial 6, in which all subjects set their own goals, for both goals ($t = 4.43$, $p < .001$, d.f. 206.) and performance ($t = 1.72$, $p < .10$, d.f. 207) but the effect was considerably weaker. The effect was still present, though weaker still, on trial 7, but stronger with respect to goals ($t = 2.97$, $p < .01$, d.f.110) than to performance ($t = 1.16$, NS).

It was also found that self-efficacy was significantly related to goal commitment for those who set their own goals on trial 5. The correlation of self efficacy strength with the "before" commitment item was .29($p < .01$) and with the "after" commitment item .30 ($p < .001$) Commitment was significantly correlated with trial 5 performance for those who set their own goals, ($r = .17$, $p < .05$ for before; $r = .26$,

$p < .01$, after), although commitment did not add any unique variance to the prediction of performance. Commitment was not related to performance for those with assigned goals, nor was self-efficacy related to goal commitment for this group.

Subsequent performance analyses were done using hierarchical regression. Ability, self-efficacy strength, self-efficacy magnitude, goals, strategy training and strategies used were employed as predictors and were entered into the regression in that order. (Post-training performance was not entered since past performance as such is not a cause of future performance and because past performance is also the result of the predictor variables. Post-training performance was included in the path analysis reported below, however.)

The factors affecting performance on trials 5 to 7 are shown in Table 2. For purposes of economy the data for trials 1 and 2 are combined (by using means for the two trials for each variable); the pattern of results was very similar in both trials. All trial 1 subjects were included, half of whom had an assigned goal of 12 uses and half of whom chose their own goals.

Insert Table 2 about here

The results for trials 5 and 6 combined show that all six variables: ability, self-efficacy strength, self-

efficacy magnitude, goal level, strategies used, and strategy training, made significant increments to the multiple R, with ability, self-efficacy strength and goal level showing the strongest contributions.

The results for trial 7, using only those subjects who set quantitative goals, were similar except strategy training did not contribute significantly to the explanation of performance.

The overall correlation matrix for the combined trial 5 and 6 data is shown in Table 3. In an attempt to integrate the findings and Tables 1 through 3 into a coherent framework, a path analysis was conducted using the combined trial 5 and 6 data. The results are shown in Figure 3. This path analysis was deliberately over-simplified in the interests of clarity; thus only path relationships with a p value of .01 or better are shown. In addition, strategies used and self-efficacy magnitude have been omitted. This simplified path analysis shows that ability, post-training ability and strategy training affect self-efficacy strength, which in turn affects goal level, which in turn affects performance. Ability and post-training ability also have direct effects on performance. (Self-efficacy magnitude would also have affected performance directly if it had been included).

Insert Table 3 and Figure 3 about here

In an additional analysis, it was found that there was a low but significant correlation between self-efficacy strength and the tendency to set a specific goal on trial 3. Goal choice was coded 2 for specific or quantitative goal, and 1 for no specific goal. The r with self-efficacy strength was .18, $p < .05$.

Discussion

The most unexpected finding of this study was the very powerful effect of self-efficacy. It was found to affect goal level, task performance, goal commitment (when the goal was self-set), and even the choice to set a specific (quantitative) rather than a non-specific goal. These results give very strong support to Bandura's (1982) claim that self-efficacy is a key causal variable in performance and show that its effects on performance are not only direct but indirect as well.

These results also support Bandura's (1982) finding that past performance is a key determinant of self-efficacy. In fact, self-efficacy is even more highly related to past performance than to future performance. Table 4 shows the correlations of self-efficacy with past and future performance. In each box, the correlation to the left is for past performance and the one on the right is for future performance. Even when past performance is partialed out, however, the correlation with future performance is typically still significant (the partial correlations are shown in

parentheses). It should be noted that such partialing is a very conservative test of the effect of self-efficacy since past performance is also an effect of prior self-efficacy. Clearly self-efficacy and performance are reciprocally related.

Insert Table 4 about here

Our findings also show that self-efficacy is affected by training in task strategies, a result which replicates a previous finding by Bandura and Schunk (1981).

Further analyses of the performance and goal data showed that self-efficacy strength explained more unique variance in goal level than self-efficacy magnitude, while self-efficacy magnitude explained more unique variance in performance. Statistically, the reason is that while self-efficacy magnitude was correlated lower with the other variables than strength, they were both correlated about equally with performance; strength, however, was more highly correlated with goal level (see Table 3). The authors have no theoretical explanation for this pattern of results. Generally, self-efficacy strength and magnitude were correlated in the high 40's. If the two measures are combined into an overall self-efficacy index, the index explains unique variance in both goal choice and performance.

A puzzling aspect of the present results is the considerable success of self-efficacy in predicting performance in

contrast to the consistent failure of effort-performance expectancy (or E I) to show a positive association with performance in previous goal-setting studies (Locke, 1982; Mento, Cartledge & Locke, 1980). The two concepts are obviously closely related, with the possible difference that self-efficacy implies a general internal attribution (which would include ability) whereas E I implies no particular attribution. However, it is doubtful that this difference could account for the different results.

One difference between this and previous studies is that in previous goal-setting studies subjects rated their expectancy of reaching only the goal they were assigned. Since the assigned goals differed among subjects, the expectancy ratings of different subjects pertained to different goal levels. Typically the overall correlation of expectancy and performance was negative since people with easy goals (and therefore low performance) had high expectancies while those with hard goals (and therefore high performance) had low expectancies. In the present study, in contrast, subjects rated their efficacy with respect to virtually all possible performance levels (see Figure 1) . In addition, since goals for the most part were self-set, the range of goal levels across individuals was smaller than, for example, in Locke(1982).

In order to examine the possible biasing effect of combining subjects from all goal levels when computing the

expectancy-performance correlations, the first author re-analyzed data from two previous brainstorming studies (Locke, 1982; Locke et.al., Note 2). Subjects were grouped into relatively homogeneous goal groups and the expectancy-performance correlations were computed within each group. The results are shown in Table 5, along with parallel results for self-efficacy strength for different levels of performance in the present study.

Insert Table 5 about here

Observe that the efficacy-performance and expectancy-performance correlations are typically positive and significant, and are strongest for moderate to difficult goal or performance levels. The results for self-efficacy and expectancy are strikingly similar. Thus it appears that both the E I and self-efficacy strength estimates are most valid when they pertain to goals or levels of performance which are neither within the reach of all subjects nor within the reach of none. (All but one of the significant correlations in Table 5 remained significant when ability was controlled.)

It should be noted that there are a number of differences between the self-efficacy measures used here and the typically used expectancy measures. First, in the present study subjects made estimates of efficacy for the whole range of possible performance levels. This fact alone may

have contributed to their validity in that the subjects are making the ratings within a fuller or more comprenensive context. It is worth noting on this point that a recent study by Ilgen, et.al. (1981) found that the most valid type of expectancy (EI) measure was one which listed a variety of levels of performance and asked subjects to indicate the frequency (number of hours out of 100) with which they could attain each of six performance levels working at an average level of effort. This type of scale is somewhat similar to the self-efficacy scale used here. Second, the subject is making two different but related types of ratings, a yes-no rating and a confidence rating. This could contribute to increased reliability and/or validity. Third, confidence ratings may yield different results from probability of success estimates. And fourth, the self-efficacy ratings (and the E I ratings in Ilgen et al, 1981) are made with respect to performance rather than with respect to goal levels. Further research might determine what, if any, effect these difference have on validity.

The present results confirm a long line of previous studies regarding the effect of goal on performance (Locke, 1968; Locke et al, 1981; Locke & Latham, in press). In the present study, both assigned goals and self set goals were related to performance. The present results also replicate a previous study by Locke, Zubritzky, and Cousins (Note 2) which found that goals assigned on one trial affect goals and performance on a subsequent trial. The present study

extended tne time span for one additional trial, as compared to the Locke et al study (Note 2) and found, not unexpectedly, that tne effects of the initially assigned goal were substantially reduced although not entirely absent after the second post-assignment trial.

The finding --that self-efficacy was related to goal and goal commitment to performance in the self set goal condition (trial 5) but not in the assigned goal condition--were the opposite of what once might expect. The mean goal commitment score was actually slightly higher ($t = 1.39$, $p < .20$, d.f. 172) among assigned goal subjects than self-set goal subjects. While self set goals are delegated rather than set participatively (jointly), these findings are consistent with the findings of a long series of studies by Latham and his colleagues (summarized in Locke et al, 1981) which found that participation in goal setting typically did not lead to greater goal commitment or performance than assigned goal setting. Perhaps self-set goals are held more flexibly, because they are simply a matter of personal preference, while assigned goals, especially when assigned by an authority figure (professor, supervisor, etc.) are seen as being required by the situation. Notably, the variance in goal acceptance was significantly greater in this study (trial 5) among those with self-set goals than among those with assigned goals ($F = 1.52$, $p < .05$, d.f. 90, 82).

The finding that training in task strategies can affect

performance even on a simple task extends previous findings (e.g., Terborg, 1976) which found that spontaneously chosen strategies affected performance on a more complex task. In the present study strategy training and strategies used were significantly related but both made significant contributions to task performance. Additional studies of the effects of task strategies are certainly in order.

The path analysis in Figure 3, as a summary and integration of the findings, points the way to the possibility of an integration of goal setting theory with key elements of social learning theory, with self-efficacy as the major integrating mechanism. Bandura and his colleagues have already recognized and verified the important role played by goals in performance (Bandura & Simon, 1977; Bandura & Cervone, Note 1). They have also replicated the finding of an interaction between goal setting and performance feedback with the combination of both having a far more powerful effect on performance than any other combination (Bandura & Cervone, Note 1). Further they have replicated the finding of Locke, Cartledge and Knerr (1970) that dissatisfaction with previous performance motivates the desire to improve on subsequent trials. Self-efficacy appears to play a role in all of these relationships.

If the authors may be permitted a bit of speculation, it seems that the groundwork has now been laid for a relatively successful and well integrated theory of task perfor-

mance.

Reference Notes

Note 1. Bandura, A. & Cervone, D., Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. Stanford University, unpublished ms.

Note 2. Locke, E.A., Zubritzky, E. & Cousins, E., The effect of previously assigned goals on self set goals and performance. Technical Report ONR-GS-15, Office of Naval Research, June, 1982.

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Table 1

Predictors of Goal Choice

Variable	Trial 5 (N = 96) (self set goals only)			Trial 6 (N = 181)			Trial 7 (N = 112) (quantitative goals only)		
	r	ΔR^2	F inc.	r	ΔR^2	F inc.	r	ΔR^2	F inc.
Ability	.45	.20	23.63**	.34	.11	22.69**	.29	.08	8.97**
Post Training Performance	.60	.20	31.67**	.52	.17	43.53**	.46	.14	16.67**
Self-Efficacy Strength	.57	.14	28.29**	.59	.14	43.62**	.65	.23	40.54**
Self-Efficacy Magnitude	.36	.00	.00	.57	.06	22.30**	.52	.05	10.37**
Strategy Training	.38	.00	.30	.37	.01	1.76	.35	.02	3.78
Strategy Used	.25	.00	.42	.23	.00	0.10	.32	.00	.86

** $p < .01$

Table 2

Predictors of Performance

	Combined Trials 5 and 6 (N = 181)			Trial 7 (N = 112) (quantitative goals only)		
	r	ΔR^2	F inc.	r	ΔR^2	F inc.
Ability	.47	.22	51.29**	.42	.18	20.84**
Self-Efficacy Strength	.54	.17	48.13**	.55	.19	28.32**
Self-Efficacy Magnitude	.50	.05	17.69**	.48	.05	7.56**
Goal	.57	.07	27.03**	.59	.05	8.81**
Strategies Used	.37	.03	12.07**	.42	.04	8.05**
Strategy Training	.39	.02	7.18**	.36	.02	3.40

** $p < .01$

Table 3

Correlation Matrix for Trials 5 and 6 Combined [a/]
(N = 181)

	Abil.	Post Tr.Perf	SEstr.	SEmag.	Goal	Strat.Used	Strat.Trng.	Per
Ability	-	.42	.34	.28	.25	.17	.08	.4
Post Training Performance		-	.44	.37	.40	.37	.55	.6
Self-Efficacy Strength			-	.47	.53	.29	.37	.5
Self-Efficacy Magnitude				-	.39	.20	.19	.5
Goal					-	.19	.29	.5
Strategies Used						-	.38	.3
Strategy Training							-	.3

a $r \geq .15$, $p < .05$

$r \geq .19$, $p < .01$

Table 4

Relation of Self-Efficacy to Prior & Subsequent Performance

	Performance on			
	Last Training Trial	Experimental Trial 5	Experimental Trial 6	Experimental Trial 7
Post Training SES	.56**	.40** (.06[a])		
Post Training SEM	.46**	.39** (.13*)		
Post Trial 5 SES		.58**	.49** (.20**)	
Post Trial 5 SEM		.61**	.46** (.11[b])	
Post Trial 6 SES			.63**	.53** (.19**)
Post Trial 6 SEM			.58**	.48** (.16*)

[a] r's in parentheses are both prior performance partialed out

[b] $p = .055$

* $p < .05$

** $p < .01$

Table 5

Relation of Self-Efficacy to Performance as a Function of Goal Difficulty

Present Study					Locke, 1982		
		r with performance					
Self Efficacy for	Objective probability of attaining	Trial 5	6	7	Expectancy for	Objective probability of attaining	r with performance
2 + 4 + 6 uses	.87	.30**	.33**	.39**	Goals of 2 & 4 uses	1.00	.00
8 + 10 + 12 uses	.16	.40**	.49**	.53**	Goals of 6, 8 & 10 uses	.14	.49**
14 + 16 uses	.002	.19**	.40**	.28**	Goals of 12 to 28 uses	0	.17*

* $p < .05$

** $p < .01$

Table 5 cont.

	Locke et al (Note 2)	
Expectancy for	Objective probability of attaining	r with performance
Goals of 2 & 5 uses	.92	-.16
Goals of 8 & 11 uses	.16	.41**
Goals of 14, 20 & 26 uses	0	.35**

Figure 1

Self-Efficacy Scale

	Column A (Y=yes; N=no) Can Do	Column B (0 to 100%) Certainty
I can list 2 uses in 1 minute.	_____	_____
I can list 4 uses in 1 minute.	_____	_____
I can list 6 uses in 1 minute.	_____	_____
I can list 8 uses in 1 minute.	_____	_____
I can list 10 uses in 1 minute.	_____	_____
I can list 12 uses in 1 minute.	_____	_____
I can list 14 uses in 1 minute.	_____	_____
I can list 16 uses in 1 minute.	_____	_____

Figure 2

Effect of Assigned Goal on Subsequent Goals and Performance

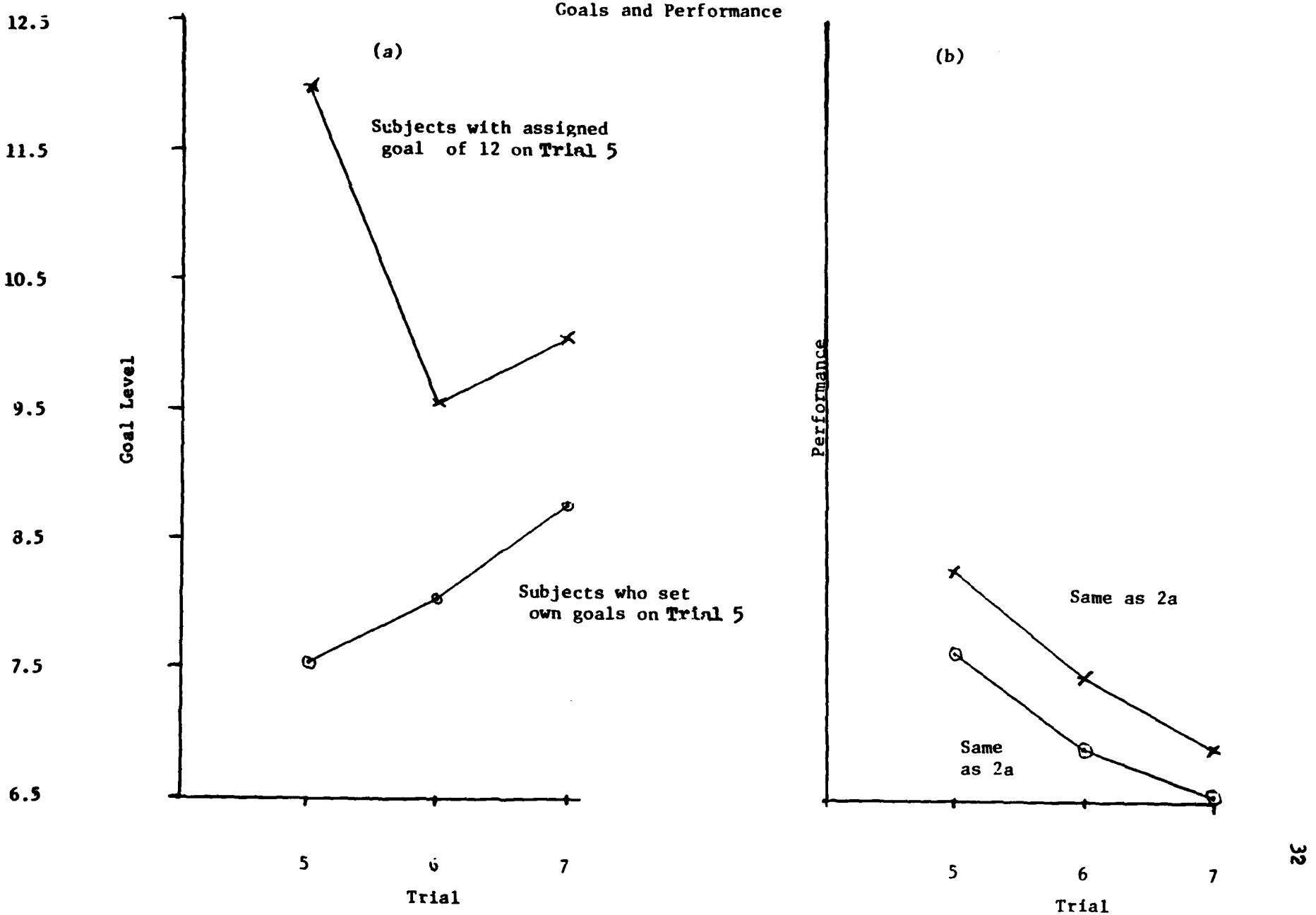
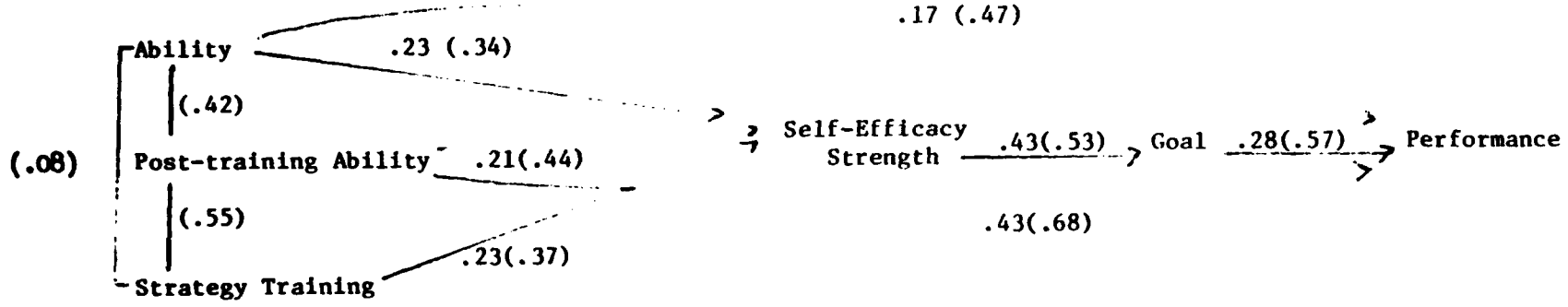


Figure 3

Simplified Path Analysis[a]
(Trials 5 & 6 Combined)



[a] Numbers outside parentheses are standardized path coefficients (p's < .01); numbers in parentheses are simple r's.

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Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

COL Howard Prince
Head, Department of Behavior
Science and Leadership
U.S. Military Academy, New York 10996

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