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THE EFFECT OF PREVIOUSLY ASSIGNED GOALS ON SELF-SET GOALS AND P--ETC(U)
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The Effect of Previously Assigned Goals on Self-Set
Goals and Performance¹

Edwin A. Locke, Elizabeth Zubritzky, Elizabeth Cousins
University of Maryland

and

Philip Bobko
Virginia Polytechnic Institute and State University

Abstract

Subjects were assigned goals, ranging from easy to impossible, on one trial and then allowed to choose their own goals on the next trial. Subjects felt a high degree of freedom of choice on the latter trial and tended to choose harder goals if their earlier assigned goals had been easy and to choose easier goals if their previously assigned goals had been hard. Despite these changes, subjects were heavily influenced in their self-set goals by their previously assigned goals. Performance on both trials was determined by ability, goal level, goal squared (quadratic trend), goal acceptance, and by a goal-ability interaction.

A previous goal setting study (Locke, in press) found a curvilinear relationship between goals and performance when goals were assigned at all levels of difficulty, including levels far beyond the subjects' capacity. Performance did not drop as the goals became more and more impossible, however; rather it simply leveled off. Subjects did not reject impossible goals, since they could achieve partial success and because of the demand characteristics of the experimental situation.

The present study was designed to observe what would happen if subjects were first given a wide range of goals, including impossible goals, and then, on the following trial, were allowed to set goals of their own choosing. It was predicted that under these circumstances, subjects with impossible goals would set markedly lower goals and thus show markedly lower performance. If this hypothesis were proved correct, it might help solve the goal acceptance puzzle in goal setting research (Locke, Shaw, Saari, and Latham, 1981). Previous studies have not found any consistent effects of goal acceptance. A greater range of goal acceptance, fostered by allowing subjects to reject assigned goals, might produce a greater range of performance among those assigned impossible goals.

Method

Subjects. The subjects were 258 students in an introductory business management course. The experiment was run during weekly discussion sections.

Task. The task was brainstorming; students were asked to list uses for common objects and to emphasize quantity rather than quality. Based on data obtained by Locke (Note 1) these objects were chosen so as to be of equal difficulty. In addition, the order of the objects was counterbalanced within each goal condition.

Goals. The experiment used seven goal levels which ranged from easy to impossible

(see below). Everyone within a section was assigned the same goal and goals were assigned to sections at random. A total of 16 discussion sections were used, thus allowing each of the seven goal conditions and a control condition to be based on two discussion sections. Attendance in these discussion sections determined the total N for each goal group as follows:

2 uses (n=28); 5 uses (n=38); 8 uses (n=32); 11 uses (n=38); 14 uses (n=31); 20 uses (n=32); 26 uses (n=32); control (n=27).

Procedure. After the task was explained, the subjects were given a one-minute practice trial followed by two one-minute experimental trials. On the practice trial, subjects were instructed to write the announced object at the top of the page and to list as many uses as they could for that object in one minute. Before the first experimental trial, T-1, experimental subjects were assigned a goal consisting of a specified number of uses and were instructed to try to reach the goal, but not exceed it, during the one minute period. Subjects wrote their goal in a space provided at the top of the page and circled the corresponding number on their numbered answer sheet. This provided clear feedback regarding the progress in relation to the goal. Subjects then rated their expectancy of reaching their goal. The object for T-1 was announced and the trial began. Work was stopped after one minute and subjects then responded to a goal acceptance question. For the second trial, T-2, subjects were "given" the same goal as in T-1, and again rated their expectancy of reaching it. Then, the subjects were told that they were free to change their goal to a higher or lower level for this trial if they did not like the goal they had been assigned. If they selected a new goal, they were to indicate what this goal was and to rate their chances of reaching this new goal. Again they circled the number corresponding to their goal on the answer sheet. The object

was announced and T-2 began. After the trial was over, subjects answered a goal acceptance question and four additional questions regarding their desire and freedom to change goals. Control group subjects were allowed to set their own goals on both T-1 and T-2. (The control group was included only as a standard of comparison to the experimental groups with respect to freedom of choice in setting goals. The performance data for this group are not relevant to any hypothesis are not reported).

Any subject who failed to follow directions (e.g., to write uses) or failed to respond to any of the questions was excluded from the analysis; 9% of the original subjects were dropped from the analysis for this reason.

Questionnaire measures

1. Expectancy. Expectancy was measured as follows: "Rate your chances out of 100 of reaching this goal using any whole number from 0 to 100." It was explained that "0" would indicate no chance of reaching the goal, "50" would mean a 50/50 chance of reaching the goal and "100" would indicate certainty of reaching the goal.

2. Goal Acceptance. Subjects were asked to indicate "The actual or personal goal you had on the previous trial" using the following scale: 1) I was trying to reach the assigned goal; 2) I wanted to reach the assigned goal but knew I could not make it, but I was still trying to get as close as possible to the assigned goal; 3) I was not trying to reach the assigned goal and was not trying to get as close to it as possible. I totally ignored the assigned goal." (substitute goals such as "do my best" were listed for the subject to check as appropriate)

3. Freedom and Desire to Change to New Goals. Subjects were asked to respond to four questions regarding both their perceived freedom to change goals and their desire to change goals for both T-1 and T-2, using the following response

alternatives: 1=no freedom (desire) to change; 2=little freedom (desire) to change; 3=some freedom (moderate desire) to change; 4=considerable freedom (fairly strong desire) to change; 5=complete freedom (very strong desire) to change.

4. Performance and Ability. A subject's performance score on both T-1 and T-2 was the total number of uses given for an object on that trial. Each list of uses was screened for totally irrelevant or repeated uses and these items were not counted toward the subject's performance score (Garland, 1982, found that using more stringent quality controls on a brainstorming task did not affect the goal-performance relationship). The practice trial score served as the measure of ability.

Results

Manipulation Check. Subjects' perceived freedom to change to a new goal was significantly higher on T-2 than on T-1, indicating that the goal choice manipulation was successful. The mean was 1.43 on T-1 vs. 4.49 on T-2 ($t=32.91$, $p<.001$). The mean desire to change to a new goal was 2.26 on T-1 vs. 3.26 on T-2 ($t=10.71$, $p<.001$). There was no significant difference between the assigned goal groups in terms of perceived freedom to change to a new goal on T-2 [$F(6,224) = 0.66$, ns]. However, there was a significant difference between groups in terms of desire to change to a new goal on T-2, $F=5.71$, $p<.001$. Those with higher goals had more desire to change than those with lower goals (though some easy goal subjects desired to change goals also, as noted below).

Ability. The seven assigned goal groups were equivalent in initial ability $F(6,224) = 1.1$, ns.

Goal Acceptance. 65% to 97% of the experimental subjects in each goal group

reported that they were trying to reach or get as close as possible to their assigned goal on T-1. More subjects assigned the extreme goals of 20 and 26 reported trying for other goals (usually they were trying to "do my best") as compared with those assigned lower goals. However, when ability was controlled, there was no difference between the performance of "do best" and all other subjects. On T-2, 90% or more the subjects in all groups reported accepting their goals using the same criterion as for T-1. There were no significant differences among the goal groups in acceptance on this trial.

Goal Level and Goal Choice. Figure 1 compares the goals on T-1 (which were all assigned and substantially accepted) with the mean goals chosen on T-2 by the same groups of subjects. On T-2 the mean goal levels of the seven original groups ranged from 4.8 to 12.9 in contrast with the T-1 range of 2 to 26. Tests of the differences between the means for the seven goal groups

Figure 1 here

for T-1 vs. T-2 indicate that all the mean differences are significant ($t=2.42$, $p < .02$ for goal group 8 and $t's < 4.00$, $p < .001$ for all others). Individuals in the lower goal (2 and 5) groups raised their goals whereas those in the higher goal (8 and above) groups lowered their goals on T-2.

Despite these goal changes, however, there were significant differences among the assigned goal groups in the goals they set for themselves on T-2 [$F(6,224)=25.4$, $p < .001$]. Those assigned easy goals on T-1 still set easier goals on T-2 than did those assigned hard goals on T-1. Furthermore these differences were reflected in the mean expectancy estimates made after choosing T-2 goals but before working toward them. The means ranged from a high of .84 for the group originally assigned the goal of 2 down to a low of .58 for the group originally assigned the goal of 26 [overall $F(6,224)=5.78$, $p < .001$].

Table 1 summarizes the goal changes made between T-1 and T-2 for the seven levels of assigned goals. The chi-square statistic for the pattern of goal changes is highly significant ($\chi^2=164.8$, $p<.001$) and corroborates Figure 1 in illustrating that individuals prefer moderate rather than extreme goal levels.

To further investigate goal choice on T-2, an hierarchical, moderated regression analysis was performed with goal level chosen on T-2 as the dependent variable. The hierarchical approach was deemed appropriate, since the variables could be entered into the equation in terms of hypothesized theoretical importance. For example, ability was entered first as a control variable and goal level on T-1 was entered second. A moderated approach was used because of the differential pattern of goal change just described. The list of variables and appropriate statistics are shown in Table 2.

Tables 1&2 here

Ability, Goal on T-1, Performance on T-1, Expectancy for G-1 (measured after T-1) and Desire to change all made significant contributions to the prediction of T-2 goals. Goal on T-1 showed the highest univariate correlation. There was also a small Goalx Expectancy interaction and a substantial Goalx Desire interaction. Consistent with the choices indicated in Table 1, those with low goals on T-1 desired harder goals while those with harder goals desired easier goals. The point biserial correlation between desire to change goals and actual change (coded 0, 1 ignoring the direction of change) was .72 ($p<.001$). Performance. Figure 2 shows the performance levels on T-1 and T-2 for the same goal groups depicted in Figure 1. Tests of the differences in mean performance between T-1 and T-2 for groups with assigned goals on T-1 of 11, 14, 20, and 26 uses were not significant. Differences in performance for the remaining goal groups were significant, however. Individuals with a goal of 8

on T-1 decreased in performance on T-2 ($t=2.26$, $p<.05$), while those with T-1 goals of 2 and 5 increased in performance on T-2 ($t =4.69$ and 2.74 , respectively, $p <.01$ for both).

Table 3 shows the moderated regression analyses for performance on T-1 and T-2. On both trials, Ability and Goals were strongly related to performance. (T-1 goals also correlated significantly with T-2 performance, though not after T-2 goals were entered). The strong Goal² effect found in both analyses is due to the curvilinear relation between goals and performance shown in Figure 2. Goals were related to performance at the lower goal levels but not at the higher goals levels where the goals exceeded the subjects' ability. The Goal-Ability interaction found on both trials resulted from ability being unrelated to performance at the lower goal levels (because subjects stopped working if they reached their goals), but significantly related to performance at the higher goal levels (where performance was unconstrained.) There was a small Goal Acceptance effect on each trial. This was due to a performance difference between those trying unreservedly for the goal and all remaining subjects (those trying to get close and those who set other goals such as "do my best.")

Fig. 2 & Table 3 here

The Goal-Expectancy interaction found on T-2 was due to expectancy being positively related to performance at the higher but not the lower goal levels. Similarly, goals were related to performance more strongly at the higher than at the lower expectancy levels.

Discussion

The major hypothesis of this study was not fully supported. Although subjects assigned impossible goals did lower them when given the choice, the subjects' self-set goals still remained well above the level of their ability

(Figure 1). The result was that performance did not drop for these subjects (with the exception of those assigned a goal of 8 who lowered both their goals and their performance). These results indicate that assigning subjects a goal on one trial can carry over to a subsequent trial on which subjects are allowed to set their own goals. This carryover effect was might be described by Ach (a member of the Wurzburg school founded at the turn of the century) as a "determining tendency"; a task assigned earlier could affect action even when the individual was not consciously focusing on it (described in Ryan, 1970, p.92ff.)

One cannot argue that this carryover was caused by the subjects' belief that they lacked the freedom to choose their own goals. The mean freedom of choice rating for T-2 was 4.49 on a 5-point scale; furthermore, this mean was significantly higher than the T-2 freedom of choice rating of the control subjects who were free to choose their own goals on both trials ($\bar{x}=4.04$; $t=2.35$, $p<.05$) This latter difference is presumably due to a contrast effect.

Evidently what carried over from T-1 to T-2 was the subjects' implicit belief as to what level of goal was appropriate or reasonable. This might also be interpreted as an example of "adaptation level" based on previous experience. People adapt to situations and may judge future situations by the norms of the previous ones. This interpretation is consistent with something teachers have believed for years: students who attend schools or courses where the standards are low expect less of themselves and attain less subsequently than those who attended schools or courses that set high standards. It is widely believed that employees adapt to job standards in a similar fashion.

This study replicated all of the results obtained by Locke (in press) using only T-1, i.e., the curvilinear relation of goal difficulty to performance when impossible goals are included; the interaction between goal level and ability

with ability predicting performance only at higher goal levels where performance is not constrained; the positive correlation between goal level and the variance around the performance means (in this study the rho's were .75 for T-1, and 1.0 for T-2 after regrouping by chosen goals; $p's < .05$); the high level of goal acceptance obtained when impossible goals are assigned; and the substantial multiple correlation of ability and goals with performance.

The goal-expectancy interaction replicates a result obtained previously (Mento, Cartledge and Locke, 1980; Study 1) and may be related to the concept of self-perceived ability which has been found to exert an independent effect on performance (Mento et al, 1980, Study 2; Motowidlo, Loehr, & Dunnette, 1978), but which is usually measured differently from expectancy (with verbal anchors rather than probability ratings). These concepts might also be related to Bandura's concept of self-efficacy which he describes as "judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p.122).

Although the effect of giving subjects the opportunity to choose their own goals did lead to lower goals being set by those initially assigned impossible goals (11, 14, 20, and 26), there was no drop in performance for these subjects. The self-set goals were still set at a high level and the subjects were as committed to these new goals as to the assigned ones, if not more so.

While there were significant goal acceptance effects on both trials, these were of minimal significance. Thus it is worth asking what procedures would yield more substantial goal acceptance effects. Two methods appear to have achieved high variance in acceptance thus far. Mowen, Middlemist, and Luther (1981) found that high goal subjects paid on a task and bonus systems which rewarded them only for goal success performed poorly in contrast to subjects assigned high goals but paid on a piece-rate basis, presumably since partial success

was still rewarded. Erez and Zidon (Note 2) were able to get hard goal subjects to reject hard assigned goals by actually telling them that normal, intelligent people do not accept such goals. In short these investigators had to generate demand characteristics aimed at goal rejection in order to negate those which had initially generated goal acceptance. Under these conditions Erez and Zidon obtained sharp drops in performance for subjects assigned hard goals. This finding suggests that an effective and direct way to get goal rejection in a laboratory study is the same as the most effective and direct way to get goal acceptance: tell the subjects what you want them to do! The same may hold time (with some exceptions) of employees in organizations.

Footnotes

1. This research was supported by Contract No. N00014-79-C-0680 from the Office of Naval Research (Organizational Effectiveness Program). Requests for reprints should be sent to Edwin A. Locke, College of Business and Management, University of Maryland, College Park, Maryland, 20742.

Reference Notes

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Table 1
 Frequency of Goal Changes on T-2
 by Goal Group on T-1

Goal Assigned on T-1	Objective Probability fo Success on T-1	Expectancy of Success (T-1)	Number Choosing Goals on T-2 which were/vs. T-1:			N
			Lower	Same	Higher	
2	100	90.5	0	9	19	28
5	84	81.8	1	21	16	38
8	28	62.3	11	17	4	32
11	5	62.3	19	19	0	38
14	0	51.5	20	11	0	31
20	0	35.2	31	1	0	32
26	0	25.5	28	4	0	32

Table 2
Moderated Regression Analysis for Goals on T-2

Variable (in order of entry)	β	Multiple R	R ² Increment	F (Incremental)
Ability	.24***	.241	.058	34.1***
Goal, T-1	.61***	.646	.360	211.8***
Performance, T-1	.53***	.678	.042	24.7**
Expectancy for G-1 (after T-1)	-.35***	.687	.012	7.1
Goal Acceptance, T-1	-.36***	.688	.001	0.59
Desire to Change (on T-2)	-.04	.712	.034	20.0***
Goal X Expectancy	.37***	.724	.017	10.0***
Goal X Goal Acceptance	-.55***	.724	.000	0
Goal X Desire to Change	.33***	.791	.101	59.4***
Goal X Ability	.60	.791	.001	.59

(n = 231)

* p < .05
** p < .01
*** p < .001

Table 3
Moderated Regression Analysis for Performance
on T-1 and T-2

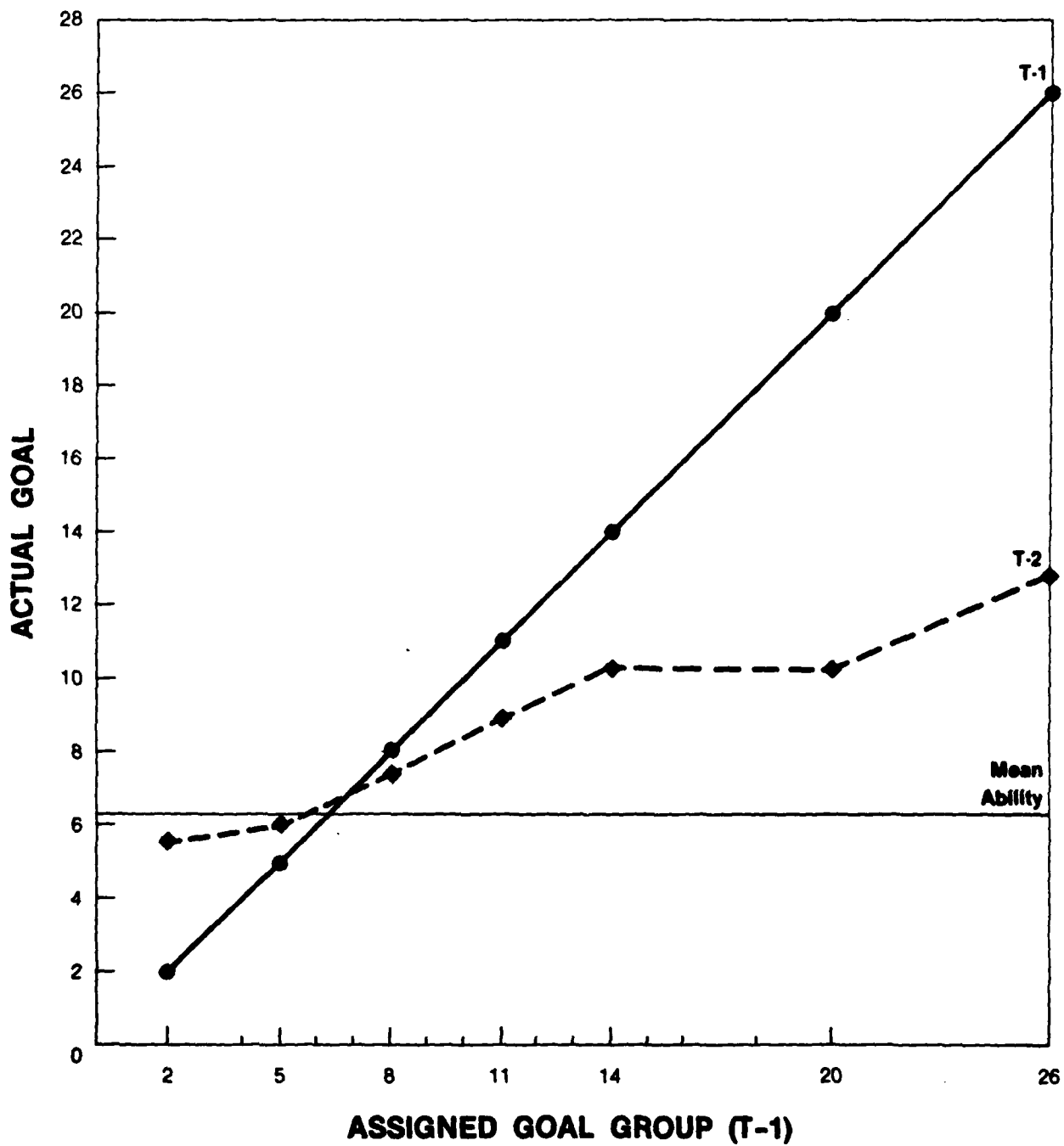
Variable (in order of entry)	T-1			T-2			
	β	Multiple R	R^2 Increment	F (Incremental)	Multiple R	R^2 Increment	F (Incremental)
Ability	.43***	.434	.188	91.3***	.484	.235	120.2***
Goal	.46**	.614	.189	91.3	.639	.174	89.0***
Expectancy	-.19*	.617	.003	1.44*	.659	.026	13.3**
Goal Acceptance	.15***	.633	.020	7.8***	.670	.014	7.37***
Goal 2	.36***	.757	.171	95.0**	.740	.098	51.6**
Goal X Ability	.61***	.768	.017	9.4*	.751	.016	8.4
Goal X Acceptance	.32***	.773	.008	4.44*	.751	.000	0
Goal X Expectancy	.55	.776	.005	2.94	.758	.010	5.26*

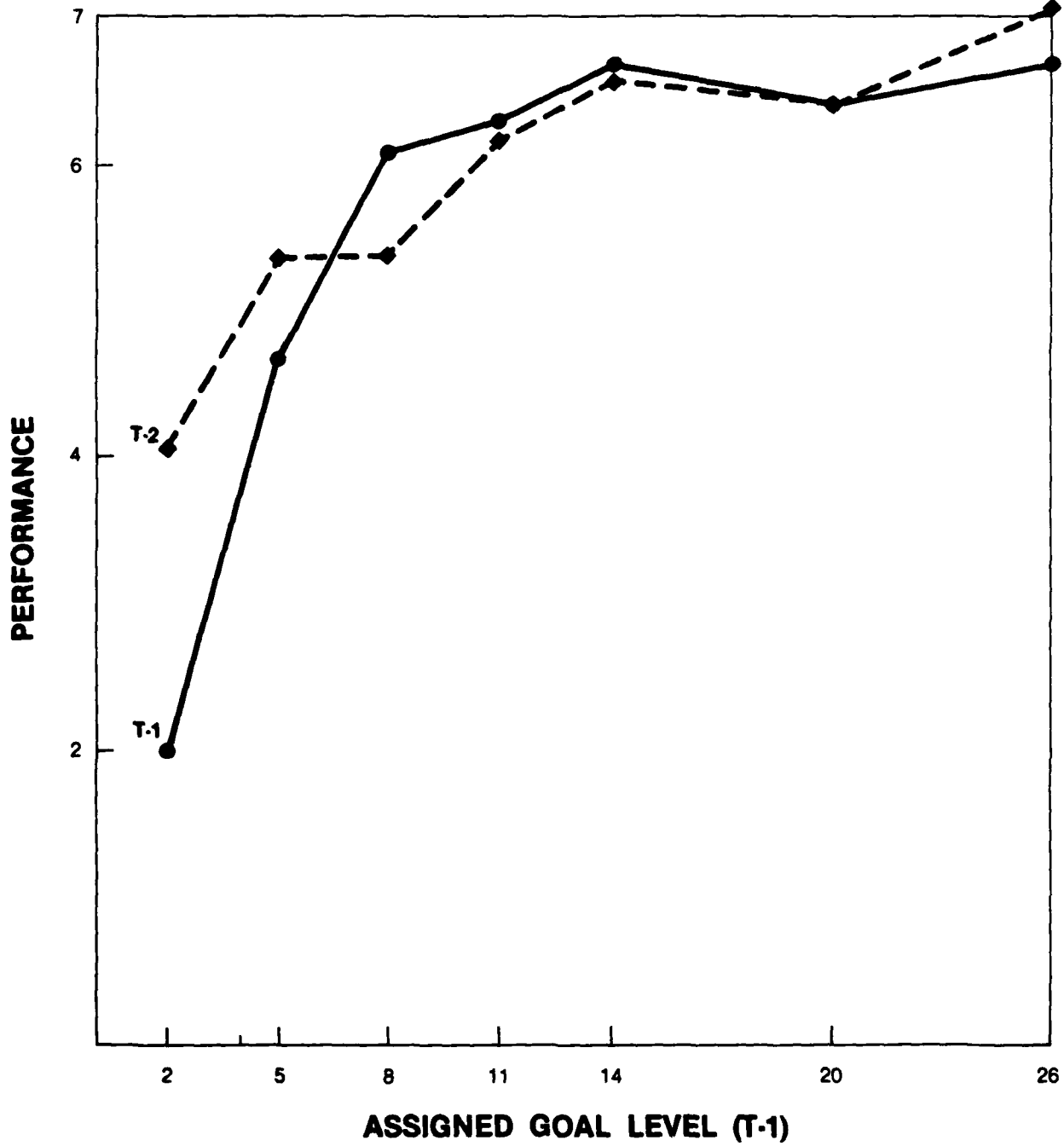
(n = 231)

* p < .05
** p < .01
*** p < .001

Fig. 1 : Goal Levels of Assigned Goal Groups on T-1 and T-2

Fig. 2 : Performance Levels of Assigned Goal Groups on T-1 and T-2





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Graduate School of Industrial
Administration
Carnegie-Mellon University
Pittsburgh, PA 15213

LIST 15 (Continued)

Dr. J. Richard Hackman
School of Organization
and Management
Box 1A, Yale University
New Haven, CT 06520

Dr. Lawrence R. James
School of Psychology
Georgia Institute of
Technology
Atlanta, GA 30332

Allan P. Jones
University of Houston
4800 Calhoun
Houston, TX 77004

Dr. Frank J. Landy
The Pennsylvania State University
Department of Psychology
417 Bruce V. Moore Building
University Park, PA 16802

Dr. Bibb Latane
The Ohio State University
Department of Psychology
404 B West 17th Street
Columbus, OH 43210

Dr. Edward E. Lawler
University of Southern California
Graduate School of Business
Administration
Los Angeles, CA 90007

Dr. Edwin A. Locke
College of Business and Management
University of Maryland
College Park, MD 20742

Dr. Fred Luthans
Regents Professor of Management
University of Nebraska - Lincoln
Lincoln, NE 68588

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452:KD:716:enj
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LIST 15 (Continued)

Dr. R. R. Mackie
Human Factors Research
A Division of Canyon Research
5775 Dawson Street
Goleta, CA 93017

H. Ned Seelye
International Resource Development
Inc.
P.O. Box 721
La Grange, IL 60525

Dr. William H. Mobley
College of Business Administration
Texas A&M University
College Station, TX 77843

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
116E Stadium
404C West 17th Avenue
Columbus, OH 43210

Dr. William G. Ouchi
University of California, Los
Angeles
Graduate School of Management
Los Angeles, CA 90024

Dr. Irwin G. Sarason
University of Washington
Department of Psychology, NI-25
Seattle, WA 98195

Dr. Benjamin Schneider
Department of Psychology
Michigan State University
East Lansing, MI 48824

Dr. Edgar H. Schein
Massachusetts Institute of
Technology
Sloan School of Management
Cambridge, MA 02139

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452:KD:716:enj
78u452-883

LIST 15 (Continued)

Dr. H. Wallace Sinaiko
Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
801 N. Pitt Street, Suite 120
Alexandria, VA 22314

Dr. Richard M. Steers
Graduate School of Management
University of Oregon
Eugene, OR 97403

Dr. Siegfried Streufert
The Pennsylvania State University
Department of Behavioral Science
Milton S. Hershey Medical Center
Hershey, PA 17033

Dr. James R. Terborg
University of Oregon
West Campus
Department of Management
Eugene, OR 97403

Dr. Harry C. Triandis
Department of Psychology
University of Illinois
Champaign, IL 61820

Dr. Howard M. Weiss
Purdue University
Department of Psychological
Sciences
West Lafayette, IN 47907

Dr. Philip G. Zimbardo
Stanford University
Department of Psychology
Stanford, CA 94305

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