WHAT SHOULD WE DO ABOUT MOTIVATION THEORY? SIX RECOMMENDATIONS FOR THE TWENTY-FIRST CENTURY

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We present six recommendations for building theories of work motivation that are more valid, more complete, broader in scope, and more useful to practitioners than existing theories. (1) Integrate extant theories by using existing meta-analyses to build a megatheory of work motivation. (2) Create a boundaryless science of work motivation. (3) Study the various types of relationships that could hold between general (trait) and situationally specific motivation. (4) Study subconscious as well as conscious motivation. (5) Use introspection explicitly in theory building. (6) Acknowledge the role of volition in human action when formulating theories.

The concept of motivation refers to internal factors that impel action and to external factors that can act as inducements to action. The three aspects of action that motivation can affect are direction (choice), intensity (effort), and duration (persistence). Motivation can affect not only the acquisition of people's skills and abilities but also how and to what extent they utilize their skills and abilities.

Work motivation has been of interest to industrial/organizational (I/O) psychologists at least since the 1930s, stimulated in large part by the famous Hawthorne studies (Roethlisberger & Dickson, 1939), which focused mainly on the effects of supervision, incentives, and working conditions. However, it was not until 1964 that Vroom made the first attempt to formulate an overarching theory—namely, a hedonistic calculus called the "valence-instrumentality-expectancy model." Theory building in the field of work motivation, however, has typically been more specialized than Vroom's overarching model.

Argyris (1957), for example, focused on the congruence between the individual's needs and organizational demands. Herzberg and colleagues (Herzberg, Mausner, & Snyderman, 1959) focused primarily on sources of work satisfaction and, within that domain, mainly on ways in which the job could be designed to make the work itself enriching and challenging. Later, Hackman and Oldham (1980) extended Herz-berg's work by developing a model suggesting the specific work characteristics and psychological processes that increase employee satisfaction and the motivation to excel. All these theories center on the issue of the organization's effect on the individual employee's "cognitive growth."

Other theories and approaches have focused on specific psychological processes, as does Vroom's theory. Organizational behavior (OB) modification (Luthans & Kreitner, 1975), which is not influential today, was derived from Skinner's behavioristic philosophy that denied the importance of consciousness. This approach stresses the automatic role of rewards and feedback on work motivation; however, these effects are mediated by psychological processes such as goals and self-efficacy (Bandura, 1986; Locke, 1977). Goal-setting theory (Locke & Latham, 2002) and control theory—a mechanistic combination of cybernetics and goal theory (Lord & Hanges, 1987)—focus on the effects of conscious goals as motivators of task performance. Attribution theory's (Weiner, 1986) emphasis is on ways that the attributions one makes about one's own or others' performance affect one's subsequent choices and actions. Social-cognitive theory (Bandura, 1986) is very broad in scope—its domain is much wider than that of work motivation—but Bandura's core concept of self-efficacy has been found to have powerful motivational effects on task performance (Bandura, 1997).

Two work motivation theories have a social emphasis (although Bandura [1986] stresses the motivational effects of role modeling). Adams' (1963) theory focuses on the motivational effects of distributive justice, which is based on comparisons between the inputs and outcomes of oneself versus those of comparison others. More recently, scholars have extensively researched procedural justice (Greenberg, 2000), stressing the important effect on employee satisfaction of the methods or processes by which organizational decisions affecting employees are made.

Personality-based approaches to motivation, although in and out of fashion over the past several decades, have always had some strong supporters. McClelland and his colleagues (e.g., McClelland & Winter, 1969) stressed the effect of subconscious motivation—specifically, need for achievement—on economic growth. In recent years the study of conscious, self-reported traits has become popular, especially traits such as conscientiousness, which is fairly consistently related to effective job performance (Barrick & Mount, 2000).

All of the above theories have limitations. None of them are above criticism, and some have dropped by the wayside in recent years, yet most provide some useful insights into employee motivation. Thus, it is clear that the field of work motivation has not only progressed but has progressed in multiple directions over the last several decades. Nevertheless, our knowledge of the subject of work motivation is far from complete. The issue, then, is where should we go from here?

Our goal in this article is not to offer yet another theory of work motivation. Rather, our focus is on metatheory—the process or processes through which we can build more valid, more complete, and more practical theories. This paper provides rationales for six categories of recommendations for advancing knowledge and understanding of employee motivation in the twenty-first century. We provide examples of specific types of studies that might be carried out relevant to each recommendation.

SIX RECOMMENDATIONS

Recommendation 1: Use the results of existing meta-analyses to integrate valid aspects of extant theories.

When beginning to study the plethora of existing work motivation theories, one's reaction is sometimes bewilderment at the enormous variety of concepts and approaches. But, if one looks closely, it is evident that, for the most part, these theories, though flawed and/or limited in various respects (see Miner, 2002), do not so much contradict one another as focus on different aspects of the motivation process. Therefore, there is now an urgent need to tie these theories and processes together into an overall model, insofar as this is possible.

Locke (1997) made a preliminary attempt at integrating theories of motivation in the workplace. The model, shown in Figure 1, begins with an employee's needs, moves to acquired values and motives (including personality), then to goal choice, and thence to goals and self-efficacy. The latter two variables constitute a "motivation hub" in that they are often the most direct, conscious, motivational determinants of performance. Performance is followed by outcomes, and outcomes by emotional appraisals, such as employee satisfaction and involvement, that lead to a variety of possible subsequent actions. (Job satisfaction, of course, may also affect performance; the precise causal relationship between them is not fully known [see Judge, Thoreson, Bono, & Patton, 2001].) Job characteristics are shown as affecting satisfaction. The place where a specific theory applies is shown by the dotted boxes. This is not a speculative model. Every connection but one—namely, the link from needs to values—is based on empirical research.

A useful next step would entail identifying the size or strength of the various relationships shown in Figure 1. This could be done by combining the results of all known meta-analyses relevant to each path in the model and would include calculating known mediation effects, as well as known moderator effects. It would also entail adding pathways based on theories for which there is some empirical evidence but which are not, as yet, included in the model (e.g., Kanfer & Ackerman's [1989] resource allocation theory and Weiner's [1986] attribution theory). The result could be the first motivation megatheory in the behavioral sciences derived from combining different meta-analyses.

Using meta-analyses to build theory, which is called "mega-analysis," was originally suggested by Schmidt (1992). He and his colleagues

FIGURE 1
An Integrated Model of Work Motivation[a]
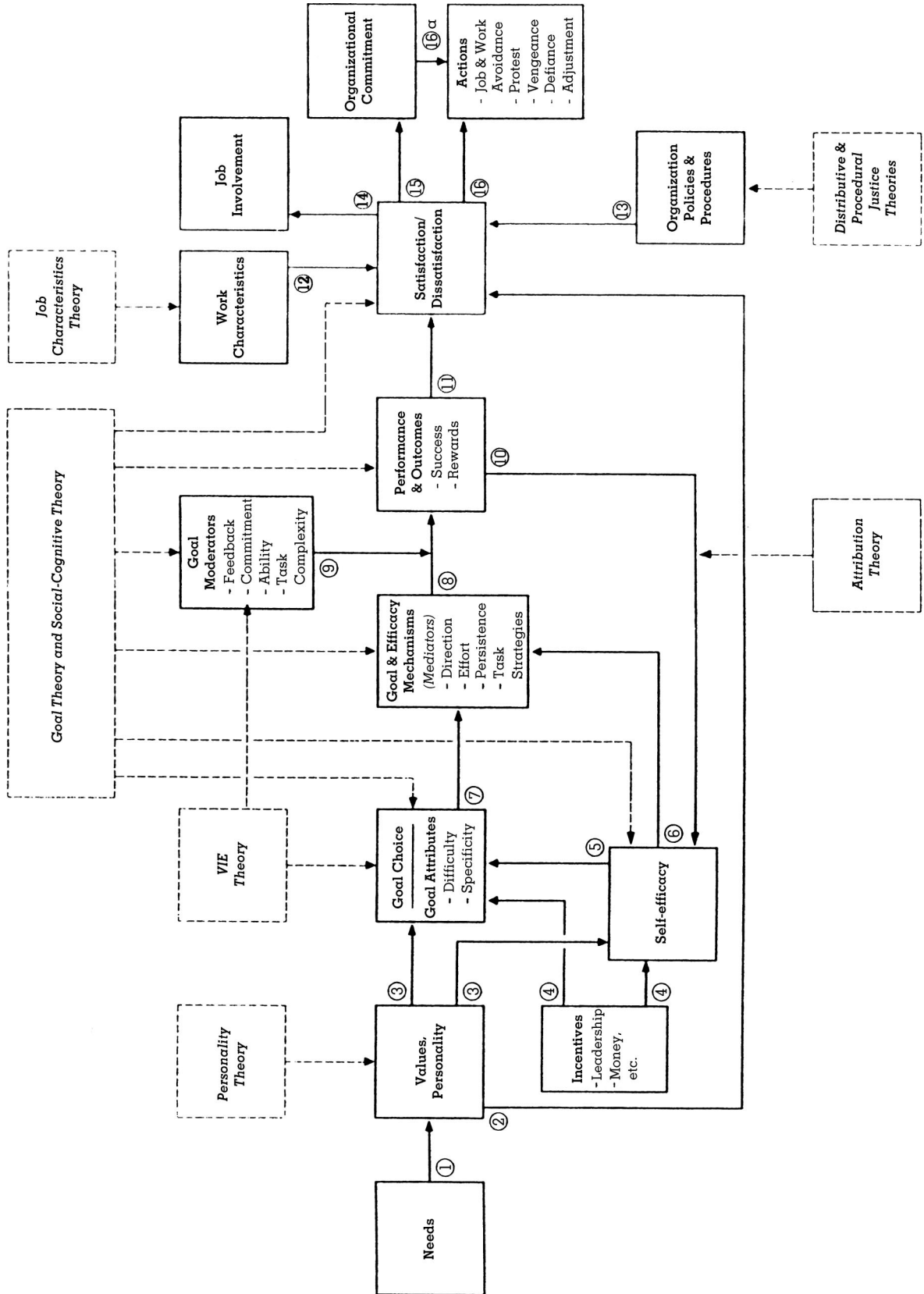
1. Needs to values. This is the least empirically researched of the causal connections. Although motivation must start with needs, that is, the objective requirements of the organism's survival and well-being, how work values grow out of needs has not been studied. Although Maslow was partly correct in claiming that people value what they need, there are numerous exceptions to this claim. These exceptions, of course, are one of the reasons why we need both a science of mental health and a code of ethics.

2. Values and personality to satisfaction. This pertains to the relation of self-esteem and neuroticism to job perceptions and job satisfaction.

3. Values and personality to goals and self-efficacy. Values and personality affect goals and self-efficacy and their effects on performance are mediated by goals and efficacy.

4. Incentives to goals and self-efficacy. Like personality, incentives affect goals and self-efficacy which in turn mediate the effects of incentives.

5. Self-efficacy to goals. Efficacy affects goal choice and especially goal difficulty.

6. and 7. Self-efficacy and goals to mechanisms. Goals and efficacy affect performance through their effects on direction, effort, persistence, and task strategies or tactics.

8. Goals, that is, goal mechanisms, to performance. Goals, especially goal difficulty, affect performance and performance, depending on the organization's policies, affects rewards.

9. Goal moderators. Goal effects are enhanced by feedback, commitment, ability, and (low) task complexity.

10. Performance to efficacy. Performance, including the attributions one makes for performance, affects self-efficacy.

11. Performance to satisfaction. Success and rewards produce satisfaction.

12. Work characteristics to satisfaction. Mental challenge and related job attributes enhance satisfaction.

13. Organizational policies to satisfaction. The perceived fairness of the organization's policies, procedural justice, and the perceived fairness of the results of these policies, distributive justice, affect satisfaction.

14. Satisfaction to involvement. Job satisfaction enhances job involvement.

15. Satisfaction to organizational commitment. Satisfaction enhances organizational commitment.

16. and 16a. Satisfaction and commitment to action. Satisfaction and commitment, along with other factors, affect action, especially approach and avoidance of the job or work. Several limitations of this model should be noted:

- To limit cognitive-perceptual overload some causal arrows are omitted. For example, self-efficacy affects commitment and presumably choices among action alternatives in the face of dissatisfaction. Personality and values can also affect action taken in response to job dissatisfaction. Perceived injustice undoubtedly affects goal commitment.
- The various theories, aside from goal theory, are not fully elaborated. For example, there are many complexities involved in procedural justice and a number of competing sub-theories.
- Recursive effects are not shown, except in the case of self-efficacy to performance. In the real world, almost any output can become an input over time. The model is static, not dynamic. Mone (1994) has done dynamic analyses of the goal-efficacy-performance relationship and found the basic static model to hold.
- Ability, knowledge and skill are critical to performance but, with one exception, are not shown in the motivation model. Self-efficacy, of course, reflects how people assess their skills and abilities.
- The model focuses on conscious motivation and omits the sub-conscious, except insofar as it is acknowledged as being involved in emotions.
- The model does not include theories with dubious or highly limited support (e.g., Maslow, Deci).

used it on a small scale in the field of human resources management by tying together empirical studies of the relationships among job experience, ability, knowledge, and performance on work samples, as well as in the workplace (Schmidt, Hunter, & Outerbridge, 1986). However, a mega-analysis of extant work motivation theories would be on a much wider scale and would integrate an enormous amount of data into a comprehensible framework that would be useful to both theorists and practitioners. The model could be expanded, of course, as new discoveries were made.

Recommendation 2: Create a boundaryless science of work motivation.

Jack Welch coined the term *boundaryless organization* when he was CEO of General Electric (GE), as a result of his frustration over knowledge that was being ignored rather than shared and embraced among the myriad divisions of GE. Similar dysfunctional behavior had been referred to within the Weyerhaeuser Company as the "not invented here" mindset—a mindset that prevented managers within one region of the company from building on the knowledge gained by managers in other regions.

This implies two things. First, work motivation theory needs to be extended into and further developed within areas other than isolated task performance settings. Second, motivation theorists should consider using concepts developed in fields outside OB and I/O psychology.

For example, motivation could be studied further in the realm of team effectiveness. There are processes affecting teams that do not arise when the focus is on the individual's motivation, such as the specific ways in which team members motivate and demotivate one another. For instance, team members might encourage one another through building efficacy by means of persuasion or the offering of useful ideas. They might undermine one another through belittlement and insults. Extending motivation research into the realm of teams would lead to the exploration of such issues as conflicts among personalities, values, and/or goals that are not yet a part of extant work motivation theories. Although team cohesion has been studied, less attention has been paid to the sources, content, and effects of team conflict and how these specifically influence team motivation (but see

Weingart & Jehn, 2000, for some preliminary findings). Social loafing is another potent group motivation phenomenon that is not part of extant work motivation theories (Karau & Williams, 2001). A separate megamodel might have to be constructed to explain team motivation.

Motivation also should be studied within the realm of decision making. For example, Schneider and Lopes (1986) have argued that level of aspiration (i.e., goals) needs to be incorporated into prospect theory. Along this line, Knight, Durham, and Locke (2001) have found that goals affect the degree of risk people take when making decisions. Personality theory has implications for prospect theory as well. For example, those high in extroversion may assess risk quite differently from those high in neuroticism.

Within the field of personality, an issue that needs to be addressed is the extent to which certain traits are stable aspects of the person versus readily manipulable motivational states. For example, Dweck and her colleagues (e.g., Dweck & Elliott, 1983) have argued that goal orientation is a relatively stable disposition. Yet there is a paucity of studies that have assessed its test-retest reliability (e.g., VandeWalle, Cron, & Slocum, 2001). Moreover, the empirical research suggests that goal orientation is readily malleable. Dweck herself has even acknowledged this in the field of educational psychology (e.g., Elliott & Dweck, 1988; Mueller & Dweck, 1998). In the OB field, Seijts, Latham, Tasa, and Latham (in press) found that when people were given do-your-best instructions, Dweck's (1986) predictions regarding the goal orientation trait were supported. But when a specific difficult learning goal was set, it masked the effect of this trait. A learning goal, as is the case with an outcome goal (Adler & Weiss, 1988), was shown to be a strong variable that mitigates the effects of this individual-difference variable (trait). Research is needed to see under what conditions situationally induced motives negate trait effects.

Motivation theory can be better incorporated into macrotheories, particularly organization theory. For example, there is little doubt that degree of centralization and decentralization has motivational consequences, as appears to be the case with span of control (Donaldson, 2000). Firms that have subsidiaries in different countries inevitably run into the issue of value differences (Erez, 2000). Hence, more knowledge

is needed about how value differences actually operate. For example, are goal setting, participation in decision making, performance appraisal, and so forth differentially effective as a consequence of value differences, or are they simply used in a different form—or both?

Motivational issues are also important for strategic management. For example, strategic management frequently involves change, and the phenomenon of resistance to change is well known (Beer, 2000). When firms decide that they will employ a certain strategy (e.g., low cost), they may differ radically in how well they implement it (e.g., Wal-Mart versus K-Mart). In part, this is an issue of knowledge and skill, but it is also related to motivation. Resistance to change is discussed routinely within the field of organizational development, but the motivational issues involved are not directly included in traditional motivation theories. At best, they are addressed by implication; for example, resistance to change may imply refusal to commit to certain goals and may be motivated by low self-efficacy, low instrumentality, and/or negative valences. This issue needs to be studied explicitly. Of course, there are other aspects of strategic management that entail motivation—for example, decision choice and competitiveness—requiring further study as well.

Finally, motivation theory in the realm of work needs to draw on findings from other fields. Both the science and practice of OB have already benefited from theory in social (e.g., Bandura, 1986) and educational psychology (e.g., Dweck, 1986). In the study of motivation, findings by non-I/O scholars in clinical psychology must not be overlooked (Latham & Heslin, 2003). Two examples include research by Beck and by Seligman (and their respective colleagues).

Beck and his colleagues (Beck, 1967; Beck, Rush, Shaw, & Emery, 1979) focused on the relationship between depression and "automatic thoughts," by which they mean thoughts held in the subconscious that affect emotional responses. These researchers examined what they call "dysfunctional thinking" with respect to both content and process. Examples include overgeneralization (e.g., "If I do something bad, it means that I am a totally bad person"), (irrational) perfectionism (e.g., "If I am any good at all, I should be able to excel at everything I try"), and dependence on others (e.g., "I do things to please other people rather than please myself").

Dysfunctional thoughts lead people to evaluate information inappropriately, thus leading to negative emotional states. Beck and his colleagues developed methods of consciously correcting dysfunctional thought processes. Clients report their automatic thoughts through introspection (an issue to be dealt with at length below), and then the psychologists discuss with the clients the rationality of such beliefs. For example, a depressed client might claim, "Pat has left me; therefore, I am worthless." The psychologist might then ask, "Is that really true? What do you base that on?" Gradually, clients come to see that their implicit conclusions or "automatic thoughts" are not rational and that a different perspective is more in line with reality. By challenging dysfunctional thoughts as they arise and correcting them consciously, the clients' automatic or subconscious processing changes and, thus, their negative emotions are mitigated (Haaga, Dyck, & Ernst, 1991).

Such clinical methods have practical utility in the realm of work motivation. Millman and Latham (2001) found that they were able to train unemployed individuals to engage in functional thinking—that is, positive self-talk—and that such training significantly improved their chances of finding a new, well-paying job.

Cognitive methods could be used to teach employees the principle of reframing dysfunctional thoughts in work settings. For example, when individuals encounter difficulties during training, they can reframe a self-demeaning statement like "I can't stand always being so stupid" as "It is normal to make mistakes when I am first learning to perform a task." Reframing self-deprecating statements in constructive ways can have a positive effect on motivation and can sustain a person's self-efficacy (Bandura, 1997).

Similarly, employees might be taught to deal with stress through thought retraining. Stress is a response to the appraisal that one is being psychologically or physically threatened. But threat appraisals are not always rational, and even when they are, employees can be trained to engage in problem-focused thinking so as to develop methods that enable them to mitigate the threats they confront (Lazarus & Folkman, 1984). For example, employees faced with the possibility of layoffs could be trained to identify the exact nature of the perceived threats (e.g., financial and/or psychological) and to generate plans to cope with them.

Irrational beliefs may adversely interact with feedback provided by others. Rational beliefs can mediate the effect on performance feedback from authority figures (e.g., a supervisor). Training in ways to replace irrational with rational beliefs would also appear to be applicable to employees whose desire for inappropriate perfectionism is preventing them from completing job assignments in a timely fashion.

Managers and business leaders can engage in dysfunctional thinking, not only when the business is doing badly but also when it is doing well (e.g., "We are growing at 40 percent per year and will always grow at that rate; thus, there is no need to change our strategy"). Overconfidence leads managers to engage in poor decision making (Audia, Locke, & Smith, 2000). Training in metaprinciples of how to think rationally should be beneficial to people at all organizational levels.

Based on over twenty-five years of programmatic research in the laboratory and in the clinic, Seligman (1968, 1998a,b) established a causal relationship between a person's pessimistic explanatory style and subsequent depression, on the one hand, versus an optimistic explanatory style and a person's creativity, productivity, and overall sense of well-being, on the other. Drawing on attribution theory, Seligman and his colleagues (Peterson et al., 1982) developed the Attribution Style Questionnaire (ASQ), which assesses a person's explanatory style with regard to the locus, stability, and globality of attributions. *Locus* refers to the extent to which a noncontingency between one's actions and the consequences experienced is attributed primarily to either oneself or to factors in the environment. *Stability* is the extent to which the lack of a response outcome is temporary or is likely to persist into the future. *Globality* is the extent to which noncontingent outcomes are perceived as either domain specific or likely to undermine many areas of one's life.

Learned helplessness results from setbacks that are considered long lasting (stable), undermining the attainment of most if not all of one's goals (global), and caused by personal deficiencies (internal) rather than situational constraints. The resulting low outcome expectancy causes deficits in future learning, as well as motivational disturbances such as procrastination and depression (Seligman, 1998a).

Optimists attribute their failures to causes that are temporary rather than stable, specific to the attainment of a particular goal rather than all their goals, and see the problem as a result of the environment or setting they are in, rather than inherent in themselves. Setbacks and obstacles are seen as challenges (Seligman & Csikszentmihalyi, 2000). Thus, optimists are usually resilient in the face of failure.

Seligman (1998b) found that optimism can be learned, using a method similar to that employed by Beck. Step 1 requires the clinician to help clients identify self-defeating beliefs they may be unaware of. Step 2 involves gathering information to evaluate and dispute the accuracy and implications of these self-defeating beliefs that are triggered by environmental events. Step 3 involves replacing maladaptive beliefs with constructive, accurate ones based on the data collected in the second step.

The ASQ may prove useful for identifying people in organizations who suffer from learned helplessness. Seligman and Schulman (1986) have provided evidence suggesting the value of ASQ for OB. They found that salespeople with an optimistic explanatory style sold 35 percent more insurance than did those whose explanatory style was pessimistic. Moreover, people with a pessimistic style were twice as likely to quit their job in the first year than those with an optimistic style. Similarly, Schulman (1999) found that those who scored high on optimism outsold those who scored as pessimists by 20 to 40 percent across a range of organizations (e.g., auto sales, telecommunications, real estate, and banking). Strutton and Lumpkin (1992) found that the mediator of the two attribution styles on employee performance is strategy. Salespeople who scored high on optimism used problem-solving techniques, whereas those who scored high on pessimism focused on ways of seeking social support.

Seligman's training technique may provide a framework for mentors, coaches, and trainers to predict, understand, and influence a person or team who has given up trying to attain goals because of repeated failures. No one as yet has shown whether the ASQ has general applications to the workforce. We also need to determine whether learned optimism is basically equivalent to trait-level self-efficacy and whether optimism effects are mediated by situationally specific self-efficacy (Bandura, 1997).

Recommendation 3: Identify how general variables such as personality get applied to and are mediated by task- and situationally specific variables, how they are moderated by situations, and how they affect situational choice and structuring.

A problem that must be overcome in combining motivation theories is how to integrate the general with the specific. For example, a Big Five personality trait such as conscientiousness is, by definition, general. It reflects action patterns that cross tasks and situations. Typically, trait measures correlate about 0.20 with action in specific settings. This mean correlation is better than chance, but it does not answer such questions as: How do traits actually operate? How can we make better predictions?

A partial answer to these questions becomes evident when we recognize that there is no such thing as action in general; every action is task and situationally specific. Specific measures, if chosen properly, virtually always predict action better than general measures. However, general measures predict more widely than do specific ones (Judge et al., 2002).

A general value or motive must presumably be "applied," consciously or subconsciously, to each specific task and situation. It follows that situationally and task-specific knowledge, assessments, and intentions should be affected by such motives and that these assessments, in turn, should affect actions taken in the situation. A person's goals, as well as self-efficacy, have been found to partly or wholly mediate the effects of some personality traits, as well as the effects of various incentives (Locke, 2001). These traits include conscientiousness, competitiveness, Type A personality, general (trait) efficacy, need for mastery, and self-esteem. VandeWalle et al. (2001) found that goals and efficacy mediate the effects of the trait of goal orientation on performance. The mediation hypothesis is implicit in Figure 1, in that values and personality are shown to work through goals and efficacy. Nevertheless, it is possible that some trait effects are direct and, thus, not mediated at all. If so, it will be necessary to discover when and why this occurs.

The identification of personality trait mediators does not preclude the study of person-situation interactions. In "strong" or constrained situations, people may feel less free to act as they want or "really are" as compared to when they are in "weak" situations. However, this likely occurs because people appraise situations partly in terms of what they can and should do in them. Furthermore, what has yet to be studied is the other side of the strong versus weak situation coin—namely, the possibility of "strong" versus "weak" personalities. Strong personalities should be less constrained by situations than weak ones. For example, hyper-competitive people might look for ways to compete everywhere—not only in sports or business but also in social and personal relationships. Thus, they would construe every situation as an opportunity to demonstrate their superiority.

Finally, we must not overlook the fact that people are not merely the passive victims of situations. For example, employees choose the jobs they apply for and quit those they dislike. They may restructure jobs to make a better fit with their own talents and proclivities. They may also work with others to change situations they dislike. They can choose what new skills to develop and what careers to pursue. Going further afield, they can also choose (in most free countries) whom they marry, where they live, how many children they have, how they spend their money, whom they want as their friends, and what off-the-job activities they engage in. As Bandura (1986, 1997) has noted, people are not simply dropped into situations; they themselves create, choose, and change situations. We need to study how traits affect these processes.

Recommendation 4: Study subconscious as well as conscious motivation and the relationship between them.

The concept of the subconscious is not a "hypothetical construct" but a fully objective one. It refers to information that is "in consciousness" but not, at a given time, in focal awareness. Psychologists have shown that people can only hold about seven separate (disconnected) elements in focal awareness at the same time (Miller, 1956). The rest of one's knowledge, to use the usual computer analogy, is "stored in memory." We validate the concept of the subconscious by observing that we can draw knowledge out of memory without any additional learning. Typically needed information is pulled out automatically, based on our conscious purpose (e.g., when we read a book, the meanings

of the words and our knowledge of spelling and grammar are automatically engaged). We can also observe that certain events and experiences (e.g., early childhood memories) are harder to recall than others.

It is undeniable that people *can* act without being aware of the motives and values underlying their behavior. This assertion does not require the positing of an unconscious that is made up of primitive instincts devoid of any access to, or contact with, the conscious mind, as Freud asserted. Nor does acknowledging the subconscious require a leap to the unwarranted conclusion that all actions are governed by unconscious forces (Wegner & Wheatley, 1999). Such a claim would clearly be arbitrary. This assertion only requires acknowledgment that the subconscious is a storehouse of knowledge and values beyond what is in focal awareness at any given point in time (Murphy, 2001) and that accessibility to this stored information differs within and between people.

McClelland, Atkinson, Clark, and Lowell (1953) claimed that the achievement motive, which they asserted to be related to entrepreneurship, was a subconscious motive. Thus, they argued, it had to be measured with a projective test—namely, the TAT—which involves people telling stories in response to pictures. This claim may be true, but to the present authors' knowledge, no self-report measure of achievement motivation has been designed with items that match exactly the type of TAT story content that is indicative of high need for achievement. Thus, TAT-measured achievement motivation may or may not be assessing a concept different from self-reported achievement motivation measures.

Self-report measures of achievement motivation are typically uncorrelated with projective measures, even though both types of measures are significantly associated with entrepreneurial action (Collins, Hanges, & Locke, in press). Need for achievement, measured projectively, also appears to be unrelated to conscious performance goals (e.g., Tracy, Locke, & Renard, 1999). Similarly, A. Howard (personal communication) found that, in a reanalysis of her twenty-five-year AT&T study with Bray, conscious goals for promotion had no relationship with a set of projective measures that had been designed by McClelland to predict managerial progress (see Locke & Latham, 2002). McClelland (e.g., McClel-

land & Winter, 1969) believed that subconscious motives are differentially aroused by different situations and operate differently than conscious motivation.

Failure to specify the effect of the subconscious on action is a limitation of goal-setting theory (Locke & Latham, 2002)—not to mention other motivation theories. Yet, over a century ago, the Wurzburg school in Germany showed that goals that are assigned to people can affect their subsequent behavior, without their being aware of it. In this century, Wegge and Dibblett (2000) have shown that high goals automatically increase the speed with which information is cognitively processed. Locke (2000b) has argued that goals may arouse task-relevant knowledge automatically, but almost nothing is known about how and when this occurs.

Studying the subconscious is difficult precisely because people, including laboratory participants and employees, cannot always directly provide the needed information stored there. Thus, indirect measures are required. Projective measures may be useful (see Lilienfeld, Wood, & Garb, 2000), but they are riddled with such difficulties as low internal reliability and the effect of choice of pictures (in the case of the TAT). In the realm of achievement motivation, a 2 (high/low projective measure) $\times$ 2 (high/low conscious self-report) factorial design might reveal whether responses to these two measurement techniques—subconscious and conscious—assuming they are actually referring to the same concept, interact or work additively. The same type of study could be conducted in relation to other traits. The Big Five, for example, might be measured projectively as well as through self-reports.

Projective tests do not have to be confined to the TAT. Other projective measures may be equally if not more useful. An example is the incomplete sentence blank (ISB), used extensively by Miner (e.g., Miner, Smith, & Bracker, 1994). Different projective methods should be compared for agreement, when the same alleged concepts or motives are measured, as well as for predictive validity.

Another way to examine subconscious effects is through "priming." Priming involves giving people information that is apparently unrelated to the task at hand but that can affect an individual's subsequent responses, without being aware of the effect. In two experiments Earley

and Perry (1987) used priming to influence the task strategies that subjects used to attain goals. Priming could be used in many other types of motivation studies. Bargh, Gollwitzer, Lee-Chai, Barndollar, and Troetschel (2001) found that primed goals for performance and cooperation had significant effects on these two outcomes. Research should be conducted comparing the effect sizes of, and possible interactions between, consciously assigned versus subconsciously primed goals.

> *Recommendation 5: Use introspection explicitly as a method of studying and understanding motivation.*

Few methodologies in the history of the behavioral sciences have been more controversial than introspection. Introspection was used extensively by Titchner, an influential psychologist in the early twentieth century, but it was subsequently rejected by his followers because they found his view of psychology to be unduly narrow. Freud and his followers also rejected introspection because they believed that motivational dynamics were in the unconscious, *not* the subconscious—or, as they called it, the "preconscious"—and, thus, inaccessible to direct awareness or observation. Drive reductionists, such as Hull and Spence, agreed with this inaccessibility argument because they believed that motivation was strictly physiological. The behaviorists, especially Watson and Skinner, rejected introspection because they believed the subject matter—consciousness—was irrelevant to understanding human behavior. Nevertheless, it is self-evident that motivational states exist in consciousness; thus, introspection *must* be used to study it. Psychological concepts (e.g., desire, self-efficacy, purpose, satisfaction, belief) could not even be formulated or grasped without introspection. Furthermore, questionnaire studies in OB have always relied on introspection by the respondents, even though all people are not equally good at it. The use of introspection, as an accepted methodology in OB, will provide at least six important benefits for advancing our understanding of employee motivation. These are as follows.

(1) *Understanding traits and motives.* In the field of personality, it is often unclear whether researchers are describing behavior or an underlying motive that causes the behavior. Predicting behavior from behavior may be helpful practically, but it is psychologically trivial if the basis for the behavior is not explained. If traits are more than just behavioral regularity, they must be caused by underlying motives. We can only learn about the nature of these motives by having people with varying levels of trait scores engage in introspection. With regard to the above discussion of projective versus self-report measures of traits, such as need for achievement, people who are highly effective versus ineffective at introspection could be studied to see if the two types of measures predict differently within each type of person. In addition, people can be trained in introspection (Schweiger, Anderson, & Locke, 1985). Research is needed to determine whether training would produce greater convergence between conscious and subconscious measures of the same concept. Motive "constructs" (i.e., concepts) in OB are often defined statistically, as a conglomeration of measures or of items. They are seldom defined experientially. This is especially true of so-called high-order constructs, which may have little or no psychological reality. For example, the Big Five personality dimensions are statistical conglomerations of a number of related subdimensions. But little is known about how people with high scores on traits such as extraversion actually experience themselves and the world. Such an understanding should enable researchers to develop better measures.

(2) *Increasing accuracy.* The conditions under which self-reports of psychological states are more versus less accurate need to be identified. Ericcson and Simon (1980) have described the conditions under which introspective reports are most reliable. The evidence suggests that the more immediate and specific the information requested, the more accurately the respondent is able to introspect and, thus, to report the information accurately. It is usually difficult for respondents to formulate broad abstractions about themselves, especially personality traits or broad values. It is even harder for them to formulate accurate and comprehensive statements about the causes of their own and others' actions. A major reason Herzberg used his mentor Flanagan's (1954) critical incident technique to collect data was to avoid the problems associated with asking people to introspect in order to answer such abstract questions. Rather, he used very specific questions, such as the following: "Tell me a time when you were very satis-

fied with your job." "What were the events and conditions that led up to it?" What is still needed is the discovery of how to get from such specific questions to accurate, broad abstractions such as overall job satisfaction ratings.

Developing structured interviews might yield more accurate data than using questionnaires. The investigator could check with the respondents as to how they are interpreting the questions and could help them to introspect and, therefore, increase the accuracy of the answers. Studies are also needed to compare the validity of measurements conducted by well-designed interviews versus those obtained by questionnaires.

(3) *Understanding the effects of attitudes.* How do people act when they like or dislike their jobs? Through introspection, we can see at once that there are many different things that we do and can do when we experience these feelings. Through introspection, we know that high or low productivity is far from a fixed response to such attitudes. This leads to asking ourselves additional questions: How do we decide what to do? How do we choose from among alternatives? Through introspection, many factors that influence choices, including internal values and organizational circumstances, can be identified. Once we have these answers as starting points, other people can be questioned to see if they give similar answers to the same questions. Such a process might have enabled us to avoid decades of torturous efforts to resolve the satisfaction-performance issue solely by means of statistical techniques. Rather than continue to look for correlations between satisfaction and productivity, we might use introspection to point to a variety of decision-making processes involved in getting from satisfaction to performance, and vice versa, that then could be studied systematically. This would enable researchers to look at the psychological processes that mediate such effects, as well as the various causal paths and the directions of causal influence. Relevant measurements of the key variables could then be developed.

(4) *Learning how managers formulate and apply principles.* The first author has argued that management should be taught in terms of principles (general truths) rather than specific theories (Locke, 2002) and has asked various experts in the field to identify core principles in OB and HR (Latham, 2000; Locke, 2000a). There is evi-

dence that organizational leaders actually manage using principles (Locke, 2002). But we know very little about how managers formulate, adapt, apply, and orchestrate principles in a given organizational context. To study this, we need to gain knowledge about how managers actually think. In organizational settings, many decisions must be dealt with quickly, and most principles have to be adapted by managers to a specific context, since each organization is, in some way, unique. Management strategy, systems, and procedures have to be orchestrated so that they work in harmony. Introspection with highly effective and ineffective leaders might reveal (1) what principles they use, (2) how they discovered them, (3) how they orchestrate them, (4) and how they implement what they advocate—that is, "practice what they preach."

(5) *Understanding self-motivation.* We know a good deal about what organizations and their leaders do to motivate people, but we know less about what people do to motivate themselves at work. Discovery of what people do to regulate their own actions may be discovered through having them introspect. Since motivation means the motivation to do something, introspection can be used to ascertain how people energize themselves to undertake and persist working at specific tasks, especially tasks in which (1) they experience various types of conflict both within themselves and between themselves and others, (2) they experience initial failure or goal frustration, and (3) there are both short- and long-term goals that require consideration. Introspection can also shed light on what people do to get themselves committed to tasks. Functional self-talk (Meichenbaum, 1977; Millman & Latham, 2001), self-induced optimism, and efficacy building may be critical factors. New discoveries about how people motivate themselves may be used by organizations, including trainers, to motivate employees, in the same way that studies in clinical psychology have been used to help people motivate themselves at work (e.g., see Frayne & Latham, 1987, and Latham & Frayne, 1989).

(6) *Understanding the relationship between motivation and knowledge.* In most studies of motivation, researchers attempt to hold cognition (knowledge) constant so as not to confound their separate effects on performance. But, in reality, they always go together. Thus, we need to learn about how each affects the other.

Through the use of introspection by leaders and employees, one aspect of the knowledge issue in organizations can be broken down into what motivates (1) knowledge discovery, (2) knowledge sharing, and (3) knowledge utilization when making decisions or taking action. It may be that somewhat different motivational principles govern each. To give an oversimplified example, knowledge discovery may be motivated mainly by love of discovery and personal passion for one's work (Amabile, 2000), knowledge sharing may be affected by team- or organizational-level incentives and leadership (as was done by Jack Welch at GE), and knowledge utilization may be affected by assigning goals that can best (or only) be attained by using the knowledge that is provided (Earley & Perry, 1987).

On the other side of this coin, we need to discover how knowledge affects motivation. We know that knowledge of one's personal capabilities (self-efficacy) has potent effects on task motivation (Bandura, 1997). But what about other types of knowledge? There is a long history of the study of the effects of participation in decision making—that is, consulting subordinates about their ideas—on employee motivation, but the effects have been shown not to be as powerful as was originally believed (Locke, Alavi, & Wagner, 1997). However, there are many other ways in which knowledge could have motivational effects. Answers to questions such as the following are needed: Are leaders more strongly self-motivated after they have formulated a clear vision of what their organization should be and what strategies will make it successful? Are followers more motivated when they hear such a vision explained and consider it sound? How does the discovery by employees that a leader is lacking in moral character, or the discovery that the leader is lacking in key task knowledge, affect their motivation? How does the discovery that one's company is doing badly financially affect motivation?

Recommendation 6: Acknowledge the role of volition on human action when formulating theories.

Everyone can validate by introspection that they have the power to make choices not predetermined by antecedent conditions (Binswanger, 1991). The concept of psychological determinism—the doctrine that all one's thoughts and actions are controlled solely by antecedent factors—is self-contradictory in that it makes a claim of knowledge based on a theory that makes knowledge, as distinguished from arbitrary word sounds, impossible. Free will is an axiom; it consists of the choice to think or not to think, to raise one's level of focus to the conceptual level or let it drift passively at the level of sensory perception (Binswanger, 1991).

Thus, it is important not to view the causes of action as fully determined by circumstances or by predetermined ways of processing. In his expectancy theory, Vroom (1964), for example, argued that people will multiply expectancy by instrumentality by valence (Force = ExIxV) when choosing among alternatives. This theory implies determinism, since it is argued that people are constructed to be satisfaction maximizers, yet, in fact, people are usually not maximizers of anything (Simon, 1976), nor do they have to multiply ExIxV when deciding what to do. E, I, and V are only factors that they may choose to consider, and they may choose to weight the three components in different ways, or even to ignore one or more of them. Furthermore, people may treat negative and positive outcomes differently and, thus, may consider a variety of different time spans and outcomes when considering their choices. Many people make choices every day with little or no thought—based on the emotions of the moment, for example.

Similarly, Beach's (1990) image theory states that people make decisions using a specific process (e.g., value images, trajectory images, strategic images, etc.). However, people do not have to use this process; there are many processes they can use, including mindlessly following what others say or, as noted above, following their emotions.

Descriptive studies based on introspection would doubtless uncover an enormous variety in how people make decisions about numerous issues. Normative theories should be built by first discovering what people actually do and then seeing what types of processes lead to the optimum outcomes. The optimal processes may very well be task or domain specific.

Theories of employee motivation should be contingent—namely, *if* the person chooses to follow processes a and b, *then* the outcomes will routinely be better than if the person chooses processes c or d. Similarly, if people reach conclusion "a" from "b," then they are most likely to

do "c," but if they reach conclusion "d," they are most likely to do "e." Consistent with this idea, goal-setting theory (Locke & Latham, 1990, 2002) states that *if* people try for specific, hard goals, *then* they will, given certain moderating conditions such as feedback, knowledge, and commitment, perform better than when they have vague and/or easy goals. Similarly contingent predictions can be found in social-cognitive theory (Bandura, 1986).

This is not to deny that people can be influenced by external factors, but the connections are not mechanical. Thus, predictions should be made conditionally. In other words, the effects of the environment depend on what people attend to and what conclusions they draw from the experiences they have and the situations they encounter (Bandura, 1986). Recall that, in the field of organization theory, it was initially hypothesized that technology determines organizational structure. Programmatic research testing this hypothesis was not very successful, however, because human choice and imagination were not taken into account (Miner, 2002).

The same caveat applies to internal factors. For example, the best known psychological predictor of quitting a job is the intention to quit, but often this intention is not carried out—the reasons for which have not been studied. People who have an intent must still choose to act on it, and for many reasons they may not do so. Similarly, people who claim to be committed to their goals may not act to achieve them. Additional studies are needed to understand the choices people make after formulating intentions or committing themselves to a goal. Volition does not destroy the possibility of a psychological science, but it does mean that predictions must be conditional (Binswanger, 1991). The relevant conditions pertain to the individual's psychology, both conscious and subconscious.

CONCLUSION

The purpose of this article has been to argue that, in order to progress further, work motivation needs to be studied from new perspectives. Many topics have yet to be sufficiently studied, and certain methods have been underutilized. The six recommendations in this paper by no means exhaust the possibilities for new directions for research on motivation.

For example, we also need to study topics such as time perspective—how employees, managers, and leaders consider and integrate short- versus long-term considerations or outcomes—a topic not addressed in the *AMR* (October 2001) special issue on time. The issue of time perspective is important at both the individual and organizational levels. Individuals and organizations have to survive in the short term; otherwise, there is no long term. But focusing only on "today," without regard for long-term consequences—whether these consequences are the result of failing to upgrade one's job skills or failing to fund R&D—can be disastrous. We need to know much more about how people balance short- and long-term considerations when making decisions.

A second issue, related to time perspective, is that of how people and organizational leaders prioritize their goals and values and the consequences of different types of priorities. Every decision one makes is a choice between alternatives; the decision to do x today may mean the need to postpone y until another time. We know very little about how employees and organizational leaders actually do this, and even less about what makes some people better at it, in terms of positive decision outcomes, than others.

A third issue that needs to be addressed in the field of work motivation is that of definitions. Locke (2003) has noted elsewhere that researchers tend to be careless about how—and whether—they define their terms. Even the term *motivation* is not always used clearly. For example, in the OB literature and I/O psychology literature, the term may refer to either job satisfaction or the motivation to perform, even though satisfaction versus choice, effort, and persistence are not the same phenomena, do not necessarily have the same causes or effects, and may not affect one another. At other times, key concepts are not defined at all. Whole books or chapters have been written on the subjects of emotions or justice or stress, without these terms being defined. When definitions are provided, they may be riddled with excess verbiage or nonessentials. Sometimes definitions are not justifiable, as when inanimate objects such as work equipment are claimed to possess efficacy, which is a psychological experience. The failure to define terms in a clear and valid way stifles cognitive clarity and, therefore, progress in the field of work motivation. A good project for someone

would be to develop a glossary of valid definitions of motivational concepts.

The use of clinical approaches and introspection could be very useful in identifying the factors that make for effective balancing of short- and long-term considerations and effective prioritizing and in enabling investigators to formulate valid definitions. Of course, many additional topics in work motivation can be studied. There is no limit to the number of new ideas that can be explored. New discoveries are simply a matter of the researcher's creative imagination and passionate love of the work (Amabile, 2000).

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