Social Cognitive Theory and Self-efficacy: Implications for Motivation Theory and Practice

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The purpose of this article is to show how social cognitive theory (SCT) and its main construct of self-efficacy can contribute to the better understanding and practice of work motivation. We first summarize and relate the five basic human capabilities identified by Stanford psychologist Albert Bandura that are generally recognized as the core of SCT: (1) symbolizing, (2) forethought, (3) vicarious learning, (4) self-regulation, and (5) self-reflection. The balance of the article is concerned with self-efficacy. Closely related to self-regulation and reflection, self-efficacy is defined as an individual's belief (or confidence) about his or her abilities to mobilize motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context (Bandura, 1997; Stajkovic & Luthans, 1998a, 1998b). We suggest that self-efficacy makes an important contribution to work motivation.

THE CURRENT MOTIVATIONAL PARADOX AT WORK

Now in the uncertain economy of the 21st century, more than ever, organizations face the dilemma of becoming more effective by improving performance, but without increasing costs. Since this is the era of artificial intelligence—computer-aided designs, computer-aided manufacturing, and e-business—the typical response in recent years has been downsizing, e-engineering and the extensive use of product, process, and information technology. However, largely overlooked and even degraded by downsizing, e-engineering, and the spur for the use of information technology have been human resources and the role they can play in meeting competitive demands. There is a strange paradox in these recent developments. As Pfeffer (1995) points out, if intelligence is so helpful to organizational success in its artificial form, then why do the potential benefits of real, human intelligence continue to be so neglected.

One possible answer to this paradox is that we have tended to take a negative rather than a proactive positive approach to both the academic and practice sides of managing work performance (Luthans, 2002, in press). We have concentrated too much on what is wrong with employees and managers, their dysfunctions and weaknesses (e.g., how to motivate inept employees, overcome resistance to change, cope with stress) rather than emphasize and build on their strengths. We would argue that self-efficacy (or self-confidence), drawn from social cognitive theory, is the pervading psychological mechanism for positively motivating human resources. As Bandura (1986) suggests, "unless people believe that they can produce desired effects and forestall undesired ones by their actions, they have little incentive to act. Whatever other factors may operate as motivators, they are rooted in the core belief that one has the power to produce the desired results" (p. 228). Thus, we offer social cognitive theory and its main construct of self-efficacy (Bandura, 1986, 1997) as a needed positive approach to motivation theory and practice.

A SOCIAL COGNITIVE THEORY FOUNDATION

Social cognitive theory is based upon but more comprehensive than social learning and/or the behavioral approach to human action. For example, SCT includes motivational and self-regulatory mechanisms, which extend beyond learning and/or modifying behavior through reinforcing consequences. Moreover, in SCT, learning is viewed as knowledge acquisition through cognitive processes of information. In other words, in SCT, the "social" part acknowledges the environmental origins of much of human thought and action, whereas the "cognitive" portion recognizes the influential contribution of cognitive processes to human motivation and action. For example, on the one hand, much of employees' knowledge and behaviors are generated from the organizational environment in which they operate. On the other hand, organizational participants still process and act upon available information differently depending on their unique personal characteristics.

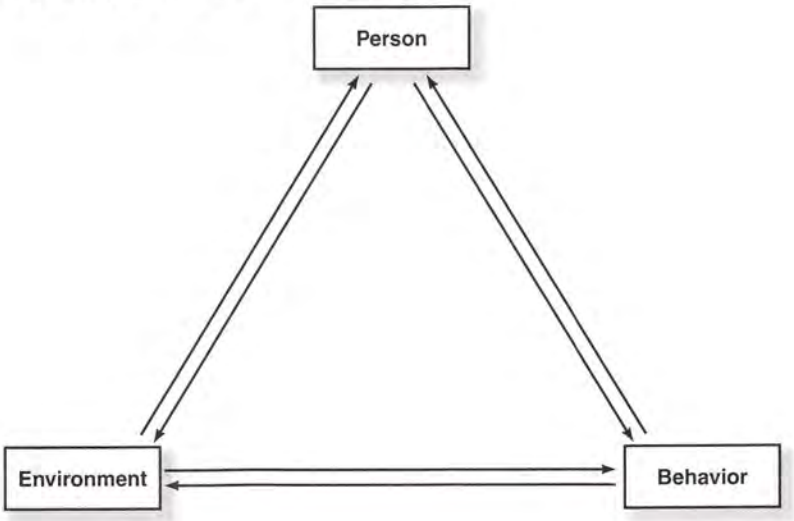
Drawing from a considerable stream of basic research and SCT, Bandura and others have advanced the concept of self-efficacy. This increasingly recognized psychological construct deals specifically with the control of human action through people's beliefs in their capabilities to affect the environment and produce desired outcomes by their actions. For instance, unless employees believe that they can gather up the necessary behavioral, cognitive, and motivational resources to successfully execute the task in question (whether working on a product/service or developing a strategic plan), they will most likely dwell on the formidable aspects of the required performance, exert insufficient effort, and, as a result, not do well or even fail on the task. This personal confidence, or more precisely self-efficacy, plays a pivotal role in SCT. In his recent, comprehensive book on self-efficacy and personal control, Bandura (1997) provides an in-depth conceptual analysis and empirical support of how self-efficacy operates in concert with sociocognitive determinants represented by SCT in determining human motivation, adaptation, and change. We believe that the conceptual richness of SCT and the implications that self-efficacy seems to have for human performance in organizations can make a value-added contribution to work motivation theory and practice.

The Explanatory Power of SCT

The widely recognized cognitively based work motivation theories closely associated with needs, equity, or expectancies concentrate on a process-oriented analysis of the factors influencing the relationship between human action and environmental outcomes. However, they generally do not specify the underlying mechanisms that mediate or can affect the strength of the proposed relationships. SCT, on the other hand, specifies factors by which human action is determined, and defines several basic human capabilities through which the cognitive motivational processes operate to initiate, execute, and maintain work behavior.

In particular, according to SCT, people are neither spontaneous personal self-agents nor, as reinforcement theory would suggest, automatic transmitters of environmental influences. SCT explains behavior in organizations in terms of the reciprocal causation among the person (unique personal characteristics such as ability), the environment (consequences from the organizational environment such as pay for performance), and the behavior itself (previous successful or unsuccessful performances). As shown in Figure 1, because of these combined, reciprocal influences, under SCT organizational participants would at the same

FIGURE 1 Triadic Influence in Social Cognitive Theory



time be both products and producers of their motivation, their respective environments, and their behaviors.

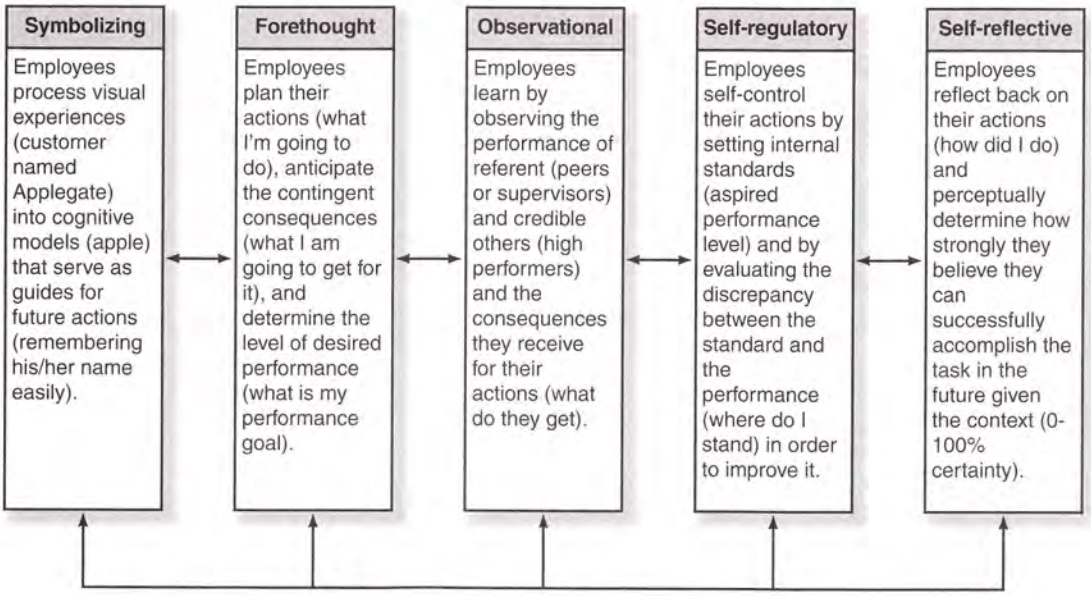
In SCT, the triangular influences among the person, environment, and behavior do not necessarily imply symmetry in the strength of the bidirectional influences. For example, although all three factors may be present at a particular time in a particular organizational environment, that does not mean that they all exert equal and simultaneous influence on the employee. This implies that the strength of mutual influences between any of the two factors is not fixed in reciprocal causation. Thus, it is critically important to recognize that the relative influences exerted by one, two, or three interacting factors on motivated behavior will vary depending on different activities, different individuals, and different circumstances. Bandura (1986) provides the following simple, yet illustrative example:

> If people are dropped into deep water, they will all promptly swim however uniquely varied they might be in their cognitive or behavioral repertoires. . . . On the other hand, if a person plays piano for his/her own enjoyment, such behavior is self-regulated over a long period of time by its sensory effects, and cognitive and environmental influences are involved in this process by a lesser extent. . . . Finally, in deciding what book to check from the library, personal preferences hold the sway. (p. 24)

The Basic Human Capabilities According to SCT

SCT explains the nature of bidirectional reciprocal influences through five basic human capabilities: (1) symbolizing, (2) forethought, (3) vicarious learning, (4) self-regulation, and (5) self-reflection. Employees use these basic capabilities to self-influence themselves in order to initiate, regulate, and sustain their own behavior. Figure 2 provides a descriptive summary. These five capabilities have strong explanatory powers particularly in helping us understand why employees may be motivated differently in the same organizational circumstances.

FIGURE 2 **Basic Human Capabilities According to Social Cognitive Theory**



Symbolizing Capability

SCT posits that humans have an extraordinary symbolizing capability that allows them to adapt successfully to their respective environments. By using symbols (e.g., a flag), people process and transform visual experiences into internal cognitive models that in turn serve as guides for future actions (e.g., patriotic behaviors). Through the symbolizing activity, people also ascribe meaning, form, and duration to their past experiences.

Forethought Capability

Bandura argues that people not only react to their environments but also self-regulate their behaviors by forethought. In particular, people plan courses of action for the near future, anticipate the likely consequences of their future actions, and set goals for themselves. Thus, through forethought, employees initiate and guide their actions in an anticipatory fashion. In other words, the future acquires causal properties by being represented cognitively by forethought exercised in the present.

Vicarious Learning Capability

According to SCT, almost all forms of learning can occur vicariously by observing the behavior of others and the subsequent consequences of their behaviors. Employees' capacity to learn by observation enables them to obtain and accumulate rules for initiating and controlling different behavioral patterns without having to acquire them gradually by risky trial and error. The acquisition of knowledge vicariously is critical for both learning and human performance. Since behavioral trials and errors can (and often do) result in costly consequences, chances for effective performance would be seriously diminished if employees were able to learn only from the consequences of their actions. The more complex the action, and the more costly and

hazardous (in both the safety and political sense) the possible mistakes, the stronger must be the reliance on vicarious learning from competent models.

Self-regulatory Capability

Human self-regulatory capability plays the central role in SCT, as it does in other prominent theories of self-regulation and motivation (Hollenbeck, 1989; Locke & Latham, 1990). According to the principle of self-regulation, people do not behave to suit the preferences or demands of others. Much of work behavior is initiated and regulated by internal self-set standards and self-evaluative reactions to exerted behaviors. After personal standards have been set, incongruity between a behavior and the standard against which it is measured activates self-evaluative reactions, which, in turn, serve to further influence subsequent action. Even if there is no incongruity between self-standards and present performance, according to SCT, people may set higher standards for themselves and activate future behaviors to satisfy the new standards (Bandura, 1997). For example, the success of empowerment programs depends on such self-regulation capabilities.

Self-reflective Capability

The self-reflective capability in SCT can be defined as human self-reflective consciousness. Self-reflective consciousness enables people to think and analyze their experiences and thought processes. By reflecting on their different personal experiences, managers and employees can generate specific knowledge about their environment and about themselves. Among the types of knowledge that people can derive from self-reflection, according to SCT, *none is more central* to human agency than people's judgment of their capabilities to deal effectively with specific environmental realities. These types of perceptions are referred to as self-efficacy beliefs. We would argue that self-efficacy has formidable predictive powers and thus carries a number of important implications for motivating human performance in today's organizations.

THE SELF-EFFICACY COMPONENT OF SCT

Self-efficacy refers to an individual's belief (confidence) about his or her capabilities to execute a specific task within a given context. As a work motivation process, self-efficacy operates as follows. Before organizational participants select their choices and initiate their effort, they tend to evaluate and integrate information about their perceived capabilities. Self-efficacy determines whether an employee's work behavior will be initiated, how much effort will be expended, and how long that effort will be sustained, especially in light of disconfirming evidence. Critical to work performance is that employees with high self-efficacy will activate sufficient effort that, if well executed, produces successful outcomes. On the other hand, employees with low self-efficacy are likely to cease their efforts prematurely and fail on the task.

Self-efficacy and Work Performance

Self-efficacy has a relatively established body of research showing its positive impact on work-related performance. For example, our 1998 meta-analysis included 114 studies and

21,616 subjects. The results indicated a significant .38 weighted average correlation between self-efficacy and work-related performance. This average correlation explains 14.44% of the variance, but when converted to the commonly used effect size statistic used in meta-analysis, the transformed value represents a 28% average increase in performance due to self-efficacy. Put into Grissom's (1994) index of practical utility, there is 72% probability that employees with high self-efficacy for a specific task will have better performance than those with low self-efficacy. By comparison, these results for self-efficacy represent a greater average gain in performance than the results from meta-analyses of popular work motivation techniques such as goal setting (13.6%, see Wood, Mento, & Locke, 1987), feedback (13.6%, see Kluger & DeNisi, 1996), or our own O.B. Mod. approach (17%, see Stajkovic & Luthans, 1997). Based on meta-analytic research to date, self-efficacy also appears to be a better predictor of work performance than either job satisfaction (e.g., Judge, Thoresen, Bono, & Patton, 2001), or Big Five personality traits (e.g., Barrick & Mount, 1991).

Self-efficacy and Work Motivation

Besides its positive impact on work performance, self-efficacy also makes a contribution to work motivation. SCT acknowledges that employees base their actions on both intrinsic (desires) and extrinsic (contingent consequences from the environment) motivation. However, in addition, SCT posits that employees also act on their self-efficacy beliefs of how well they can perform the behaviors necessary to succeed. Thus, under SCT, employee behavior cannot be fully predicted without considering his/her self-efficacy. For example, employees with low self-efficacy doubt that they can do what is necessary to succeed. By the same token, a sense of high personal efficacy may help sustain motivated efforts, even in light of adverse conditions and uncertain outcomes. At the same time, it is unlikely that employees would act based on high self-efficacy beliefs if they didn't expect certain incentive motivators, such as recognition or extra pay, from those behaviors. In other words, employee self-efficacy can be predictive, but it does not negate the importance of motivation to pursue the initial course of action.

Self-efficacy Dimensions

As shown in Figure 3, three dimensions of self-efficacy seem to have particular importance for human performance in organizations. First is the magnitude of self-efficacy beliefs. This

FIGURE 3 **Dimensions of Self-efficacy**

Magnitude	Strength	Generality
What level of task difficulty and complexity (e.g., low, moderate, high) an employee believes he or she can accomplish. Levels of task difficulty and complexity represent different degrees of challenge for successful task performance.	How certain an employee is about performing at the level of task difficulty and complexity indicated by magnitude of self-efficacy. The higher the strength of self-efficacy, the greater the likelihood of successful performance.	Self-efficacy is generalized across similar activity domains. They can vary on modalities on which ability is expressed (behavioral, cognitive), characteristics of the situations, or people receiving the behaviors.

refers to the level of task difficulty that a person believes he or she is capable of executing. Second is the strength of self-efficacy. This refers to whether the judgment about magnitude is strong (perseverance in coping efforts despite disconfirming experiences), or weak (easily questioned in the face of difficulty). Third, self-efficacy may vary in generality. Some experiences create efficacy beliefs specific to a particular task (e.g., computer programming). Other experiences may influence more generalizable self-efficacy beliefs potentially spanning across domain-related tasks and/or situations (e.g., in-house and external sales; being able to get things organized). Although the generality dimension was introduced by Bandura at the same time as self-efficacy strength and magnitude, to date this self-efficacy dimension has not generated much theory development and/or empirical research.

HOW SELF-EFFICACY IS DISTINCTIVE FROM OTHER ORGANIZATIONAL BEHAVIOR CONCEPTS

At first glance, self-efficacy appears similar to self-esteem, expectancy, and locus of control concepts of personality and motivation. However, to understand conceptual independence and apply self-efficacy effectively, we need to understand the sometimes subtle, but important, differences.

Self-esteem

One of the traditional constructs most commonly equated with self-efficacy is self-esteem. Although conceptually similar, self-esteem and self-efficacy are quite different. The first difference is the domain that self-esteem and self-efficacy cover. Self-esteem is conceptually portrayed as a global construct that represents a person's self-evaluations across a wide variety of different situations. In contrast, self-efficacy is the individual's belief about a task-and-context-specific capability. Second, self-esteem tends to be more stable, almost traitlike, whereas self-efficacy is statelike, a dynamic construct which changes over time as new information and task experiences are obtained. Finally, self-esteem is based on an introspective reflective evaluation of self (e.g., feelings of self-worth) that is usually derived from perceptions about several personal characteristics (intelligence, integrity, etc.). By contrast, some people might have high self-efficacy for some tasks (e.g., technically based problem solving) and, at the same time, very low self-efficacy about other tasks (e.g., writing technical reports). However, neither of these self-efficacy beliefs is necessarily likely to produce any changes in one's overall self-esteem.

Motivational Expectancies

Self-efficacy may also appear similar to both effort-performance expectancy (called E1 in the motivational literature) and the performance-outcome expectancy (E2). Both E1 and self-efficacy concepts would posit that successful performance depends on employee effort. Self-efficacy beliefs are similar to the employee E1 perceptions of the relationship between the degree of effort put forth and the level of performance. However, there are also several differences. First, compared to E1, self-efficacy beliefs are based on a broader domain of perceptions such as personal ability, skills, knowledge, previous task experience, and complexity of the task to be performed, as well as on the states of psychomotor reactions (e.g., positive/

negative emotions, stress, fatigue). Second, self-efficacy includes generative capability (e.g., a salesperson may generalize self-efficacy for selling to a closely related activity such as training new staff in effective sales techniques). Third, self-efficacy distinguishes between several construct and measurement dimensions (e.g., strength, magnitude, generality, composite).

There is also a difference between self-efficacy and E2. Specifically, self-efficacy and E2 (performance-outcome expectancy) refer to different parts and sequencing of the motivational continuum. For example, Bandura distinguished self-efficacy and E2 by arguing that an efficacy pertains to a belief of one's ability to execute a certain behavior pattern (e.g., I believe I can do this task), whereas an outcome expectation (E2) tends to be a judgment of the likely consequences such behavior will produce (e.g., I believe what I do will produce desired outcomes). Thus, the employee's assessment of self-efficacy usually comes first before any behavior-outcome expectations (E2) are made.

Locus of Control

Locus of control, as a widely recognized variable in the theory of personality and motivation, is also similar, but importantly different from self-efficacy. The locus of control framework is traditionally used to explain whether outcomes of an individual's behaviors are controlled internally or externally. According to this conceptual framework, people learn generalized expectancies to view events either as being directly determined by their own behavior (e.g., ability or effort) or as being beyond their control (e.g., luck or task difficulty). In other words, individuals develop expectancies about the locus of control.

People with an internal locus of control believe they are in control of their own fate, feel that their actions have an impact on the environment, and assign personal responsibilities for the consequences of their own behavior. In contrast, individuals with an external locus of control take the consequences of their lives as the result of destiny, luck, chance, or any other random factor. According to externals, little can be done to affect their own surroundings. Bandura has argued that LOC is primarily concerned with causal beliefs about action-outcome contingencies. Self-efficacy, on the other hand, refers to an individual's beliefs about his or her abilities to successfully execute a specific task.

Self-efficacy vs. General Self-efficacy

Self-efficacy viewed as a traitlike, dispositional personal characteristic is labeled general self-efficacy. This generalized conception has recently been used as another form of self-efficacy in empirical research on work motivation (e.g., Eden & Zuk, 1995). At first glance, the two views of efficacy may appear similar and equivalent. However, according to Bandura's theory building and considerable empirical research, self-efficacy and general self-efficacy represent very different constructs, both conceptually and psychometrically (e.g., measurement).

In particular, Bandura portrays self-efficacy as a task- and situation- (domain) specific cognition (specific self-efficacy). In contrast, general self-efficacy is defined as a generalized trait representing one's overall estimate of his/her ability to perform a wide variety of jobs under different conditions. Thus, whereas self-efficacy represents a dynamic motivational belief system that may vary depending on unique properties of each task and work situation, general self-efficacy represents an "enduring" personal trait that (supposedly) generalizes and successfully applies to a wide range of different situations.

Differences in the measurement of the two variables include questionable relevance of general self-efficacy scales to a specific task or job typically explored by specific self-efficacy. For example, whereas measures of self-efficacy relate to specific task demands (see detailed description in the next section and Figure 4), a typical general self-efficacy item is exemplified by a global statement such as "I do not seem capable of dealing with most problems that come up in life." Obviously, these types of general self-efficacy items/measures fall short in terms of specifying what exactly they relate to, which brings up the question of their construct validity. However, research on developing general efficacy scales continues (e.g., Chen, Gully, & Eden, 2001), and in the future may make a relatively stronger contribution to work motivation.

SELF-EFFICACY MEASUREMENT

Like any psychological construct, self-efficacy must be validly and reliably measured to make a meaningful contribution to work motivation theory and research. In this regard, Bandura's conceptualization of the magnitude and strength of perceived self-efficacy provides a psychometrically sound measure. Magnitude of self-efficacy measures the level of task difficulty that a person believes he or she is capable of executing. Strength of self-efficacy indicates whether the individual's belief about magnitude is strong and likely to produce perseverance in coping efforts, or weak and easily questioned in the face of difficulty. As shown in Figure 4, the design of the self-efficacy scale usually consists of two columns. Column A measures the magnitude of self-efficacy; the total number of Yes's, each corresponding to the particular level of task difficulty. Column B measures self-efficacy strength; the total summary of certainty ratings for each magnitude level indicated by a Yes. This definition of self-efficacy

FIGURE 4 Self-efficacy Scale

Please use the scale below to indicate:

(a) *Whether you believe that you are capable or not* (yes, no) of performing this task at each of the levels outlined in this scale. Please use column A for these responses.

(b) *How certain you are* (0–100%) about each yes/no response. For example, 0% would indicate no chance, whereas 100% would indicate absolute certainty. Please use column B for these responses.

Number of tasks in a given amount of time For example:	**Column A** CAN DO (Y = yes) (N = no)	**Column B** CERTAINTY (0–100%)
I believe I can do 2 . . . in, say, 1 minute		
I believe I can do 4 . . . in 1 minute		
I believe I can do 6 . . . in 1 minute		
I believe I can do 8 . . . in 1 minute		
I believe I can do 10 . . . in 1 minute		
I believe I can do 12 . . . in 1 minute		
I believe I can do 14 . . . in 1 minute		
I believe I can do 16 . . . in 1 minute		
I believe I can do 18 . . . in 1 minute		
I believe I can do 20 . . . in 1 minute		

strength coincides with what is labeled as the Composite 1 measure of self-efficacy (i.e., the strength percentages for each "Yes" are summed to get the self-efficacy score). Empirical research has generally validated this measure of self-efficacy and demonstrated it to be more reliable than other measurement approaches (e.g., Lee & Bobko, 1994).

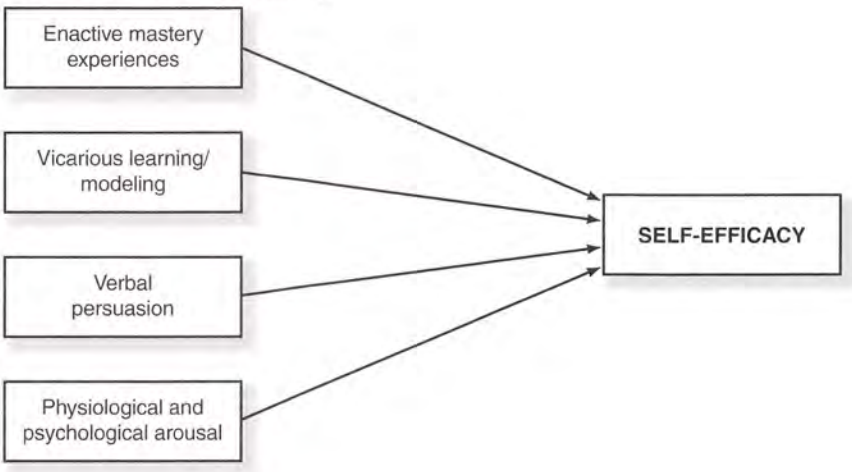
DETERMINANTS OF SELF-EFFICACY

Besides the theoretical underpinnings and measurement of self-efficacy, Bandura has identified (see Figure 5) the four major categories of experiences and sources of information that determine self-efficacy beliefs. Although all of these determinants may influence efficacy expectations, it is critically important to recognize that the actual impact of any relevant information on self-efficacy beliefs will depend on how it is cognitively processed. Thus, self-efficacy expectations are, in fact, formed on the basis of subjective perceptions of personal and situational factors, rather than on the direct impact of "objective" reality.

Enactive Mastery Experience

Research has indicated that succeeding on a challenging task (e.g., successful enactive mastery experience) provides the strongest information for the development of self-efficacy beliefs. This is because enactive mastery is the only antecedent of self-efficacy that provides direct performance information for the formation of stable and accurate efficacy beliefs. This does not mean, however, that changes in self-efficacy will occur as a direct result of performance accomplishment. Rather, self-efficacy formation will depend on *how employees psychologically process* the information that the previous performance generated. In other words, it is not performance per se that causes changes in self-efficacy but rather what the individual personally makes of diagnostic information resulting from that performance (including weighing of both ability and nonability factors relative to performance success). As a result, the same performance attainment can produce varying changes in the level of subsequent self-efficacy.

FIGURE 5 **Determinants of Self-efficacy**



able in an organizational context, self-efficacy assessments are also influenced by vicarious learning, or more commonly called modeling, which occurs by observing competent and relevant others perform a similar task and be reinforced for it. The greater the perceived similarity between the model and the observer in terms of personal characteristics relevant to the task performance, the greater the model's influence on the observer's learning and subsequent self-efficacy. Employees may turn to competent colleagues or mentors for knowledge of the task, needed skills, or effective strategies for successful task performance. Learning from modeled accomplishments is especially important when employees have little prior enactive experiences (e.g., undertaking a novel task) on which to base their assessments of self-efficacy.

Modeling can also be practically used as a training approach to enhance employees' self-efficacy. In this mode of influence, managers can develop effective strategies for coping with cognitive and behavioral intricacies of a particular job, then convey these strategies to employees and, ultimately, use them in an efficacy-enhancing training program (see also Bandura, 2000). This modeling program for developing employee self-efficacy would include clear specification of the following components:

1. The task product (what is expected as a result of this task).
2. Number and nature of behavioral acts (what activities are involved, and how many activities are needed).
3. Sources of information cues (where necessary information for the performance of the task could be found, e.g., price list for selling products).
4. Optimal sequencing requirements among behavioral activities (in what sequence the acts need to be performed for optimal performance, e.g., greeting the customer first and then asking what they need).
5. Nature and frequency of temporal changes in the sequencing requirements among behavioral activities (determining whether sequencing among behavioral acts changes, and if it does, how it changes for different circumstances, e.g., changes in performance acts of an air-traffic controller for different weather conditions).
6. Necessary performance means (e.g., what technology is needed for successful performance).
7. Applicable utility of the available performance means (determining whether available means are appropriate for successful performance).
8. Developing and evaluating alternative courses of action and information processing.

Each of these steps is first explained and enacted by the model (trainer, coach, colleague, or mentor), whose performance is then replicated by the trainees in a gradual fashion step by step. The model follows the performance of the trainees and provides positive feedback. Mastering a modeled performance in terms of skills and task strategies enhances employees' beliefs about their capabilities to successfully execute the job in the future. In essence, the training provides an enacted mastery experience, which positively influences subsequent self-efficacy.

Verbal Persuasion

Verbal persuasion by someone the employee trusts and views as competent (as it relates to the job to be performed) serves as another means of strengthening self-efficacy. The purpose of self-efficacy enhancement by verbal persuasion does not necessarily involve increasing the level of skill and ability, but rather focusing on the cognitive appraisal of an individual's self-efficacy in terms of enhancing the beliefs as to what employees can do with what they already have. However, for this mode of increasing self-efficacy to work, employees should already have some reason to believe that they have (or can develop) the ability to accomplish the task. Expressing a faith in one's ability is particularly relevant in times when employees have performance difficulties and may question their personal efficaciousness.

Physiological and Psychological Arousal

The fourth major source of self-efficacy is the state of physiological and/or psychological/ emotional arousal. This source of efficacy information is important because people tend to perceive physiological and/or psychological/ emotional activations as signs of vulnerability and dysfunction. Since, for example, high levels of stress at work are likely to impair performance, employees may be more inclined to feel efficacious for the successful performance when not preoccupied by fatigue and/or emotional agitation. However, employees differ in their proneness to get inhibited by physical or emotional distractions. For example, the more employees are involved in a certain activity, the less they focus on and notice aversive stressful distractions. In contrast, self-directed rather than task-directed attention brings to the fore physical and/or psychological agitation. Finally, employees with already high efficacy beliefs may view psychological arousal as an energizing factor whereas low-efficacy people tend to view it as a performance debilitator. Moreover, while being physically fit and healthy may not contribute much to one's self-efficacy, being exhausted or ill can be devastating to self-efficacy.

FROM SELF-EFFICACY TO COLLECTIVE EFFICACY

To reflect the increasing importance of work teams in today's organizations, attention has recently been given to determining how to effectively motivate employees working in groups. As a part of this trend, Bandura has extended social cognitive theory from the focus on individual level of analysis and self-efficacy to the group level of analysis and corresponding construct of collective efficacy. Collective efficacy is defined as a group's shared belief in its joint capabilities to perform courses of action required to successfully achieve a certain level of performance (Bandura, 1997; Stajkovic & Lee, 2001).

Conceptual Nature of Collective Efficacy

According to SCT, collective efficacy has the same antecedents as self-efficacy, operates through similar processes, and has basically the same correlates and consequences. In fact, collective efficacy is rooted in self-efficacy since, as Bandura (1982) puts it, "inveterate self-doubters are not easily forged into a collectively efficacious force" (p. 143). This is because efficacy beliefs of individuals are not detached from the group in which they function, nor is the group's efficacy independent of the efficacy of the individuals comprising the group. In other words, it is as hard to individually estimate collective efficacy without considering

relevant group processes (e.g., how well do we get along) as it is to provide an assessment of collective efficacy without considering how well each member can execute his/her roles.

SCT proposes collective efficacy as a critical factor in determining group motivation and performance. This is because, on the one hand, group successful performance is largely the product of the cooperative and coordinative dynamics of group members, as well as of their shared knowledge, skills, and abilities. On the other hand, according to SCT, collective efficacy determines what groups choose to do, how much effort they put into it, and how long they sustain their effort in the face of adverse circumstances. Thus, regardless of how skilled group members may be as individuals, if they do not believe that they can work well together as a unit, they are likely to expend insufficient effort, give up easily in the face of obstacles, and ultimately, perform poorly in a collective endeavor.

Motivational Power of Collective Efficacy

Research over the years has sent mixed signals regarding the effectiveness of groups and teams. While group-level research has largely supported the positive relationship between groups and employee affect, only mixed results have been found for the impact of groups on work performance. In contrast, research on collective efficacy has importantly shown its strong relationship to work performance. In particular, a just completed meta-analysis (2,687 groups) by Stajkovic and Lee (2001) found an average correlation of .45 between collective efficacy and group performance. This average correlations accounts for 20% of the variance, but when transformed to the effect size statistic, it represents a 34% improvement in performance. Using the same probability of success as we showed for self-efficacy, this practically suggests there is a 76% probability that a high collective efficacy group will outperform a low collective efficacy group. These findings, in addition to previous empirical evidence (e.g., Gibson, 1999), suggest that collective efficacy may indeed be a critically important motivational construct in predicting group performance.

CONCLUSION

We have offered social cognitive theory and primarily self-efficacy, but also collective efficacy, as a value-added contribution to understanding work motivation and its effective application. Specifically, SCT and both self-efficacy and collective efficacy were shown to have both explanatory and predictive powers and to be quite different from related psychological constructs such as self-esteem, expectancies (both E1 and E2), and locus of control. Most importantly, not only can SCT provide comprehensive understanding of work motivation, but self-efficacy and collective efficacy, with their clearly demonstrated strong relationships (at different levels of analysis) with work-related task performance, seem to have considerable implications for improving human performance in organizations.

In particular, the average correlations between self-efficacy and performance of .38 and the relationship of .45 between collective efficacy and performance are based on considerable evidence. In particular, over two decades, 32,236 (21,616 + 10,620) participants, 2,687 groups, and two meta-analyses, we have cumulative evidence indicating that efficacy beliefs are an effective predictor of performance at both the individual and group levels. These findings for both self and collective efficacy—what could be called "the efficacy force"—add empirical support for the important implications that social cognitive theory and efficacy have for the theory and practice of work motivation.

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