

Motivation through conscious goal setting

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Abstract

The article describes what has been found during 30 years of research by the author and others on the relationship between conscious performance goals and performance on work tasks. This approach is contrasted with previous approaches to motivation theory which stressed physiological, external or subconscious causes of action. The basic contents of goal setting theory are summarized in terms of 14 categories of findings. An applied example is provided.

Key words: Goal, Motivation, Volition, Achievement, Commitment, Feedback, Leadership, Training, Self-management, Self-efficacy, Planning, Personality, Affect

The study of human motivation has always been considered by psychologists to be a very difficult undertaking, especially because motivation is something inside the organism. But the fundamental difficulty has actually been self-imposed or, more specifically, imposed by false philosophical assumptions. Two key assumptions were that: (a) only material events could be causal, and (b) only entities that were directly, externally, perceivable could be admitted into the realm of science. Accepting these positivist premises meant that: (a) consciousness could not be considered a cause of action; and (b) making valid inferences about internal events, especially if they were mental events in other people, was logically impermissible.

Historically, motivational psychologists have tried to conform to these strictures by *externalizing* or *materializing* their key concepts. Skinnerian behaviorism, for example, externalized motivation by attributing it to reinforcers (consequences of action) and treating the human mind as an epiphenomenon. Drive-reduction theorists like Hull kept motivation inside the organism but attributed it to strictly physiological mechanisms. Both approaches assumed the validity of psychological determinism—the doctrine that man has no choice with respect to his beliefs, choices, thinking or actions. Both also barred introspection as a scientific method on the grounds that it could not be publicly verified and that, even if it were, the data obtained thereby were causally insignificant (due to determinism or materialism).

Beginning in the late 1960s the positivist paradigm in psychology began to fall apart for a number of reasons. First, it had lost support in philosophy (e.g., Blanshard, 1962). Second, the materialist approaches did not work. Human action cannot, in fact, be understood by looking at

man only from the outside or only at his internal physiology. The recognition of these facts ushered in the “cognitive revolution” in psychology; it became the dominant paradigm by the end of the 1970s or early 1980s.

The cognitive revolution gradually gained philosophical support. Of crucial (though long unrecognized) relevance was the work of philosopher Ayn Rand (1990) who demonstrated that consciousness (along with existence and identity) was an axiom, that is, a perceptually self-evident primary that forms the base of all knowledge and cannot be denied without self-contradiction (Locke, 1995). She showed also that volition (free will) is an axiom, thus philosophically justifying the study of consciousness (Binswanger, 1991; Peikoff, 1992).

As to the issue of introspection, one’s mental contents and processes can be directly observed only in oneself, but each person can observe the same, basic, cognitive processes in themselves as everyone else (e.g., belief, imagination, desire, purpose, memory, emotion, etc.). People can make errors when they introspect, but they can also make errors when they perform addition and subtraction—which does not refute the validity of mathematics. The validity of introspective reports must be judged the same way as the validity of any other inference—by determining whether the totality of the evidence justifies the conclusion. For example, if a person claimed not to be afraid of heights yet began to sweat and shake when approaching high places, consistently did everything in his power to avoid going near such places, and evaded discussing the issue, we would justifiably conclude that the person’s report was erroneous. It is a scientific question to determine under what conditions one can elicit the most accurate introspective reports from another person (e.g., see Crutcher, 1994).

Goal-Setting Theory

The approach of goal setting theory is consistent with, although its beginnings somewhat antedated, the cognitive revolution. The theory is based on what Aristotle called *final causality*, that is, action caused by a purpose. It accepts the axiomatic status of consciousness and volition. It also assumes that introspective reports provide (in principle) useful and valid data for formulating psychological concepts and measuring psychological phenomena (e.g., purpose, goal commitment, self-efficacy, etc.).

I began to consider goal setting as an approach to human motivation in the mid-1960s. At that time, in addition to the behaviorist and physiological approaches, David McClelland's approach via subconscious motives was much in vogue. While McClelland acknowledged the existence and importance of human consciousness, he did not think much could be gained from studying conscious motives. However, the results he obtained from studying subconscious motives were often unpredictable and undependable. There were frequent post hoc explanations of anomalous findings, switches of measures and of dependent variables, and negative results (e.g., McClelland, 1961). About this time, T. A. Ryan (a professor at Cornell where I was doing my graduate work) suggested that a fruitful approach to human motivation might be to simply ask people what they were trying to accomplish when they took an action. (This view is fully developed in Ryan, 1970.) He proposed approaching human motivation starting with the individual's immediate intentions, then building from there to explain the sources of the intentions and so on. (Ryan typically did not use the term goal despite the similarity in meaning to intent.) This is the approach that I chose to follow.

There were three reasons for choosing it: (a) It was philosophically sound. (b) It was consistent with introspective evidence revealing that human action as such is *normally* purposeful. Underlying such action is a fundamental biological principle: that all living organisms engage in goal-directed action as a necessity of survival (Binswanger, 1990). In the higher organisms internal, goal-directed actions are automatic (e.g., digestion, cell repair), but molar actions are guided normally by consciously held goals, that is, purposes. In the lower animals these consist of momentary desires. In man, goals are (or at least can be) set volitionally by a process of reasoning and may cover the range of a lifetime. (Of course, since man can make errors in choosing goals, all goal-directed action does not facilitate survival and may even undermine it.) (c) The third reason was practical—the approach worked, as we shall see below.

As an industrial–organizational psychologist, my interest was in explaining why some people (ability and knowledge aside) perform better on work tasks than others. My starting point was to look at what they were consciously trying to accomplish when they performed tasks, that is, what goals they were aiming for. As a doctoral student I began a pro-

gram of research that has continued for some 30 years. Much of the work has been collaborative, especially with Gary Latham who has conducted numerous field studies on goal setting. These have been an important complement to my studies, which have been performed predominantly in laboratory settings. To date there have been more than 500 studies of goal setting conducted by myself, Latham, and many others. The most complete statement of goal-setting theory is found in Locke and Latham (1990). The findings referred to below can be found in this book, unless otherwise referenced.

The typical experimental paradigm in goal setting studies is as follows: Subjects are given a task to perform (e.g., brainstorming, simple addition, a management simulation; in field settings, natural work tasks are used) and are assigned various performance goals to attain within a specified time limit [e.g., “do your best”; “attain a score of 25(20, 15)"]. They are given feedback showing progress in relation to the goals, where relevant. Subjects may also be asked to fill out questionnaires asking them to describe: their personal goals (irrespective of assigned goals); their degree of self-efficacy, their degree of goal commitment, etc. There are many variants on this basic model. For example, goals may be self-set rather than assigned; subjects may participate in setting goals; goal conflict may be induced; strategies for reaching goals may have to be discovered, etc. (Locke & Latham, 1990).

Goal attributes—A goal as the object or aim of an action. Goals have both an internal and an external aspect. Internally, they are ideas (desired ends); externally, they refer to the object or condition sought (e.g., a job, a sale, a certain performance level). The idea guides action to attain the object. Two broad attributes of goals are *content* (the actual object sought) and *intensity* (the scope, focus, complexity etc. of the choice process). Qualitatively, the content of a goal is whatever the person is seeking. Quantitatively, two attributes of content: *difficulty* and *specificity* have been studied.

Finding #1. The more difficult the goal, the greater the achievement.

This finding may seem surprising in view of the more intuitively appealing inverse-U function, predicted by Atkinson (1958) and others. However, we have found it almost impossible to replicate Atkinson's original finding (Locke & Latham, 1990). Our linear function assumes, however, that the individual is committed to the goal and possesses the requisite ability and knowledge to achieve it. Without these, performance does drop at high goal levels.

Finding #2. The more specific or explicit the goal, the more precisely performance is regulated.

High goal specificity is achieved mainly through quantification (increase sales by 10%) or enumeration (here is a list of tasks to be accomplished). Thus it reduces *variance* in performance, providing the individual can control performance. This is not to say that specificity is always desirable (it may not be in some creative innovation situations), but only that it has certain effects.

Finding #3. Goals that are both specific and difficult lead to the highest performance.

Especially relevant here are the many studies that have compared the effect of specific, hard goals with goals such as “do your best.” People do not actually do their best when trying to do their best because, as a vague goal, it is compatible with many different outcomes, including those lower than one’s best.

The aspect of intensity that has been most studied in goal setting research is that of goal *commitment*, the degree to which the person is genuinely attached to and determined to reach the goals.

Finding #4. Commitment to goals is most critical when goals are specific and difficult.

When goals are easy or vague, it is not hard to get commitment, because it does not require much dedication to reach easy goals, and vague goals can be easily redefined to accommodate low performance. When goals are specific and hard, the higher the commitment the better the performance. The next question to address is: what influences goal commitment?

Finding #5. High commitment to goals is attained when (a) the individual is convinced that the goal is important; and (b) the individual is convinced that the goal is attainable (or that, at least, progress can be made toward it). (These are the same factors that influence goal choice)

There are many ways to convince a person that a goal is important. Due to the demand characteristics inherent in most laboratory settings, it is quite sufficient to simply *ask for compliance* after providing a plausible rationale for the study. In work situations, the supervisor or leader can use *legitimate authority* to get initial commitment. Continued commitment might require additional incentives such as *supportiveness, recognition, and rewards*. Financial incentives may facilitate commitment and performance, except when rewards are offered for attaining impossible goals; here, performance actually drops (Lee, Locke, & Phan, 1994). *Participation* by subordinates in setting goals (that is, joint goal setting by supervisor and subordinate) leads to higher commitment than curtly telling people what to do with no explanation, but it does not lead to (practically significant) higher commitment than providing a convincing rationale for an assigned goal (Latham, Erez, & Locke, 1968). We have found subordinate participation to be most beneficial for formulating strategies for reaching goals (Latham, Winters, & Locke, 1994), providing they possess relevant knowledge (Scully, Kirkpatrick, & Locke, 1995). *Self-set goals* can be highly effective in gaining commitment, although they may not always be set as high as another person would assign (Locke, 1966).

Commitment can be enhanced by effective *leadership* (Locke & associates, 1991). Relevant leadership techniques include:

- providing and communicating an inspiring vision for the company or organization

- acting as role model for the employees
- expecting outstanding performance
- promoting employees who embrace the vision and dismissing those who reject it
- delegating responsibility (“ownership”) for key tasks; goal setting itself can be delegated for capable, responsible employees
- expressing (genuine) confidence in employee capabilities
- enhancing capabilities through training
- asking for commitment in public

Although the above discussion focused on external factors that promote goal commitment, it should be stressed that people have the capacity to *commit themselves* to goals, although the methods by which they do it have not been studied extensively. Presumably these methods would include: choosing values or long-range purposes that they want to attain, identifying why those values are important to them (including linking their goals and values to their self-concept), identifying how specific goals would help achieve their values, identifying the benefits of those goals, specifying plans (including training and knowledge seeking) that would make goal attainment possible, volitionally keeping their knowledge in mind when confronted by setbacks and obstacles, and rewarding themselves internally for goal progress. These are, in fact, some of the ingredients of *self-management training* (which will be discussed at more length below), which has been widely used in a number of fields including therapy, dieting, smoking-cessation, and management (Bandura, 1986; Frayne & Latham, 1987). It has also been found that people who engage in more *intensive cognitive processing* regarding their goals and their plans to attain them are more likely to actually carry out the relevant actions than those who engage in less intensive processing (Gollwitzer, Heckhausen, & Ratajczak, 1990).

The issue of becoming convinced that the goal is attainable was implicit in some of the above findings (e.g., training, modeling). People are most likely to believe they can attain a goal when they believe that it is within their capacity. This implies three paths to commitment: *adjust the goal* to the person’s present capacity; *raise the person’s capacity* through providing *training and experience*; or *change the person’s perspective* on their capacity through *expressions of confidence and role modeling* (Bandura, 1986). The person does not have to believe that total success is possible (an important issue when goals are difficult) as long as they believe that partial success or progress toward the goal (e.g., in the form of subgoal achievement) is meaningful. This brings us to another important concept in goal setting theory, that of self-efficacy.

Self-efficacy. The term self-efficacy refers to task-specific confidence and is a key component of Bandura’s (1986) social-cognitive theory. Bandura has shown that self-efficacy can be raised by: enactive mastery, persuasion, and role modeling—all referred to above. In organizational set-

things enactive mastery can be assured by providing people with needed experience and training and also by selecting people based on their skills and abilities. Persuasion may include not only verbal expressions of confidence but also giving people information regarding what task strategies to use. The effectiveness of role modeling depends on the attributes of the model and on the person observing the model (Bandura, 1986). Several points of connection between social-cognitive theory and goal setting theory have been studied:

Finding #6. In addition to having a direct effect on performance, self-efficacy influences: (a) the difficulty level of the goal chosen or accepted, (b) commitment to goals, (c) the response to negative feedback or failure, and (d) the choice of task strategies.

People with high self-efficacy are more likely to set high goals or to accept difficult, assigned goals, to commit themselves to difficult goals, to respond with renewed efforts to setbacks, and to discover successful task strategies. Thus the effects of self-efficacy on performance are both direct and indirect (through various goal processes). Additionally, goal choice and commitment can be influenced through role modeling.

Feedback. For people to pursue goals effectively, they need some means of checking or tracking their progress toward their goal. Sometimes this is self-evident to perception, as when a person walks down a road towards a distant but visible town or cuts the grass on a large lawn. In such cases, deviations from the path to the goal are easily seen and corrected. Contrast this, however, with a sales goal whose attainment requires scores of sales over a period of many months. Here some formal means of keeping score is needed so that people can get a clear indication if they are moving fast enough and in the right direction.

Finding #7. Goal setting is most effective when there is feedback showing progress in relation to the goal. (Technically speaking, feedback is a moderator of the goal-performance relationship.)

Goal-setting theory disputes the notion that feedback exerts an automatic, “reinforcing” effect on performance. When provided with feedback on their own performance or that of others, people often spontaneously set goals to improve over their previous best or beat the performance of others simply as a way of challenging themselves, but this is not inevitable. The goal set may be higher or lower than the performance level previously achieved. The effect of performance feedback (knowledge of score) depends on the goals set in response to it.

Finding #8. Goal setting (along with self-efficacy) mediates the effect of knowledge of past performance on subsequent performance.

When people receive negative performance feedback, they are typically unhappy and may also experience doubts about their ability. Those who can sustain their self-efficacy under such pressure tend to maintain or even raise their subsequent goals, retain their commitment, intensify their

search for better strategies, and thereby improve their subsequent performance. Those who lose confidence will tend to lower their goals, decrease their efforts, and lessen the intensity and effectiveness of their strategy search. Self-efficacy changes following failure may be affected by the types of causal attributions people make (Bandura, 1986).

Mechanisms. How, specifically, do goals regulate performance? Primarily by affecting the three aspects of motivated action: direction, intensity, and duration.

Finding #9. Goals affect performance by affecting the direction of action, the degree of effort exerted, and the persistence of action over time.

The directive aspect is fairly obvious. A person who has a goal to maximize quality of performance will focus more attention and action on quality than on, for example, quantity or speed. When there is conflict between two or more goals, performance with respect to each goal may be undermined (Locke, Smith, Erez, Chah, & Shaffer, 1994).

Effort is roughly proportional to the judged difficulty of the goal—which is why difficult goals ordinarily lead to higher performance than easy goals. Persistence refers to directed effort extended over time. Harder goals typically lead to more persistence than easy goals, because, given commitment, they take longer to reach and may require overcoming more obstacles. These mechanisms operate almost automatically or, at least routinely, once a goal is committed to, because most people have learned, by about the age of 6, that if they want to achieve something they have to: pay attention to it to the exclusion of other things, exert the needed effort, and persist until it is achieved.

There is another, more indirect goal mechanism—that of task strategies or plans. Most goals require the application of task-specific procedures in addition to attention and effort if they are to be attained. For example, a student who wants to get an A in a psychology course needs to know how to study in general, how to study psychology in particular, how to identify what is needed for an A in this course, and how to implement this knowledge. There are several things we have learned about the relationship of goals and plans.

Finding #10. (a) Goals stimulate planning in general. Often the planning quality is higher than that which occurs without goals. (b) When people possess task or goal-relevant plans as a result of experience or training, they activate them virtually automatically when confronted with a performance goal. (c) Newly learned plans or strategies are most likely to be utilized under the stimulus of a specific, difficult goal.

People recognize that goals require plans and seek either to use what they already know or to make new plans when they want to reach goals. Sometimes such plans are quite pedestrian. For example, to attain difficult, quantity goals people may simply sacrifice quality—a common trade-off with which everyone is familiar. When people are given training in a new strategy, they do not always use it consistently unless they must to attain goals that cannot otherwise be attained.

When tasks are complex, a number of new issues arise. The direct goal mechanisms are less adequate than in the case of simple tasks for attaining the goal. (Compare, for example, the efficacy of effort alone in leading to high performance when doing push-ups vs. playing chess.) The path to the goal is less clear, and there may be no relevant prior experience or training which they can fall back on. In such cases people are forced to discover new strategies; sometimes they do this poorly especially if the goals are specific and difficult. The reason appears to be that under this type of pressure, tunnel vision inhibits effective search procedures. The evidence so far indicates that:

Finding #11. When people strive for goals on complex tasks, they are least effective in discovering suitable task strategies if: (a) they have no prior experience or training on the task; (b) there is high pressure to perform well; and (c) there is high time pressure (to perform well immediately).

Goals as mediators. More than 25 years ago I speculated that goals might mediate the effects of other motivators such as feedback, participation, and money incentives on performance (Locke, 1968). More recently, I suggested that goals, along with self-efficacy, might mediate the effects of values and personality on performance (Locke, 1991b). There is firm support for goals and self-efficacy as mediators of feedback (Locke & Latham, 1990). Feedback is most effective in motivating improved performance when it is used to set goals. Feedback alone is just information. To act on the basis of information, people need to know or decide what it means—that is, what significance it has. In a goal-setting context, this means knowing what a good or desirable score is and what a bad or undesirable score is. If no such judgment is made, the feedback will probably be ignored. Similarly, participation seems to motivate performance to the extent that it leads to higher goals, higher self-efficacy or higher commitment (Latham et al., 1994; Locke & Latham, 1990). The same has recently been found with respect to monetary incentives (Lee, Locke, & Phan, 1994), although all studies do not show consistent findings (see Locke & Latham, 1990, ch. 6).

More recent studies have shown evidence for goals or goals plus self-efficacy as a mediator of personality (Barrick, Mount, & Strauss, 1993; Lerner & Locke, 1995; see also Taylor, Locke, Lee, & Gist, 1984) and charismatic leadership (Kirkpatrick & Locke, in press). In other words, these variables affect performance through their effects on goals and self-efficacy. This is not to claim that goals fully mediate the effect of all personality and incentives on performance, but there is evidence to suggest:

Finding #12. Goals (including goal commitment), in combination with self-efficacy, mediate or partially mediate the effects of several personality traits and incentives on performance.

The logic behind this model is that goals and self-efficacy are the immediate regulators of much human action, and that they, therefore, reflect the individual's assessment of

the value of incentives and of the applicability of values and traits to specific situations (Locke, 1991b).

Self-management. I noted earlier that goal-directed actions and choices are not necessarily “imposed” or even encouraged by environments (e.g., organizational demands). People have the choice to manage their own lives by setting their own purposes and working to achieve them (Binswanger, 1991). With the help of training programs, people can be helped to manage their own actions more effectively. Frayne and Latham (1987) and Latham and Frayne (1989), for example, trained employees to reduce their own absenteeism rate through training in self goal setting, self-administered feedback, problem solving (strategy formation), self-commitment through rewards and punishments, and self-motivation after setbacks. The training produced significant reductions in absences in both 6- and 9-month follow-ups. Two studies by Gist and her colleagues (Gist, Bavetta, & Stevens, 1990; Gist, Stevens, & Bavetta, 1991) used self-management training to develop and foster the retention and generalization of salary negotiation skills. But training is not always required for self-motivation to occur. In a longitudinal study of AT&T male managers, Howard and Bray (1988) found that ambition, measured basically by the manager's own goal for the number of levels he wanted to be promoted in the future, was a significant predictor (and the best motivational predictor) of number of promotions received across a span of 25 years! Thus we can say that:

Finding #13. Goal-setting and goal-related mechanisms can be trained and/or adopted in the absence of training for the purpose of self-regulation.

Affect. Emotion is a type of automatic, partly subconscious, psychological estimate—an estimate of the relationship of things to oneself. More precisely, emotions are the form in which one experiences automatized value judgments that is, judgments of objects, events, and situations (as consciously and/or subconsciously perceived and understood) according to the standard of one's values (Locke, 1976). Events and situations seen as threatening to one's values give rise to negative emotions (e.g., fear, anxiety, dissatisfaction), whereas events and situations seen as furthering one's values produce positive emotions (e.g., happiness, satisfaction, love). In goal-setting contexts, the immediate value standard is one's goal, that is, the level of performance desired or sought. Thus goal achievement leads to satisfaction and goal failure to dissatisfaction. (There are deeper value judgments that underlie and color situationally specific judgments, e.g., the value of achievement, one's self-concept, but I will not address that issue here).

There is an interesting and, at first glance, nonintuitive finding pertaining to the relation of goals to satisfaction. High goals lead to *less* performance satisfaction, on the average, than easy goals (Mento, Locke, & Klein, 1992). This seems paradoxical in that higher goals are *more* motivating than lower goals in terms of effort and performance. The explanation is that high goals require higher standards of

attainment than low goals, so that self-satisfaction is harder to achieve. This is why, if people could set their own goals without penalty, they would set them lower rather than higher. However, in the real world, more rewards accrue to people who set high goals for themselves than those who set low goals (e.g., personal pride, better jobs, higher income, more options), thus inducing people not to set their goals too low. At the same time, higher goals require more effort, ability, and risk than lower goals, thus limiting the number of people who set their goals high. As noted earlier, people choose goals based both on what is important to them and what they think they are capable of. Thus to summarize:

Finding #14. Goals serve as standards of self-satisfaction, with harder goals demanding higher accomplishment in order to attain self-satisfaction than easy goals.

Goals can also be used to enhance task interest, reduce boredom, and promote goal clarity. When used to punish or intimidate people, however, goals increase stress and anxiety.

Goal-setting dilemmas. If hard or difficult goals lead to higher performance and lower satisfaction than easy goals, there is obviously a problem of how to get people (or oneself) to be both happy and productive. There are obvious benefits and penalties of trying for too little in life as well as for trying for too much. Obviously, the key principle here is *personal context*. Life goals must be based on what one really wants out of life (not on what other people want one to want) and on one's true capabilities. If one wants to pursue challenging goals, these goals do not have to be attained all at once but can be pursued over an extended time period. Lower subgoals can be set as steps to a longer term and higher goal. Partial success can be credited by others and oneself. Failure can be treated or framed as a learning experience, not as proof of incompetence. New skills can be acquired as needed, and jobs can be chosen, when possible, to match one's aspirations and abilities.

Another dilemma is how to structure reward systems in organizations. I noted earlier that if incentives were offered for goals that could not be reached, lower motivation and performance resulted as compared to hourly payment or piece-rate pay (Lee, Phan, & Locke, 1994). This might suggest that moderate goals would be ideal; however, moderate goals in work situations do not stay moderate for long, because people improve their strategies and skills over time. Thus a difficult juggling act would be required to maintain an effective system. Another possibility would be to set goals to motivate people but pay for performance, regardless of goal level. This would be similar to a piece-rate system. Or multiple goal levels could be set, from moderately easy to almost impossible, and pay could be proportional to the highest level attained. This would guarantee some reward even for moderate attainments but would stimulate higher attainments as well. Incentives can be dangerous if they encourage tunnel vision and thereby the neglect of important nongoal activities. Clearly many interesting studies could be done to explore this issue in more detail.

Applied Example

Since this is an applied and preventive psychology journal, I thought it might be of interest to readers to show how goal-setting theory could be used to help deal with a real-world problem. (I will not use weight-loss or exercise programs as examples, because they have already been described in published studies, e.g., Bandura & Simon, 1977). Let us say that you are the chairman of an academic department and you want to help a new assistant professor to get tenure. Let us further assume that it is a publish-or-perish university and that the professor is in the summer of her fourth year with a below average, but not hopeless, record for scholarship. You sit down with her and go over her vita. So far she has two published articles in good journals, one in a mediocre journal, and four papers under review. She also has six more projects in the works, which can be submitted in the next year. The first task is to figure out what will be needed to make tenure. Let's say she will need about 10 papers, 8 in good journals. Since tenure review will occur in 2 years, and since all projects do not work out, you would suggest that she have *all six* of the "in the works" projects submitted by January of her last year (that is, in the next 18 months). This is to allow time to revise and resubmit before the September deadline. Furthermore, you advise that all "revise and resubmit" revisions on these and the "under review" manuscripts be done within 30 to 60 days. These are the goals. How do you get commitment? If the professor decides that she does not really want to be an academic in this institution, suggest that she look for work elsewhere. But if she does want to succeed, then the main issue is confidence building. Express confidence based on the work to date. Suggest role models. Be supportive: ask her what you can do to help (e.g., some extra assistants for data analysis; time off in the summer; reduced committee work). If previous rejections of papers have been demoralizing, suggest some alternative strategies (e.g., reframe and submit to a different journal, combine two papers into one, etc).

To ensure careful tracking (feedback regarding progress), have her make a schedule indicating when each in process manuscript will be submitted. Go over time-utilization issues (goal priorities) and strategies (e.g., has she delegated as much of the busy work as possible? Is she going overboard on teaching? Is she working enough hours? Is she going to too many professional meetings? Is she spending too much time writing conference papers?)

To further help develop effective plans, have her consult with other junior and senior faculty to see if they have any tips for her. Persuade her to let colleagues (expeditiously) review her papers before submission and also help to interpret letters from editors. Finally, tell her you *want* her to make it (if you do) and the reasons why.

It is true that faculty are supposed to be self-managing and usually they are, but they still may need a little help (i.e., mentoring, role modeling) along the way. As someone who has been the chairman of a faculty area for 12 years, I

can report that I and my senior faculty have used the above procedures with very good success. I hope the readers of this journal will find these ideas useful also.

Generality of Goal-Setting Theory

Thus far goal setting has been studied using: more than 40,000 subjects (ranging from children to research scientists) in eight countries, both laboratory and field settings, more than 88 different tasks, time spans of 1 min to several years, goals set by several different methods, dependent variables of many types, and levels of analysis ranging from the individual to the group to the organizational. Goal-setting effects are quite robust, typically yielding a success rate of 90%, even including studies that made methodological and/or theoretical errors. The evidence indicates that goal setting theory involves a motivational principle of fundamental importance, even though there are many motivational issues it does not deal with (e.g., the subconscious). Furthermore, there are many interesting theoretical issues still to be explored (e.g., goal setting in dynamic environments, self-commitment techniques, goals and problem solving, short- vs. long-term goals).

Relation to Other Theories

Although space does not permit a detailed exposition here, goal-setting theory has been connected to several other motivation theories. Its many ties to *social-cognitive theory* (Bandura, 1986) were noted earlier. It has also been linked to *expectancy theory* in that expectancies and valences affect goal choice and commitment. Like self-efficacy, effort-performance expectancy also has a direct effect on performance. Also, as noted, we have not found support for *Atkinson's (1958) theory* of an inverse-U relationship between probability of success and level of performance. There are potential links to *attribution theory* and *mood theory*, but these have rarely been studied. Thus far, we have found no relationship between *McClelland's projective need for achievement* measure and goal choice in specific situations.

Deci and Ryan's (1985) concept of *intrinsic motivation* has garnered considerable attention, especially among social psychologists; several studies have examined its relationship to goal setting. Deci and Ryan argued that people have innate needs for self-determination (autonomy) and

competence, and that these regulate action most strongly when people are challenged and yet free from external constraints or pressures and from "controlling" situations such as incentive pay—that is, when they have the most freedom of choice. (For a critique of Deci's theory, see Bandura, 1986). One would expect that assigned goals would be especially prone to undermine intrinsic motivation (defined as free time spent on a focal task), especially as compared to participatively set goals. However, the research to date shows no consistent pattern of findings; participative goal-setting does not consistently lead to higher intrinsic motivation than assigned goals (see Locke & Latham, 1990, ch. 2). Part of the problem may be that there are too many ambiguities in intrinsic motivation theory to allow unequivocal predictions to be made. For example, how do we know when challenge ends and threat begins? What is the relation of competence to self-efficacy? If people, in fact, possess volition or free will (Binswanger, 1991), how can incentives that one consents to pursue undermine it?

Control theory is a popular model of motivation that has tried to incorporate goal theory and many other theories into an overarching framework focused around the negative feedback loop (see Locke & Latham, 1990, ch. 1). There are several reasons for rejecting this model: (a) it is based on a machine metaphor that is not applicable to conscious, rational beings, (b) the model is not databased, and (c) it attempts to revise the model to incorporate discoveries made by other theories rob the model of any unique identity (Locke, 1991a; see also Locke & Latham, 1990, ch. 1).

Dysfunctions of Goals

Is goal setting ever harmful? Certainly, if goals are set for the wrong outcome or if there is goal conflict (Locke et al., 1994). Goals that do not change when relevant circumstances change may promote undue rigidity. We have noted that specific, challenging goals given in the absence of relevant expertise may undermine the discovery of useful task strategies. Goals that are set too high can be demoralizing; there is a fine line between stretching people and discouraging them. A great deal depends on sustaining self-efficacy in the face of setbacks. Goals can be used as a defensive maneuver by people who try to take pride in their aspirations without actually doing anything to achieve them. Obviously these (and many other) issues are ripe for further study.

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