

Self-Regulation of Motivation Through Anticipatory and Self- Reactive Mechanisms

Albert Bandura

Stanford University

Motivation is a general construct linked to a system of regulatory mechanisms that are commonly ascribed both directive and activating functions. At the generic level it encompasses the diverse classes of events that move one to action. Level of motivation is typically indexed in terms of choice of courses of action and intensity and persistence of effort. Attempts to explain the motivational sources of behavior therefore primarily aim at clarifying the determinants and intervening mechanisms that govern the selection, activation, and sustained direction of behavior toward certain goals.

Social cognitive theory distinguishes three broad classes of motivation (Bandura, 1986). One class of motivators is biologically based and includes biological conditions arising from cellular deficits and external aversive events that activate consummatory and protective behavior through physical discomfort. The early psycho-

Material contained in major portions of this chapter has been revised and expanded from chapters previously published in the following works: *Cognitive Perspectives on Emotion and Motivation* (pp. 37-61), edited by V. Hamilton, G. H. Bower, and N. H. Frijda (Dordrecht: Kluwer Academic Publishers, 1988) (copyright 1982 by Kluwer Academic Publishers; adapted by permission of Kluwer Academic Publishers), and *Goal Concepts in Personality and Social Psychology* (pp. 19-85), edited by L. A. Pervin (Hillsdale, NJ: Erlbaum, 1989) (copyright 1989 by Lawrence Erlbaum Associates, Inc.; adapted by permission).

In R. A. Dienstbier (Ed.), *Perspectives on motivation: Nebraska symposium on motivation* (Vol. 38, pp. 69-164). Lincoln: University of Nebraska Press, 1991.

logical theorists conceptualized motivation largely in terms of the energizing and directive functions of physiological activators. However, the activating potential of physiological states is under substantial anticipatory and generative cognitive control. For example, infants become active when they expect to be fed rather than solely when they are hungry (Marquis, 1941). Humans can be sexually stirred by erotic fantasies more than by hormonal injections (Beach, 1969). Similarly, the activating and directive influence of external aversive stimulation can be markedly altered by the way the aversive events and resulting sensations are construed (Bandura, 1991a; Cioffi, 1991; McCaul & Malott, 1984). Thus, even in the so-called biological motivators, human behavior is extensively activated and regulated by anticipatory and generative cognitive mechanisms rather than simply impelled by biological urges.

The second class of motivators operates through social incentives. In the course of development, physically positive experiences often occur in conjunction with expressions of others' interest and approval, whereas unpleasant experiences are associated with disapproval or censure. Through such correlative experiences, social reactions themselves become predictors of primary rewarding and punishing consequences and thereby become incentives. People will do things to gain approval and refrain from activities that arouse others' displeasure or wrath. By reversing the physical correlates, one could make smiles forebode suffering and scowls forewarn pleasure. The effectiveness of social reactions as incentives thus derives from their predictive value rather than inhering in the reactions themselves. For this reason the approval and disapproval of people who have power to reward and punish operate as stronger incentives than similar expressions by individuals who cannot affect one's life. Indiscriminate praise that never carries any tangible effects becomes an empty reward, and disapproval that is never backed up with any tangible consequences becomes devoid of motivating power.

Several factors contribute to the durability of social incentives. The same expressions can predict an array of possible rewarding or punishing experiences. Disapproval, for example, may result in such unpleasant effects as physical punishment, loss of privileges, monetary penalties, dismissal from a job, or ostracism. An event that signifies diverse possible consequences will have greater po-

tency than one that portends only a single effect. Moreover, social reactions are not invariably accompanied by primary experiences: praise does not always bring material benefits, and reprimands do not always result in physical suffering. Unpredictability protects social and symbolic incentives from losing their effectiveness (Mowrer, 1960). Because of intermittency and diversity of correlates, social reactions retain their incentive function even with minimal primary support.

The third major source of motivators is cognitively based. In cognitively generated motivation, people motivate themselves and guide their actions anticipatorily by exercising forethought. They anticipate likely outcomes of prospective actions, they set goals for themselves, and they plan courses of action designed to realize valued futures. The capability for self motivation and purposive action is rooted in cognitive activity. Future events cannot be causes of current motivation or action, but by cognitive representation in the present, conceived future events are converted into current motivators and regulators of behavior. Forethought is translated into incentives and action through self-regulatory mechanisms. This chapter addresses cognitive motivators because most human behavior is activated and regulated over extended periods by anticipatory and self-reactive mechanisms.

One can distinguish three forms of cognitive motivators around which different theories have been built. These include *causal attributions*, *outcome expectancies*, and *cognized goals*. The corresponding theories are attribution theory, expectancy-value theory, and goal theory. Figure 1 summarizes schematically these alternative conceptions of cognitive motivation. We shall see later that certain basic mechanisms of personal agency, such as perceived self-efficacy, operate in all of these variant forms of motivation.

Attribution Theory

According to the attribution theory of motivation (Weiner, 1985), retrospective judgments of the causes of one's performance have motivational effects. People who credit their successes to personal capabilities and their failures to insufficient effort will undertake difficult tasks and persist in the face of failure, because they see their out-

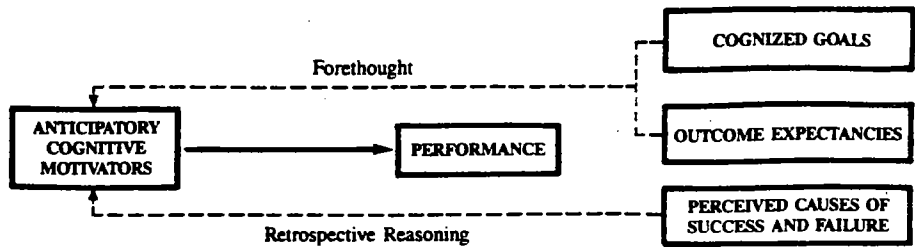


FIGURE 1. Schematic representation of conceptions of cognitive motivation based on cognized goals, outcome expectancies, and causal attributions.

comes as being influenced by how much effort they expend. In contrast, those who ascribe their failures to deficiencies in ability and their successes to situational factors will display low striving and give up readily when they encounter obstacles.

Some writers have argued that reasons offered retrospectively should not be regarded as causes. This is obviously true for past actions, which precede ascribed causes and would therefore involve backward causation. But reasons for past performances that affect beliefs about personal control can cause future actions. Thus people who believe they failed because they did not work hard enough are likely to strive harder, whereas those who believe they failed because they lack ability are apt to slacken their efforts and easily become discouraged. However, causal attributions can serve different purposes. For example, Covington and Omelich (1979) provide evidence that causal attributions may sometimes function as self-serving excuses that do not change performance rather than as motivators. The question of when causal attributions function as excuses and when they are motivators warrants investigation.

The role of attributional processes in human motivation is clarified by research in which causal attributions for ongoing performances are systematically varied by arbitrary attributional feedback and then changes in perceived self-efficacy and performance are measured. The results indicate that causal attributions can influence achievement strivings, but the effect is mediated almost entirely through changes in perceived self-efficacy (Relich, Debus, & Walker, 1986; Schunk & Gunn, 1986; Schunk & Rice, 1986).

Ability attributions are accompanied by strong self-beliefs of efficacy, which in turn predict subsequent performance. *Effort* attributions have variable effects on self-efficacy beliefs. These diverse find-

ings raise the issue of the concept of ability in attribution theory. Attribution theorists usually treat ability as a fixed or stable internal property. High effort needed to achieve an outcome is taken as indicating low ability (Kun, 1977). In actuality, people vary in their conceptions of ability and alter their views on the relation between effort and ability with increasing experience (M. Bandura & Dweck, 1988; Dweck & Elliot, 1983; Nicholls & Miller, 1984). The presumptions of attributional theory fit the subgroup of people who regard ability as a stable entity. However, many individuals construe ability as an acquirable skill that is developed through effort. The harder you try, the more capable you become. For them, errors reflect inexperience in the activity that effort rectifies, rather than basic inability. High effort that begets rising accomplishments can thus enhance self-beliefs of efficacy (Schunk & Cox, 1986).

In judging their efficacy from performance, people use much more varied sources of enactive efficacy information than the four causal factors (effort, ability, task difficulty, chance) routinely assessed in attributional research. In addition to perceptions of task difficulty and amount of effort expended, they consider whether they performed under favorable or unfavorable conditions, the amount of external aid they received, their physical and emotional state at the time, and the pattern of their successes and failures with continued engagement in the activity. Positive or negative biases in the self-monitoring, cognitive representation, and retrieval of past successes and failures also affect self-efficacy judgments (Bandura, 1986).

The effect of effort attributions on self-efficacy beliefs will vary with different conceptions of ability and different configurations of efficacy-relevant information. Given these complicating factors, it is not entirely surprising that effort attributions do not bear a uniform relationship to self-efficacy beliefs. Regardless of whether effort attributions correlate positively or negatively with perceived efficacy, however, the stronger the self-efficacy belief, the better the subsequent performance (Schunk & Cox, 1986; Schunk & Gunn, 1986; Schunk & Rice, 1986).

The overall evidence reveals that causal attributions, whether in the form of ability, effort, or task difficulty, generally have weak or no independent effect on achievement motivation. The types of factors singled out by attributional theory convey efficacy-relevant

information and influence performance attainments mainly by altering people's belief in their efficacy. Occasionally, ability attribution emerges as an independent contributor to achievement motivation, but such direct effects tend to be small and equivocal.

Subjective weighting of attributional factors and self-efficacy appraisal involves bidirectional, rather than unidirectional, causation. The relative weight given to information regarding adeptness, effort, task complexity, and situational circumstances will affect self-efficacy appraisal. Self-beliefs of efficacy, in turn, bias causal attributions. Thus, people who regard themselves as highly efficacious tend to ascribe their failures to insufficient effort, whereas those who regard themselves as inefficacious view their failures as stemming from low ability (Collins, 1982; Silver, Mitchell, & Gist, 1989). Self-efficacy belief influences causal attributions for outcomes in social transactions as well as in cognitive activities (Alden, 1986).

Expectancy-Value Theory

People also motivate themselves and guide their actions anticipatorily by the outcomes they expect to flow from given courses of behavior. Expectancy-value theory was designed to account for this form of incentive motivation (Ajzen & Fishbein, 1980; Atkinson, 1964; Rotter, 1982; Vroom, 1964). These various formulations all assume that strength of motivation is governed jointly by the expectation that particular actions will produce specified outcomes and by the value placed on those outcomes. They differ mainly in what additional determinants are combined with expectancy and outcome value. Atkinson adds an achievement motive; Rotter adds a generalized expectancy that actions control outcomes; Ajzen and Fishbein add perceived social pressures to perform the behavior and proneness to compliance; Vroom adds belief that the behavior is achievable through effort.

In its basic version, the expectancy-value theory predicts that the higher the expectancy that certain behavior can secure specific outcomes and the more highly those outcomes are valued, the greater is the motivation to perform the activity. The findings generally show that outcome expectations obtained by adding or multi-

plying these cognitive factors predict performance motivation (Feather, 1982; Mitchell, 1974; Schwab, Olian-Gottlieb, & Heneman, 1979). The amount of variance in performance motivation explained by this model is generally smaller than might be expected, however. This has stimulated spirited debates about the scope of the expectancy-value theory, its major assumptions, and the methods used for assessing and combining the cognitive factors.

According to maximizing expectancy models, people seek to optimize their outcomes. Questions have been raised, however, concerning the assumptions about how decisions are usually made. As several authors have correctly observed, people are not as systematic in considering alternative courses of action and in weighing their likely consequences as expectancy-value models assume (Behling & Starke, 1973; Simon, 1976). Alternatives are often ill defined. People rarely examine all the feasible alternatives or give detailed thought to all the consequences of even the options they do consider. More typically they pick, from a limited array of possibilities, the course of action that looks satisfactory rather than searching studiously for the optimal one. Moreover, they are sometimes inconsistent in how they order alternatives, they have difficulty assigning relative weights to different types of outcomes, they let the attractiveness of the outcomes color their judgments of how difficult it might be to attain them, and they opt for lesser outcomes because they can get them sooner. When faced with many alternatives and complexly contingent outcomes, they use simplifying decision strategies that may lead them to select alternatives that differ from those they would have chosen had they weighted and ordered the various factors as presupposed by the maximizing model.

The issue in question is not the rationality of the judgmental process. People often have incomplete or erroneous information about alternatives and their probable consequences, they process information through cognitive biases, and what they value may be rather odd. Decisions that seem subjectively rational to the performer, given the basis on which they were made, may appear irrational to others. Subjective rationality often sponsors faulty choices. There are too many aspects to a judgmental process where one can go astray to permit objective rationality (Brandt, 1979). The main issue in dispute concerns the correspondence between the postulated

judgmental process and how people actually go about appraising and weighting the probable consequences of alternative courses of action.

The types of anticipated incentives singled out for attention is another dimension on which expectancy-value theory often departs from actuality. Some of the most valued rewards of activities are in the self-satisfaction derived from fulfilling personal standards. The satisfaction yielded by personal accomplishments may be valued more highly than tangible payoffs. When these two sources of incentives conflict, self-evaluative outcomes often override the influence of tangible rewards (Bandura, 1986). Because incentive theories of motivation tend to neglect affective self-evaluative outcomes, self-incentives rarely receive the consideration they deserve in the option/outcome calculus. Predictiveness is sacrificed if influential self-incentives are overlooked. With regard to the scope of the expectancy-value model, even the elaborated versions include only a few cognitive motivators. In actuality, forethought about outcomes influences effort and performance through additional intervening mechanisms.

People act on their beliefs about what they can do as well as on their beliefs about the likely effects of various actions. The motivating potential of outcome expectancies is partly governed by people's beliefs about their capabilities. There are many activities that, if done well, guarantee valued outcomes, but they are not pursued by those who doubt they can do what it takes to succeed (Beck & Lund, 1981; Betz & Hackett, 1986; Dzewaltowski, Noble, & Shaw, 1990; Wheeler, 1983). Self-perceived inefficacy can thus nullify the motivating potential of alluring outcome expectations. Conversely, a strong sense of personal efficacy can sustain efforts over extended periods in the face of uncertain or repeatedly negative outcomes. Indeed, because ordinary social realities are strewn with impediments, failures, adversities, setbacks, frustrations, and inequities, it requires a resilient sense of personal efficacy to sustain the perseverant effort needed to succeed (Bandura, 1989).

In activities that call upon competencies, self-efficacy beliefs affect the extent to which people act on their outcome expectations. Some expectancy-value theories include an expectancy that effort will beget the requisite performance (Vroom, 1964). It should be noted, however, that perceived self-efficacy encompasses much

more than beliefs about how effort determines performance. Effort is only one of many factors that govern the level and quality of performance. People judge their capability for challenging activities more in terms of their perceptions of the knowledge, skills, and strategies they have at their command than solely on how much they can exert themselves. Performances that call for ingenuity, resourcefulness, and adaptability depend more on adroit use of skills, specialized knowledge, and analytic strategies than on sheer effort (Wood & Bandura, 1989a). Moreover, people who cope poorly with stressors expect that marred performances in intimidating situations will be determined by their self-debilitating thought patterns rather than by how much effort they mount. The harder they try, the more they may impair their execution of the activity. Expectancy theorists probably singled out effort as the sole cause of performance because the theory has usually been concerned with how hard people work at routine activities unimpeded by obstacles or threats. Hence, the aspect of self-efficacy that is most germane to how much is accomplished is people's perceived perseverant capabilities—that is, their belief that they can exert themselves sufficiently to attain designated levels of productivity.

Some confusion has been introduced into the expectancy literature by misconstruing the specifying criteria of a performance level as its outcomes. A *performance* is conventionally defined as "an accomplishment" or "something done"; an *outcome*, as "something that follows as a result or consequence of an activity." Three major classes of outcomes can be distinguished—material consequences, social reactions, and self-reactions. Thus, in a high-jump field event performance levels are defined in terms of height of jumps. A six-foot leap is the realization of a particular performance, not the outcome that flows from it. The outcomes are the results a six-foot leap produces—the social recognition, applause, trophies, monetary prizes, and self-satisfaction if it represents a superior attainment, or the social disappointment, forfeiture of material rewards, and self-criticism if it represents a deficient level of attainment. Similarly, in assessments of academic performance, letter grades of *A*, *B*, *C*, *D*, *F* are the specifying criteria of performance level, not the outcomes. Remove the letter indicants of performance level, and one is left with an indefinite or indescribable performance. The social reactions, personal benefits, costs, and affective self-reactions anti-

