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Goal Setting and Performance Evaluation: An Attributional Analysis

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The present study considered the effect of goal setting on supervisors' evaluations of employees' performance and the causes attributed to that performance. Results indicated that attributional distortions were greater in the assigned than in the participative or self-set goal conditions. Supervisors rated the high participatively-set goal worker significantly higher in performance, ability, effort, and goal commitment than they rated the low participatively-set goal worker.

Performance appraisal rating errors have been given considerable attention in the literature. The thrust of most of this research has centered around the psychometric properties of the rating scales (Landy & Farr, 1980) and on the reduction of rater errors through training (Latham, Wexley, & Pursell, 1975). Of probably equal importance in committing rating errors are the social and situational information cues available to the evaluator. To date such cues have been largely ignored in the industrial psychology and management literature (Landy & Farr, 1980).

Social psychologists, however, have been pursuing these informational cues for some time (Kelley, 1967). Specifically, Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971) propose that attributions regarding task success and failure affect the degree to which an observer attributes task performance to internal or external causes. According to these authors, internal attributions are the actor's effort and ability; external attributions are task difficulty and luck. For example, Mitchell and Wood (1980) found that when the consequences of poor performance were major, supervisors made more internal causal attributions for that performance. In addition, Garland and Price (1977) have shown that the success of female managers was attributed by prejudiced male managers to luck and an easy task, but unprejudiced male managers attributed the success of their female counterparts to skill and hard work.

A highly salient set of information cues is provided to the evaluator not only by the outcome of success or failure, but also by the standards by which the employee's performance is judged and the method by which those standards are established. The latter may be accomplished through engineered work standards, a supervisor either assigning a work goal to the employee or setting the goal participatively, or even by allowing for self-set work goals. Thus, an interesting line of research would focus on the attributions made during performance evaluation as a function of various goal setting methods under conditions of task success or failure. That is, if performance evaluations made by a supervisor are subject to attributional distortion, is the nature of such distortions dependent on goal attainment? In addition, are the dynamics of different methods of goal setting an appreciable factor in the final evaluation of performance?

To date, no research has systematically investigated the effects of process variables on performance appraisal in the context of goal setting. It seems reasonable that a supervisor's evaluation of an employee's performance may be affected by information obtained during the goal setting process. In considering this process, a supervisor has considerable information that may be more or less salient when evaluating an employee's performance.

One important informational cue is the question of who set the goal. The degree of influence a supervisor has in setting a goal increases from self-set, through participative, to assigned goal setting procedures. As a supervisor's influence increases in setting the goal, the employee's task performance becomes more "hedonically relevant" to the supervisor (Jones & Davis, 1965). That is, the success or failure of the employee in meeting the goal has positive or negative consequences for the supervisor. Consequently, a supervisor may differentially distort an employee's performance evaluation as a function of the type of goal setting process, especially if the employee failed to meet the goal. Such failure may be a threat to the supervisor's self-esteem, the supervisor then making a defensive attribution to avoid that threat (Jones & Davis, 1965). It therefore *was hypothesized that an employee's performance evaluation would be affected by an interaction between his performance outcome and the manner in which the goal was set*. Specifically, it was expected that supervisors would distort the causal attributions of performance and, hence, the performance evaluation for a failing employee more in an assigned goal setting condition than in either participative or self-set conditions. No significant distortions were anticipated for successful employees.

A second piece of information that may affect a supervisor's evaluation of an employee's performance is the difficulty of the goal to which an employee initially aspires relative to the agreed-upon goal when the goal is participatively set. For example, a supervisor who is faced with an employee who initially suggests a very difficult goal is likely to draw different inferences regarding the causal factors of the employee's performance than when faced with an employee who initially suggests a relatively easy

goal. Furthermore, the initial goal suggested by an employee may ultimately affect his performance rating given by his supervisor. Thus, in the present study two types of participative goal setting conditions were developed. The employee either initially suggested a more difficult or less difficult goal relative to the final agreed-upon goal. It was predicted that an employee suggesting a relatively hard goal would be perceived as being a better worker with higher ability, goal commitment, and motivation to perform the task than an employee suggesting a relatively easy goal. The employee's initially suggested goal was expected to affect differentially the supervisor's attributions for success or failure and thus the overall performance evaluation, because the participative goal setting conditions were hedonically relevant to the supervisor.

A final, and probably the most potent, determinant of a supervisor's evaluation of an employee's performance is whether or not the employee meets the performance goal. In the present study, half the supervisors saw a worker succeed by exceeding the set goal. Successful goal attainment was hypothesized to affect significantly supervisor's attributions for the causes of the worker's performance and their subsequent overall performance evaluation rating.

The present study was designed to ascertain the effects of different types of goal setting procedures on a worker's performance evaluation and the perceived causes of that performance. Subjects were shown one of several videotapes of a supervisor and a worker setting a performance goal. After receiving information about the worker's success or failure in meeting the goal, the subjects assumed the role of the supervisor and evaluated the worker's performance. Attribution research has demonstrated that role players make the same attributions as those of actual participants (Bem, 1972). Thus, role players participated in one of three goal setting conditions: participative, assigned, or self-set. The participative goal setting condition was divided further into two conditions in which the worker suggested either a relatively hard or easy goal as compared to the final goal set. Each of these conditions was combined with the worker either succeeding or failing to meet the goal set. Sex of the subjects was treated as a blocking variable.

METHOD

Subjects

The participants were 30 male and 50 female undergraduates attending the University of Nebraska at Omaha. In exchange for their participation in the experiment, subjects received extra credit in their respective courses. There were 10 subjects in each of the 8 experimental conditions. However, the proportion of males to females in each condition varied considerably.

Procedure

Subjects were shown two videotaped sequences of a male worker. The first tape (goal setting) involved the worker and his (male) supervisor discussing how the task should be done and setting a production goal for the worker. Videotape, rather than a live supervisor-worker interaction, was used to control goal difficulty and any unique "historical" factors that could bias the results. Following this tape, the subjects completed a questionnaire assessing their impressions of the worker, the supervisor, and the discussion between them.

The second videotape (work performance) was a five minute sequence of the worker performing the task. The task involved collating five order sheets in a specified random order and adding up numbers obtained from the five sheets. This task was adapted from a similar collating task used by Heller, Groff, and Solomon (1977). After subjects viewed this tape they again completed a questionnaire, this time playing the role of the supervisor. The subjects were given instructions that the questionnaire was a performance evaluation for appraising the performance of the worker they had just viewed. When the subjects had completed this questionnaire they were debriefed and dismissed.

Goal Setting Manipulation

Four versions of the goal setting videotape were produced. All tapes were identical except for the part pertaining to setting the goal. In one tape the worker set his own goal, and in another the supervisor assigned the goal to the worker. The two participation tapes differed only on the goal initially suggested by the worker. In one tape (high-goal worker) the worker initially suggested a goal of 70 completed orders per hour. In the other tape (low-goal worker), the goal initially suggested was 50 correctly completed orders per hour. In each of these tapes the supervisor responded by suggesting 50 or 70 completed orders per hour, respectively. The final goal was set at 60 orders per hour in both conditions.

For example, in the high-goal worker condition the interaction proceeded as follows:

Supervisor: "How many orders per hour do you think you can correctly process?"

Worker: "I think I can do about 70 per hour."

Supervisor: "Well, I think that may be a little high. How do you feel about a goal of 50?"

Worker: "Well, maybe so. Would 60 an hour be O.K.?"

Supervisor: "That sounds fine! That shouldn't be too difficult; most of our people make their production goals pretty regularly. . . ."

The remaining two tapes constituted the assigned and self-set goal setting conditions. In the assigned goal setting condition the supervisor told

the worker, "I expect you to correctly complete 60 orders per hour. That shouldn't be too difficult; most of our people make their production goals pretty regularly. . . ." In the self-set goal setting condition the supervisor asked the worker how many orders he thought he could correctly process. The worker responded by stating, "I think I can do about 60 per hour."

Performance Outcome Manipulation

The worker's performance outcome was manipulated in a written statement on the performance evaluation questionnaire. In the failure conditions subjects were told that the worker completed only 53 orders out of a goal of 60. In the success conditions the worker completed 67 orders per hour.

Dependent Variables

Two separate sets of dependent measures were assessed after the goal setting and work performance videotapes, respectively, were shown to the subjects. Following the goal setting tape subjects were asked to rate the following items on a 7-point scale: (a) "Compared to the supervisor, how much influence did the worker have in setting the goal?" (*none—extreme amount*); (b) "How committed do you think the worker is to attaining his goal?" (*very uncommitted—very committed*); (c) "How difficult do you think it will be for the worker to achieve his goal?" (*very easy—very difficult*).

After all subjects were shown the same work performance videotape and told whether the worker had succeeded or failed to meet the set goal, they assumed the role of the supervisor and rated the worker on a series of 7-point scales. These included the extent to which: (a) the worker was committed to meeting the goal (*very uncommitted—very committed*); (b) his performance was due to luck (*bad luck—good luck*); (c) his performance was due to his ability (*lack of ability—high ability*); (d) his performance was due to goal difficulty (*hard goal—easy goal*); (e) his performance was due to his effort (*lack of effort—high effort*); and (f) a rating of his overall performance (*very poor—excellent*).

RESULTS

Although the experiment was a $4 \times 2 \times 2$ factorial design, for clarification the data were analyzed by two separate factorials. In order to assess the effects of the goal setting and performance outcome manipulations on the dependent variables, the two participative goal setting conditions were combined to yield a 3 (self-set/participative/assigned) \times 2 (success/failure) \times 2 (female/male) factorial design. The effects of interaction process during the participative goal setting conditions and of the performance outcomes on the dependent variables were assessed in a 2 (high goal worker/

low goal worker) $\times 2$ (success/failure) $\times 2$ (female/male) factorial design. The results for the $3 \times 2 \times 2$ factorial analysis across assigned, self-set, and the combined participative goal setting conditions will be presented first (analysis 1), followed by the $2 \times 2 \times 2$ factorial analysis within the participative conditions (analysis 2). These factorial designs were analyzed via an unweighted means analysis of variance.

Analysis 1

Goal Setting Effects—The three goal setting conditions may be conceptualized as lying on a continuum measuring the extent to which the worker had influence in setting the goal. Conceptually, workers who set their own goals should have the most influence, followed by participative and assigned goal setting conditions, respectively. The data supported this assertion. Goal setting conditions significantly affected subjects' ratings of the worker's influence in setting the goal, $F(2, 77) = 12.69$, $p < .01$. The worker was rated as having slightly more, although not significantly more, influence in the self-set goal setting condition ($M = 4.75$) than in the participative goal setting condition ($M = 4.18$). However, the worker was rated as having significantly less influence in the assigned goal setting condition ($M = 2.25$) than either the self-set, $t(38) = 4.35$, $p < .001$, or participative goal setting conditions, $t(58) = 4.55$, $p < .01$. No significant main effects on the other dependent measures were found for goal setting.

Performance Outcome Effects—As predicted, success or failure in meeting the goal affected subjects' ratings of the worker on a number of dependent measures. Table 1, summarizing the results, shows that the successful worker's performance was attributed significantly more to good luck, an easy goal, high effort, and high ability than was the unsuccessful worker's performance. Similarly, the successful worker was rated higher in his overall performance and goal commitment than was the failing worker.

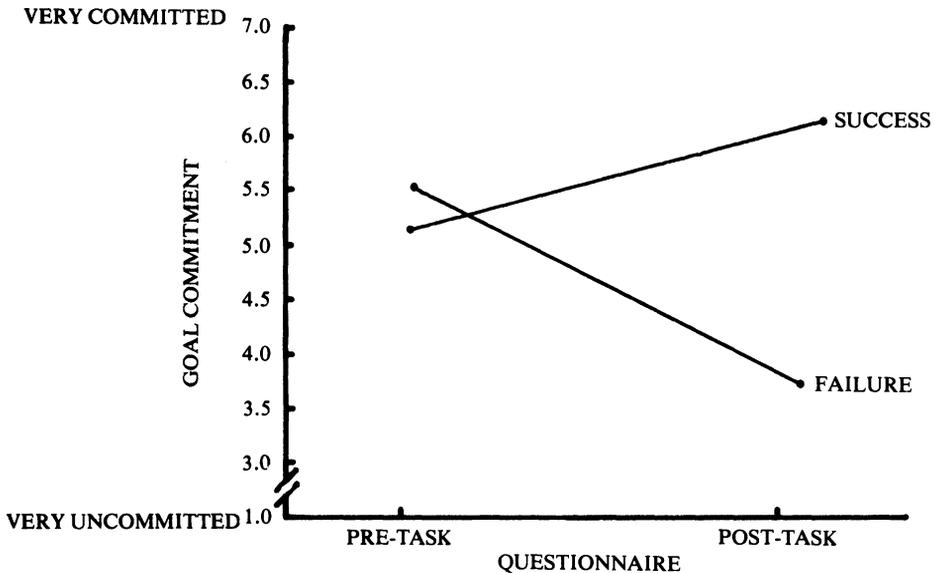
The worker's goal commitment was measured before and after the performance manipulation. Thus a repeated measures analysis of variance

TABLE 1
Summary of Results for Success and Failure Conditions

Dependent Variable	Success Mean	Failure Mean	DF	F
Bad luck—good luck	4.65	3.91	1, 55	10.92**
Hard goal—easy goal	4.74	3.91	1, 58	4.31*
Lack of effort—high effort	5.80	3.50	1, 61	47.14***
Lack of ability—high ability	5.36	4.52	1, 57	7.84**
Performance rating	5.40	3.73	1, 68	38.15***
Post-task goal commitment	6.07	3.77	1, 68	66.16***

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

FIGURE 1
Pre- and Post-Task Goal Commitment
as a Function of Performance Outcome

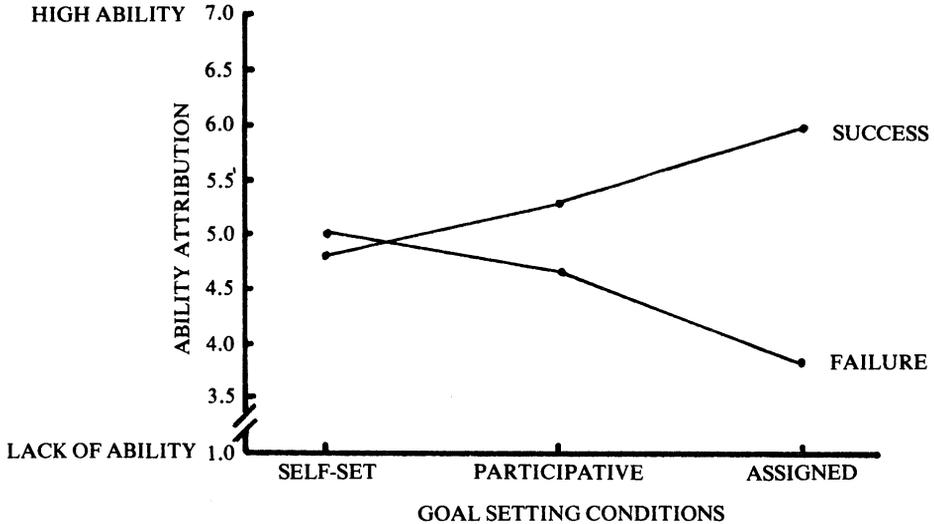


was performed on this variable. Figure 1 demonstrates that success or failure in meeting the goal significantly affected subjects' evaluation of the worker's goal commitment, $F(1, 74) = 22.26, p < .001$. There was no significant difference before the manipulation. However, post-task goal commitment was rated significantly different between success and failure conditions, $t(78) = 7.80, p < .001$. The data also show that in the success condition, post-task goal commitment increased significantly from the pre-task measure, $t(78) = 3.16, p < .01$, and in the failure condition post-task goal commitment decreased significantly, $t(78) = 5.59, p < .001$.

Goal Setting \times Performance Interaction Effects—It was predicted that the attributional measures would be significantly affected by the interactions of goal setting and performance outcome conditions. This hypothesis was partially supported for subjects' attributions of the worker's ability, $F(2, 57) = 3.14, p < .05$. As shown in Figure 2, the only significant difference between success and failure was in the assigned goal setting condition, $t(15) = 5.04, p < .001$. Contrary to prediction, differences within the failure condition were not large enough to reach statistical significance. However, the difference between self-set and assigned goal setting conditions when the worker succeeded in meeting the goal was significant, $t(17) = 2.30, p < .05$.

Post-task commitment also was affected by the interaction of goal setting and performance, $F(2, 68) = 4.07, p < .05$. As predicted, the only significant decrease in goal commitment occurred within the failure

FIGURE 2
Ability Attribution as a Function
of Goal Setting Condition and Performance Outcome



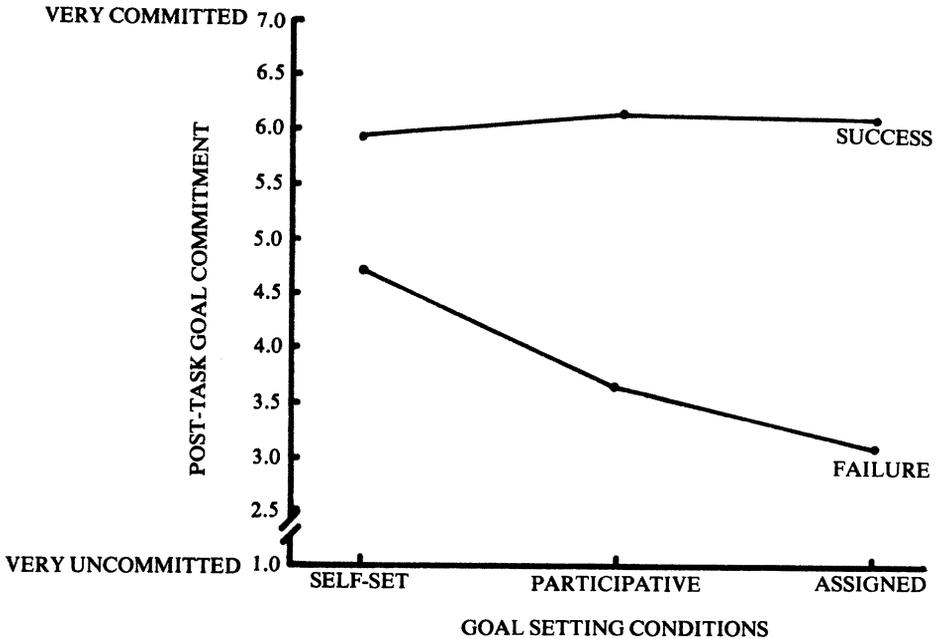
condition. This decrease was significant between self-set and assigned goal setting conditions, $t(8) = 2.57$, $p < .05$ and between participative and assigned goal setting conditions, $t(28) = 1.93$, $p < .001$. There were significant differences between success and failure conditions with participative goal setting, $t(38) = 5.62$, $p < .001$, and when the goal was assigned by the supervisor, $t(18) = 5.60$, $p < .001$.

Sex Effects—Significant sex effects were found for the post-task goal commitment attribution, $F(1, 68) = 4.05$, $p < .05$. Females ($M = 5.04$) rated the worker (male) significantly higher than did males ($M = 4.73$) on this variable. Parallel effects were found for the effort attribution, $F(1, 61) = 5.34$, $p < .05$, with females rating effort higher ($M = 4.76$) than males ($M = 4.33$). In effect, these two variables were measuring the same dimension, as they correlated .86 across the entire sample. Because of the marked disproportionality of males and females across cells, interaction effects were deemed unreliable and thus are not reported.

Analysis 2

Goal Setting Effects—Prior to the performance outcome manipulation the data revealed a significant effect of the worker's initially suggested goal on the amount of influence he had in setting the goal, $F(1, 39) = 6.40$, $p < .02$. Subjects rated the worker who initially suggested a relatively high goal as having more influence ($M = 4.75$) than the worker who initially

FIGURE 3
Post-Task Goal Commitment Attribution as a Function of
Goal Setting Condition and Performance Outcome



suggested a relatively low goal ($M = 3.60$). Similarly, the high-goal worker was seen as being more committed to the task ($M = 6.05$) than was the low-goal worker ($M = 4.45$), $F(1, 39) = 11.60, p < .002$.

Subsequent to the performance outcome manipulation, subjects attributed significantly higher goal commitment, effort, and ability to the high-goal worker as compared to the low-goal worker (Table 2). In addition, the high-goal worker was rated significantly higher on his performance evaluation than was the low-goal worker.

TABLE 2
Summary of Results for Worker-High and Worker-Low Goal Conditions

Dependent Variable	High Goal Mean	Low Goal Mean	DF	F
Post-task goal commitment	5.35	4.45	1, 32	3.67*
Lack of effort—high effort	5.21	3.76	1, 28	5.15**
Lack of ability—high ability	5.47	4.50	1, 27	3.54*
Performance rating	5.15	4.00	1, 32	8.11***

* $p < .07$
 ** $p < .05$
 *** $p < .01$

TABLE 3
Summary of Results for Success and Failure Conditions

<i>Dependent Variable</i>	<i>Success Mean</i>	<i>Failure Mean</i>	<i>DF</i>	<i>F</i>
Post-task goal commitment	6.15	3.65	1, 32	45.18***
Bad luck—good luck	4.56	3.83	1, 26	7.67**
Hard goal—easy goal	4.82	3.56	1, 27	5.43*
Lack of effort—high effort	5.88	3.45	1, 28	33.96***
Lack of ability—high ability	5.35	4.61	1, 27	4.45*
Performance rating	5.45	3.70	1, 32	25.07***

* $p < .05$

** $p < .01$

*** $p < .001$

Performance Outcome Effects—Again, as in analysis 1, the success/failure manipulation had a significant effect on subjects' attributions of the worker's performance and his performance rating. Significant differences are noted in Table 3 for the dependent measures of goal commitment, luck, goal difficulty, effort, ability, and performance rating. No significant interactions were found between initial goal level and performance outcome for any dependent variable.

Sex Effects—Paralleling the results of analysis 1, females rated the worker's post-task goal commitment and effort significantly higher than did males, $F(1, 32) = 6.98$, $p < .01$, and $F(1, 28) = 9.28$, $p < .005$, respectively.

DISCUSSION

Performance Appraisal

This study failed to find any differential effect of goal setting and the worker's performance outcome on the overall performance evaluation. Consequently, the type of goal setting procedure used did not enter into the rating of the worker's performance, but only the perceived causes for performance. The overriding determinant of the worker's overall performance effectiveness was whether or not he was able to meet the set goal. In short, the type of goal setting procedure utilized in setting the goal apparently only comes into play when evaluators are assessing the causes of an employee's performance outcome rather than the employee's overall effectiveness.

The second set of data analyses revealed some equally important implications for supervisory performance appraisals and causal attribution ratings. The results supported the predictions that, within participative goal setting conditions, supervisor ratings and attributions regarding the worker's performance outcomes would be affected by the difficulty of the worker's initially suggested goal. Regardless of whether the worker succeeded or failed in meeting the agreed-upon goal, supervisors rated the

worker who initially suggested a relatively high goal as performing better than the low-goal counterpart. Similarly, supervisors rated the high-goal worker as having higher goal commitment, effort, and ability than the low-goal worker. These data suggest that the content of the participative goal setting interaction between a supervisor and an employee may play a significant role in a supervisor's subsequent performance appraisal ratings. In this study the worker suggesting a relatively harder goal than the supervisor was willing to accept may have facilitated attributions of higher internal motivational and ability states even before information regarding his performance outcome was provided. Consequently, subjects taking the role of the supervisor may have been persuaded that "the worker must be a good worker or else why would he suggest such a difficult goal?" On the other hand, a worker initially suggesting a lower goal than the supervisor desired may have prompted the inference that "he must be a poor worker or why else would he suggest such an easy goal?" Thus, the worker's initial high-goal suggestion may have provided a positive halo effect for the supervisor when he/she evaluated the worker's performance. In short, the high-goal worker appears to have bluffed his way into an inflated performance rating and more positive causal attributions for his performance.

Attributional Distortions

The prediction that performance attributions would be differentially affected by goal setting conditions and performance outcomes was supported for subjects' attributions of the worker's ability and goal commitment. Subjects playing the role of the worker's supervisor increased the disparity of their ratings for the ability attribution in success and failure conditions as their (the supervisors') influence in setting the goal increased. That is, when the worker set his own goal, ability attributions were almost identical in success and failure conditions. However, with increasingly more supervisory influence in setting the goal, as in the participative and assigned goal setting conditions, respectively, subjects tended to attribute higher ability to the successful worker and lower ability to the unsuccessful worker. This effect was especially noticeable in the assigned goal setting condition in which the supervisor was totally responsible for the goal level. Thus, as goal setting conditions increased in hedonic relevance for the supervisor from self-set through participative to assigned conditions, attributional distortions in ability became more pronounced.

One may wonder why ability was the only classical attribution measure affected in the present study, particularly as these attributions were generally highly correlated. However, careful analysis of the experimental situation shows that the attributional results of this study are consistent with attribution theory and research. Weiner et al. (1971) state that the causal attributions of ability, effort, task difficulty, and luck can be dichotomized on two dimensions. As previously stated, ability and effort are internal attributions; task difficulty and luck are external. In addition, ability and

task difficulty are seen as stable, but effort and luck are unstable attributions. That is, over a series of trials the latter two causal attributions take on greater significance. However, in this study there was only one performance trial. Thus, there was insufficient information on which to base attributions to these unstable characteristics. On the other hand, ability and task difficulty are stable attributions, but task difficulty (goal difficulty) was held constant in this study. Thus, observers of performance could more readily attribute the cause of performance to ability than to any other factor (Jones, Rock, Shaver, Goethals, & Ward, 1968).

Similar to ability, attributional distortions of the worker's goal commitment, which is a measure of the subjects' perception of the worker's motivation to perform the task, increased as goal setting conditions increased in hedonic relevance for the supervisor. However, with this variable, attributional differences across goal setting conditions were found for failing workers only. Supervisors in the most hedonically relevant goal setting condition (assigned) attributed the worker's failure more to being uncommitted to the goal than did those supervisors in the least hedonically relevant condition (self-set). It appears as if supervisors were defensively attributing the failure of the worker to meet the assigned goal to causes internal to the worker—that is, goal commitment—rather than to external causes—the difficulty of the goal they set for the worker. Thus, the data support Jones and Davis' (1965) assertion that the hedonic relevance of an outcome acts to bias an observer's causal attributions. Moreover, the lack of a significant difference in pre-task goal commitment ratings across goal setting conditions, and the significant difference in post-task goal commitment ratings between success and failure conditions, simply reflects the prepotent role of behavior (performance outcome) in attributing internal states or dispositions to other people.

These data also have implications for the performance appraisal and goal setting literature. The results suggest that when goals are set solely by an employee, the perceived causes for success and failure are less subject to attributional biases than when goals are set participatively or are assigned by a supervisor. It is not recommended, however, that all goals be self-set; rather, if goals are assigned or set participatively, the supervisor or evaluator of the employee's performance should be made aware of attributional biases as well as the traditional biases that are typically discussed vis-à-vis performance appraisal (e.g., halo effect, central tendency errors, and leniency errors). Training programs such as that reported by Latham et al. (1975) should also include training in the avoidance of these additional attributional errors.

The implications of these findings are that (a) contrary to popular opinion, participation in goal setting may lead to less objective appraisals and attributions of performance and that (b) although the process variables involved in participative goal setting are not well understood, the relative difficulty of goal expectations held by a supervisor and worker as they

enter the goal setting process distort both the causal attributions of performance and the performance evaluation itself. Future studies of participatory management should recognize this potential source of invalidity and attempt to develop methods of correcting these distortions.

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