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Cultivate Self-efficacy for Personal and Organizational Effectiveness

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Human behavior is extensively motivated and regulated through the exercise of self-influence. Among the mechanisms of self-influence, none is more focal or pervading than belief in one's personal efficacy. Unless people believe that they can produce desired effects and forestall undesired ones by their actions, they have little incentive to act or to persevere in the face of difficulties. Whatever other factors may serve as guides and motivators, they are rooted in the core belief that one has the power to produce desired results. That belief in one's capabilities is a vital personal resource and is amply documented by meta-analyses of findings from diverse spheres of functioning (Holden, 1991; Holden, Moncher, Schinke, and Barker, 1990; Multon, Brown, and Lent, 1991; Stajkovic, Lee, and Nyberg, in press, Stajkovic and Luthans, 1998). Perceived self-efficacy is founded on the agentic perspective of social cognitive theory (Bandura, 1997, 2006, 2008a). To be an agent is to influence intentionally one's functioning and life conditions. In this view, people are contributors to their life circumstances not just products of them.

CORE FUNCTIONAL PROPERTIES OF PERCEIVED SELF-EFFICACY

Converging evidence from controlled experimental and field studies verifies that belief in one's capabilities contribute uniquely to motivation and action (Bandura, 1997, 2008b; Bandura and Locke, 2003). Perceived self-efficacy occupies a pivotal role in causal structures because it affects human functioning not only directly, but through its impact on other important classes of determinants. These determinants include goal aspirations, incentives and disincentives rooted in outcome expectations, and perceived impediments and opportunity structures in social systems. Figure 10.1 presents the structure of the causal model. Diverse lines of research have verified the various paths in the structural model. Longitudinal research, evaluating the full set of determinants, confirms that the social cognitive model provides a good fit to the empirical evidence (Plotnikoff, Lippke, Courneya,

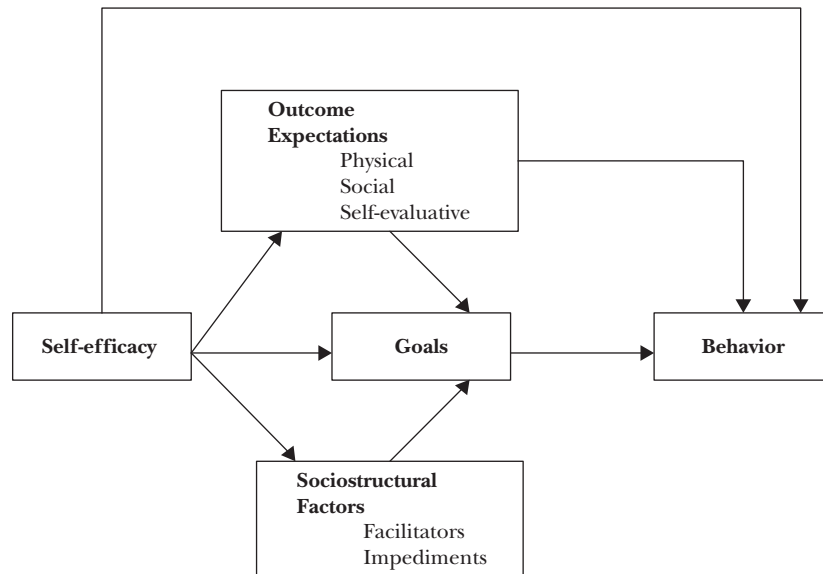


FIGURE 10.1 Structural paths of influence wherein perceived self-efficacy affects motivation and performance attainments both directly and through its impact on goals, outcome expectations, and perception of sociostructural facilitators and impediments

Birkett, and Sigal, 2008). Among the different determinants, self-efficacy emerges as the strongest predictor.

Efficacy beliefs affect self-motivation and action through their impact on goals and aspirations. It is partly on the basis of efficacy beliefs that people choose what goal challenges to undertake, how much effort to invest in the endeavor, and how long to persevere in the face of difficulties (Bandura, 1997; Locke and Latham, 1990). When faced with obstacles, setbacks and failures, those who doubt their capabilities slacken their efforts, give up prematurely, or settle for poorer solutions. Those who have a strong belief in their capabilities redouble their effort to master the challenges.

Perceived efficacy likewise plays an influential role in the incentive and disincentive potential of outcome expectations. The outcomes people anticipate depend largely on their beliefs of how well they can perform in given situations. Those of high efficacy expect to gain favorable outcomes through good performance, whereas those who expect poor performances of themselves conjure up negative outcomes. Anticipated outcomes may take the form of material costs and benefits, social commendation and reproof, and self-approving and self-censuring affective reactions.

In theories of motivation founded on the incentives operating through cognized outcomes, such as expectancy-value theories, motivation is governed by the expectation that a given behavior will produce certain outcomes and the value placed on those outcomes. This type of theory includes only one of the two belief systems governing motivation. People act on their beliefs about what they can do, as well as on their beliefs about the likely outcomes of performance. There are countless activities which, if done well, produce valued outcomes, but they are not pursued by those who doubt they can do what it takes to succeed.

They exclude entire classes of options rapidly on self-efficacy grounds without bothering to analyze their costs and benefits. Conversely, those of high efficacy expect their efforts to bring success and are not easily dissuaded by negative outcomes.

Rational models of motivation and decision making that exclude perceived self-efficacy sacrifice explanatory and predictive power. Perceived self-efficacy not only sets the slate of options for consideration, but also regulates their implementation. Having decided on a course of action, one cannot sit back and wait for the performances to appear. Making a decision does not ensure that individuals will mobilize the effort to execute the decided course of action successfully and stick to it in the face of difficulties. A psychology of decision making requires a psychology of action grounded in enabling and sustaining efficacy beliefs. One must add a performatory self to the decisional self, otherwise the decider is left stranded in thought.

Beliefs of personal efficacy shape whether people attend to the opportunities or to the impediments that their life circumstances present and how formidable the obstacles appear. People of high efficacy focus on the opportunities worth pursuing and view difficult obstacles as surmountable. (Krueger and Dickson, 1993, 1994). Through ingenuity and perseverance they figure out ways of exercising some measure of control even in environments of limited opportunities and many constraints. Those beset with self-doubts dwell on impediments which they view as obstacles over which they can exert little control. They easily convince themselves of the futility of effort so they achieve limited success even in environments that provide many opportunities.

DIVERSE ORGANIZATIONAL IMPACT OF PERCEIVED SELF-EFFICACY

The scope of the organizational applications of perceived self-efficacy will be summarized briefly before presenting the principles for altering efficacy belief systems. The brief review of its scope addresses the challenge of constructing a parsimonious theory of broad generalizability. To begin with, perceived self-efficacy is an influential determinant of career choice and development. The higher the people's perceived efficacy to fulfill educational requirements and occupational roles the wider the career options they seriously consider pursuing, the greater the interest they have in them, the better they prepare themselves educationally for different occupational careers, and the greater their staying power in challenging career pursuits (Lent, Brown, and Hackett, 1994).

New employees receive training designed to prepare them for the occupational roles they will be performing (see Chapter 4, this volume). Those of low perceived efficacy prefer prescriptive training that tells them how to perform the roles as traditionally structured (Jones, 1986; Saks, 1995). Employees of high perceived efficacy prefer training that enables them to restructure their roles innovatively by improving the customary practices and adding new elements and functions to them. Self-efficacious employees take greater initiative in their occupational self-development and generate ideas that help to improve work processes (Speier and Frese, 1997).

Organizations that provide their new employees with guided mastery experiences, effective co-workers as models, and enabling performance feedback enhance employees' self-efficacy, emotional well-being, job satisfaction, and level of productivity (Saks, 1994, 1995). Other organizational practices, such as job enrichment and mutually supportive communication, also build employees' perceived efficacy to take on broader functions and a proactive work role (Parker, 1998). Self-efficacy theory provides a conceptual framework

within which to study the determinants of effective work design and the mechanisms through which they enhance organizational functioning.

Worklife is increasingly structured on a team-based model in which management and operational functions are assigned to the workers themselves (see Chapter 11). A self-management work structure changes the model of supervisory managership from hierarchical control to facilitative guidance that provides the necessary resources, instructive guidance, and the support that teams need to do their work effectively (Stewart and Manz, 1995). Enabling organizational structures builds managers' efficacy to operate as facilitators of productive team work (Laschruger and Shamian, 1994). The perceived collective efficacy of self-managed teams predicts the members' satisfaction and productivity (Lindsley, Mathieu, Heffner, and Bass, 1994, Little and Madigan, 1994).

Managers as enabling facilitators of team functioning (see Chapter 15) have also been studied in terms of empowering leadership. It is typically characterized as leading by example, participant decision making, enabling guidance, and receptivity to members' ideas (Arnold, Arad, Rhoades, and Drasgow, 2000). Empowering leadership has been found to be positively related to team performance, but the mechanisms through which it works have received little attention. Srivastava, Bartol, and Locke (2006) report that empowering leaderships is not directly linked to performance but operates through knowledge sharing and perceived team efficacy.

The development of new business ventures and the renewal of established ones depend heavily on innovativeness and entrepreneurship (see Chapter 30). With many resourceful competitors around, viability requires continual ingenuity. At the preparatory level, self-efficacy plays an influential role in the development of entrepreneurial intentions (Zhao, Serbert, and Hills, 2005). Learning experiences and risk propensity had no direct effect on intentions to pursue an entrepreneurial career. They had an impact only to the extent that they raised individuals' beliefs in their efficacy to identify new business opportunities, create new products, think creatively, and commercialize ideas. This is the structural pattern of relations after controlling for prior entrepreneurial intentions. Self-efficacy continues to play an influential role in the undertaking of new ventures.

Entrepreneurs have to be willing to take risks under uncertainty. Those of high efficacy focus on the opportunities worth pursuing, whereas the less self-efficacious dwell on the risks to be avoided (Kreuger and Dickson, 1993, 1994). Hence, perceived self-efficacy predicts entrepreneurship and which patent inventors are likely to start new business ventures (Chen, Greene, and Crick, 1998; Markman and Baron, 1999). Venturers who achieve high growth in companies they have founded or transformed, or those they have bought, have a vision of what they wish to achieve, a firm belief in their efficacy to realize it, set challenging growth goals, and come up with innovative production and marketing strategies (Baum, Locke, and Smith, 2001; Baum and Locke, 2004).

Effective leadership and workforces require receptivity to innovators that can improve the quality and productivity of organizations. Managers' perceived technical efficacy influences their readiness to adopt electronic technologies (Jorde-Bloom and Ford, 1988). Efficacy beliefs affect not only managers' receptivity to technological innovations, but also the readiness with which employees adopt them (Hill, Smith, and Mann, 1987; McDonald and Siegall, 1992). Efficacy-fostered adoption of new technologies, in turn, alters the organizational network structure and confers influence on early adopters within an organization over time (Burkardt, and Brass, 1990).

Perceived self-efficacy to fulfill occupational demands affects level of stress and physical health of employees (see Chapter 27). Those of low efficacy are stressed both emotionally and physiologically by perceived overload, in which task demands exceed their perceived coping capabilities; whereas those who hold a high belief in their efficacy and that of their group are unfazed by heavy workloads (Jex and Bliese, 1999). Perceived self-efficacy must be added to the demands–control model of occupational stress to improve its predictability. It contends that being given control over work activities reduces the stressfulness of worklife. High job demands with an opportunity to exercise control over various facets of the work environment is unperturbing to jobholders of high perceived efficacy, but stressful to those of low perceived efficacy to manage them (Schaubroeck and Merritt, 1997). Efforts to reduce occupational stressfulness by increasing job control without raising self-efficacy to manage the increased responsibilities will do more harm than good. For the self-efficacious, job underload can be a stressor. Indeed, employees of high efficacy are stressed by perceived underload in which they feel thwarted and frustrated by organizational constraints in developing and using their potentialities (Matsui and Onglatco, 1992). Exposure to chronic occupational stressors with a low sense of efficacy to manage job demands and to enlist social support in times of difficulty, increases vulnerability to burnout (Brouwers and Tomic 1999, 2006; Leiter, 1992, Salanova, Grau, Cifse, and Lloreus, 2000). This syndrome is characterized by physical and emotional exhaustion, depersonalization of clients, lack of any sense of personal accomplishment, and occupational disengagement with cynicism about one's work.

A resilient sense of efficacy provides the necessary staying power in the tortuous pursuit of innovation and excellence. Yet the very undaunted self-efficacy that breeds success in tough ventures may perpetuate adherence to courses of action that hold little prospect of eventual success. Thus, for example, managers of high perceived efficacy are more prone than those of low efficacy to escalate commitment to unproductive ventures (Whyte and Saks, 2007; Whyte, Saks, and Hook, 1997), and to remain wedded to previously successful practices despite altered realities that place them at competitive disadvantage (Audia, Locke, and Smith, 2000). The corrective for the perils of success is not deflation of personal efficacy. Such a disabling remedy would undermine aspiration, innovation, and human accomplishments in endeavors presenting tough odds. Individuals who are highly assured in their capabilities and the effectiveness of their strategies are disinclined to seek discordant information that would suggest the need for corrective adjustments. The challenge is to preserve the considerable functional value of resilient self-efficacy, but to institute information monitoring and social feedback systems that can help to identify practices that are beyond the point of utility. Reliable risk analysis, when achievable, is essential in preventing irresponsible ventures that created a global financial crisis. However, one must distinguish between escalative commitment to a failing venture and engagement in deceptive and fraudulent corporate practices. Research on the exercise of moral agency attests to the influential role played by selective moral disengagement in corporate practices that spawn widespread harm (Bandura, 1999; Bandura, Caprara, and Zsolnai, 2002; White, Bandura, and Bero, 2008). As a trader in the midst of the growing financial crisis put it, "I leave my ethics at the door."

It is easy to achieve veridical judgment. Simply punish optimism. The motivational belief system that fosters accomplishments in difficult endeavors combines realism about tough odds, but by using optimism through self-development and perseverant effort one can beat those odds. We study intensively the risks of overconfidence, but ignore the

more pervasive personal and social costs of underconfidence. This bias probably stems from the fact that the costs of lost opportunities and underdeveloped potentialities are long delayed and less noticeable than those of venturesome missteps. The heavy selective focus on the risk of overconfidence stands in stark contrast to the entrepreneurial spirit driving the modern workplace in the rapidly changing world.

The functional value of veridical self-appraisal depends on the nature of the venture. In activities where the margins of error are narrow and missteps can produce costly or injurious consequences, one is best served by conservative appraisal of one's efficacy. It is a different matter when difficult accomplishments can produce substantial personal or social benefits and the personal costs involve time, effort, and expendable resources. People have to decide whether to invest their efforts and resources in ventures that are difficult to fulfill, and how much hardship they are willing to endure in formidable pursuits that may have huge payoffs but are strewn with obstacles and uncertainties. Turning visions into realities is an arduous process with uncertain outcomes. Societies enjoy the considerable benefits of the eventual accomplishments in the arts, sciences, and technologies of its persisters and risk takers. Realists trade on the merchandizable products that flow from the creations of innovative persisters. To paraphrase the discerning observation of George Bernard Shaw, reasonable people adapt to the world, unreasonable people try to change it, so human progress depends on the unreasonable ones.

Social cognitive theory distinguishes among three forms of perceived efficacy depending on the source of control over events. Direct individual efficacy pertains to belief in one's capability to exercise some measure of control over events within one's command. However, in many spheres of functioning, people do not have direct control over conditions that affect their lives. They exercise proxy efficacy through socially mediated influence. They do so by influencing others who have the resources, knowledge, and means to act on their behalf to secure the outcomes they desire. Many of the things people seek are achievable only by working collaboratively for common purpose through interdependent effort. In the exercise of collective efficacy, they pool their knowledge, skills, and resources, and act in concert to shape their future (Bandura, 2000; Gully, Incalcaterra, Joshi, and Beaubien, 2002, Stajkovic, Lee, and Nyberg, in press).

Given the generality and centrality of the self-efficacy mechanism in the causal structures governing diverse aspects of organizational functioning, programs aimed at developing a resilient sense of efficacy can yield significant dividends in performance accomplishments and personal well-being. The principles for developing and strengthening beliefs of personal efficacy are addressed in the sections that follow. Social cognitive theory lends itself readily to personal and social applications in diverse spheres of life. These applications are extensively reviewed elsewhere (Bandura, 1986, 1997, 2004, 2006). The present chapter summarizes the relevant principles for developing a resilient sense of efficacy and illustrates their application in the organizational field.

PRINCIPLES GOVERNING THE DEVELOPMENT OF PERSONAL AND COLLECTIVE EFFICACY

Self-efficacy beliefs are developed by four principal sources of information conveyed enactively, vicariously, persuasively, and somatically. The most effective way of instilling strong efficacy is through *enactive mastery experiences* structured through graduated attainments.

If people experience only easy successes they come to expect quick results and are easily discouraged by failure. Hence, resilient efficacy requires experience in overcoming obstacles through perseverant effort. The route to high attainments is strewn with failure and setbacks. Success is achieved by learning from mistakes. Resilience must also be built by training in how to manage failure so that it is informative rather than demoralizing.

The second way of developing personal and collective efficacy is by *social modeling*. Competent models convey knowledge, skills, and strategies for managing task demands. By their example in pursuing challenges, models foster aspirations and interest in activities. Seeing people similar to oneself succeed by perseverant effort raises observers' beliefs in their own abilities.

Social persuasion is the third mode of influence. If people are persuaded to believe in themselves they will exert more effort. This increases their chances of success. However, credible persuaders must be knowledgeable and practice what they preach. Effective efficacy builders do more than convey faith in others. They arrange situations for others in ways that bring success. They avoid placing them, prematurely, in situations where they are likely to fail. They measure success by self-improvement, rather than by triumphs over others. Pep talks, without enabling guidance, achieve little.

People rely partly on their physical and emotional states in judging their efficacy. They read their tension, anxiety, and weariness as signs of personal deficiencies. Mood also affects how people judge their efficacy. Positive mood enhances a sense of efficacy; depressed mood diminishes it. People often misread their fatigue, windedness, aches, and pains as evidence of declining physical efficacy. These physical conditions are often due to a sedentary lifestyle. Efficacy beliefs are strengthened by reducing anxiety and depression, building physical strength and stamina, and changing misrepresentations of bodily states.

As illustrated in the diverse organizational effects cited earlier, efficacy beliefs regulate human functioning through their impact on cognitive, motivational, affective, and decisional processes. They affect: whether people think productively, pessimistically, or optimistically and in self-enacting or self-debilitating ways; how well they motivate themselves and persevere in the face of difficulties; the quality of their emotional well-being they achieve and their vulnerability to stress and depression; and the life choices they make, which set the course of their life paths.

Information for judging personal efficacy, whether conveyed enactively, vicariously, persuasively, or somatically is not inherently informative. It is only raw data. Experiences become instructive through cognitive processing of efficacy information and reflective thought. One must distinguish between information conveyed by events and information as selected, interpreted, and integrated into self-efficacy judgments.

The cognitive processing of efficacy information involves two separate functions (Bandura, 1997). The first is the types of information people attend to and use as indicators of personal efficacy. Social cognitive theory specifies the set of efficacy indicators that are unique to each of the four major modes of influence. These are summarized in Table 10.1. For example, judgments of self-efficacy based on performance attainments will vary depending on people's interpretive biases, the perceived difficulty of the task, how hard they worked at it, how much help they received, the conditions under which they performed, their emotional and physical state at the time, their rate of improvement over time, and biases in how they monitor and recall their attainments.

Table 10.1 The distinctive sets of factors within each of four modes of efficacy influence that can affect the construction of self efficacy beliefs

<i>Enactive Efficacy Information</i>	<i>Vicarious Efficacy Information</i>
Interpretive biases	Model attribute similarity
Perceived task difficulty and diagnosticity	Model performance similarity
Effort expenditure	Model historical similarity
Amount of external aid received	Multiplicity and diversity of modeling
Situational circumstances of performance	Mastery or coping modeling
Transient affective and physical states	Exemplification of strategies
Temporal pattern of successes and failures	Portrayal of task demands
Selective bias in self-monitoring of performance	
Selective bias in memory for performance attainments	
<i>Persuasive Efficacy Information</i>	<i>Somatic And Affective Information</i>
Credibility	Degree of attentional focus on somatic states
Expertness	Interpretive biases regarding somatic states
Consensus	Perceived source of affective arousal
Degree of appraisal disparity	Level of arousal
Familiarity with task demands	Situational circumstances of arousal

The indicators people single out provide the information base on which the self-appraisal process operates. The second function in efficacy judgment involves the combination rules or heuristics people use to weight and integrate efficacy information from the diverse sources in forming their efficacy beliefs. The informativeness of the various efficacy indicants will vary for different spheres of functioning. The various sources of efficacy information may be integrated additively, multiplicatively, configurally, or heuristically. This judgmental process is not entirely dispassionate. Strong preconceptions and affective proclivities can alter self-efficacy appraisals positively or negatively.

The multiple benefits of a strong sense of personal efficacy do not arise simply from the incantation of capability. Saying something should not be confused with believing it to be so. A sense of personal efficacy is constructed through a complex process of self-persuasion based on integrating constellations of efficacy information conveyed enactively, vicariously, socially, and physiologically.

Enablement through guided mastery

Guided mastery provides one of the most effective ways of cultivating competencies. However, a skill is only as good as its execution, which is heavily governed by self-regulatory and motivational factors. Individuals may, therefore, perform poorly, adequately, or well with the same set of skills depending on the beliefs they hold about their capabilities in

given situations (Bandura, 1997). Part of the power of guided mastery stems from its use of all four modes of efficacy development.

The method that produces the best gains in both self-efficacy and skill combines three components (Bandura, 1986). First, the appropriate skills are modeled to convey the basic rules and strategies. Second, the learners receive guided practice under simulated conditions to develop proficiency in the skills. Third, they are provided with a graduated transfer program that helps them to apply their newly learned skills in work situations in ways that will bring them success.

Enabling modeling. Modeling is the first step in developing competencies. Complex skills are broken down into subskills, which can be modeled on videotape in easily mastered steps. Subdividing complex skills into subskills produces better learning than trying to teach everything at once. After the subskills are learned by this means, they can be combined into complex strategies to serve different purposes. Effective modeling teaches general rules and strategies for dealing with different situations rather than only specific responses or scripted routines. Voiceover narration of the rules and strategies as they are being modeled, and brief summaries of the rules, enhance development of generic competencies.

The execution of skills must be varied to suit changing circumstances. People who learn rules in the abstract usually do a poor job in applying them in particular situations. However, teaching abstract rules with varied brief examples promotes generalizability of the skills being taught by showing how the rules and strategies can be widely applied and adjusted to fit changing conditions. A single lengthy example teaches how to apply the rule in that particular situation but provides no instruction on how to adapt its application to varying situations.

People fail to apply what they have learned, or do so only half-heartedly, if they distrust their ability to do it successfully. Therefore, modeling influences must be designed to build a sense of personal efficacy as well as to convey knowledge about rules and strategies. The impact of modeling on beliefs about one's capabilities is greatly increased by perceived similarity to the models. Learners adopt modeled ways more readily if they see individuals similar to themselves solve problems successfully with the modeled strategies than if they regard the models as very different from themselves. The characteristics of models, the type of problems with which they cope, and the situations in which they apply their skills should be made to appear similar to the trainees' own circumstances.

Guided skill perfection. Factual and strategic knowledge alone will not beget proficient performance. Knowledge structures are transformed into proficient action through a conception-matching process (Bandura, 1986). Enabling modeling provides the guiding conception for proficient management of one's worklife. The feedback accompanying enactments provides the information needed to detect and correct mismatches between the generic conception of requisite skills and action. This comparative process is repeated until a close match is achieved. Putting into practice what one has learned cognitively can also reveal gaps and flaws in the guiding conception. Recognizing what one does not know contributes to the refinement of cognitive representations by further modeling and verbal instruction regarding the problematic aspects of the representation.

In the transformational phase of competency development, learners test their newly acquired skills in simulated situations where they need not fear making mistakes or appearing inadequate. This is best achieved by role rehearsal in which they practice handling the types of situations they have to manage in their work environment. Mastery of skills can be facilitated by combining cognitive and behavioral rehearsal. In cognitive rehearsal, people rehearse mentally how they will translate strategies into what they say and do to manage given situations.

In perfecting their skills, people need informative feedback about how they are doing. A common problem is that they do not fully observe their own behavior. Informative feedback enables them to make corrective adjustments to get their behavior to fit their idea of how things should be done. Videotape replays are widely used for this purpose. However, simply being shown replays of one's own behavior usually has mixed effects (Hung and Rosenthal, 1981). To produce good results, the feedback must direct attention to the corrective changes that need to be made. It should call attention to successes and improvements and correct deficiencies in a supportive and enabling way so as to strengthen perceived efficacy. Some of the gains accompanying informative feedback result from raising people's beliefs in their efficacy rather than solely from further skill development. The feedback that is most informative and achieves the greatest improvements takes the form of corrective modeling. In this approach, the subskills that have not been adequately learned are further modeled and learners rehearse them until they master them.

Effective functioning requires more than learning how to apply rules and strategies for managing organizational demands. The transactions of occupational life are littered with impediments, discordances, and stressors. Many of the problems of occupational functioning reflect failures of self-management rather than deficiencies of knowledge and technical skills. Therefore, an important aspect of competency development includes training in resiliency to difficulties. As we shall see later, this requires skill in cognitive self-guidance, self-motivation, and strategies for counteracting self-debilitating reactions to troublesome situations that can easily unhinge one.

Gist, Bavetta, and Stevens (1990) augmented a guided model training in negotiation skills with a self-management component. In the latter phase, trainees were taught how to anticipate potential stressors, devise ways of overcoming them, monitor the adequacy of their coping approach, and use self-incentives to sustain their efforts. Trainees who had the benefit of the supplemental self-management training were better at applying learned negotiation skills in new contractual situations presenting conflictful and intimidating elements and negotiated more favorable outcomes than trainees who did not. The self-managers made flexible use of the wide range of strategies they had been taught, whereas their counterparts were more likely to persevere with only a few of the strategies when they encountered negative reactions.

Vinokur and his colleagues devised a multifaceted program to immunize laid-off workers against the debilitating effects of job loss and to restore their efficacy to secure employment in quality jobs (Vinokur, van Ryn, Gramlich, and Price, 1991). They were taught, via modeling and rehearsed role enactments, how to carry out effective job searches. They identified potential impediments and developed problem-solving strategies for generating alternative solutions. They received resilience training by anticipating potential problems and setbacks and developing coping strategies that enabled them to persist despite disappointments during their job search. In follow-up assessments conducted shortly after the

program and several years later, the project participants had higher job-seeking efficacy, found jobs more quickly, got better quality jobs, and earned higher wages than did those who did not receive the program. In a mediational analysis, van Ryn and Vinokur (1992) found that the effect of the reemployment program on job search behavior was mediated by perceived self-efficacy.

Job searches in a competitive market require a lot of self-initiative and staying power in face of discouraging rejections. A resilient sense of efficacy is needed to sustain the effort. Yanar, Budworth, and Latham (2008) combined modeling, functional verbal self-guidance, role rehearsal, and proximal goal setting to hasten reemployment of women in an Islamic society. They face the added obstacle of gender discrimination in the workplace. Compared to women who received didactic instruction in job search, those who had the benefit of the enabling sociocognitive program were more persistent in their job search and more likely to find work in their area of interest. In accord with the findings of Vinokur et al. (1991), self-efficacy completely mediated the effect of the program on job search behaviors. This low cost/high benefit approach also enabled aboriginal youth to secure and maintain employment. The higher instilled self-efficacy the better their employment outcomes (Latham and Budworth, 2006). This research addresses a matter of growing import as societies continue to become more ethnically and culturally diverse.

Transfer training by self-directed success. Modeling and simulated enactments are well suited for creating competencies. But new skills are unlikely to be used for long unless they prove useful when they are put into practice in work situations. People must experience sufficient success using what they have learned to believe in themselves and the value of the new ways. This is best achieved by a transfer program in which newly acquired skills are first tried on the job in situations likely to produce good results. Learners are assigned selected problems they often encounter in their everyday situations. After they try their hand at it, they discuss their successes and where they ran into difficulties for further instructive training. As learners gain skill and confidence in handling easier situations, they gradually take on more difficult problems. If people have not had sufficient practice to convince themselves of their new effectiveness, they apply the skills they have been taught weakly and inconsistently. They rapidly abandon their skills when they fail to get quick results or experience difficulties.

Mastery modeling is now increasingly used, especially in videotaped formats, to develop competencies. But its potential is not fully realized if training programs do not provide sufficient practice to achieve proficiency in the modeled skills or if they lack an adequate transfer program that provides success with the new skills in the natural environment. Such programs rarely include training in resiliency through practice on how to handle setbacks and failure. When instructive modeling is combined with guided role rehearsal and a guided transfer program, this mode of organizational training usually produces excellent results. Because trainees learn and perfect effective ways of managing task demands under lifelike conditions, problems of transferring the new skills to everyday life are markedly reduced.

A mastery modeling program devised by Latham and Saari (1979) to teach supervisors the interpersonal skills they need to work effectively through others is an excellent illustration of this type of approach to competency development. Supervisors have an important impact on the morale and productivity of an organization. But they are often selected

for their technical competencies and job-related knowledge, whereas their success in the supervisory role depends largely on their interpersonal skills to guide, enable, and motivate those they supervise.

Latham and Saari (1979) used videotape modeling of prototypic work situations to teach supervisors how to manage the demands of their supervisory role. They were taught how to increase motivation, give recognition, correct poor work habits, discuss potential disciplinary problems, reduce absenteeism, handle employee complaints, and overcome resistance to changes in work practices (Goldstein and Sorcher, 1974). Summary guidelines defining key steps in the rules and strategies being modeled were provided to aid learning and memorability. The group of supervisors discussed and then practiced the skills in role-playing scenarios using incidents they had to manage in their work. They received enabling feedback to help them improve and perfect their skills.

To facilitate transfer of supervisory skills to their work environment, they were instructed to use the skills they had learned on the job during the next week. They then reviewed their successes and difficulties in applying the skills. If they encountered problems, the incidents were reenacted and the supervisors received further training through instructive modeling and role rehearsal on how to manage such situations. Supervisors who received the guided mastery training performed their supervisory role more skillfully both in role-playing situations and on the job assessed a year later than did supervisors who did not receive the training. Because the skills proved highly functional, the supervisors adhered to them. Weak training programs often rely heavily on platitudinous rules for success delivered in a hyped-up fashion. Any motivational effects rapidly dissipate as the initial burst of enthusiasm fades through failure to produce good results. Latham and Saari found that simply explaining to supervisors in the control group the rules and strategies for how to handle problems on the job without modeling and guided role rehearsal did not improve their supervisory skills. Because this approach provides supervisors with the tools for solving the problems they face, they expressed favorable reactions to it.

Supervisory skills instilled by guided mastery improve the morale and productivity of organizations (Porrás and Anderson, 1981; Porrás, Hargis, Patterson, Maxfield, Roberts, and Bies, 1982). Compared to the productivity of control plants, the one that received the guided mastery program improved supervisory problem-solving skills, had a significantly lower absentee rate, lower turnover of employees, and a 17% increase in the monthly level of productivity over a six-month period. This surpassed the productivity of the control plants. Mastery modeling produces multiple benefits in sales similar to those in production as reflected in enhanced productivity and a lower rate of turnover in personnel (Meyer and Raich, 1983).

There are no training shortcuts or quick fixes for perceived inefficacy, dysfunctional work habits, and deficient self-regulation and occupational competencies. As is true in other spheres of functioning (Miller, Brown, Simpson, Handmaker, Bien, Luckie, Montgomery, Hester, and Tonigan, 1995), the methods that are least effective are most widely used because they are easy to do, whereas enablement methods of proven value are used less often because they require greater investment of time and effort.

The application of guided mastery for markedly different purposes, such as the elimination of anxiety dysfunctions, further illustrates the power and generality of this approach (Bandura, 1997; Williams, 1992). Talk alone will not cure intractable problems. To overcome chronic anxiety people have to confront the perceived threats and gain mastery over them.

When people avoid what they fear, they lose touch with the reality they shun. Guided mastery provides a quick and effective way of restoring reality testing and disconfirming faulty beliefs. But even more important, mastery experiences that are structured to develop coping skills provide persuasive affirming tests that they can exercise control over what they fear. However, individuals are not about to do what they avoid. Therefore, one must create enabling environmental conditions so that individuals who are beset with profound self-doubt about their coping capabilities can perform successfully despite themselves. This is achieved by enlisting a variety of performance mastery aids (Bandura, 2004). This mode of treatment eliminates anxiety, biological stress reactions, and phobic behavior. It also transforms dream activity and wipes out recurrent nightmares of long standing. The changes endure.

Cognitive mastery modeling. A great deal of professional work involves making decisions and finding solutions to problems by drawing on one's knowledge, constructing new knowledge structures, and applying decision rules. Competency in problem solving requires the development of thinking skills for how to seek and construct reliable information and put it to good use. People can learn thinking skills and how to apply them by observing the decision rules and reasoning strategies models use as they seek solutions.

Over the years, organizational training relied almost exclusively on the traditional lecture format despite its limited effectiveness (but see Chapter 4). Mastery modeling works much better than lectures (Burke and Day, 1986). With the advent of the computer, talking heads are being replaced by self-paced instructional programs that provide step-by-step instruction, structured drills, and feedback of accuracy. Comparative tests indicate that cognitive modeling may provide a better approach to the development of higher-order cognitive competencies. In teaching reasoning skills through cognitive modeling, performers verbalize their strategies aloud as they engage in problem-solving activities (Meichenbaum, 1984). The thoughts guiding their decisions and actions are thus made observable. During cognitive modeling, the models verbalize their thoughts as they analyze the problem, seek information relevant to it, generate alternative solutions, judge the likely outcomes associated with each alternative, and select the best way of implementing the chosen solution. They also verbalize their strategies for handling difficulties, how to manage intrusive thoughts and disruptive emotional reactions, recover from mistakes, and motivate themselves. This enables them to remain task oriented under trying conditions.

Modeling thinking skills along with action strategies can aid development of reasoning skills in several ways. Watching models verbalize their thoughts as they solve problems commands attention. Hearing the rules verbalized as the action strategies are implemented produces faster learning than only being told the rules or seeing only the actions modeled. Modeling also provides an informative context in which to demonstrate how to go about solving problems. The rules and strategies of reasoning can be repeated in different forms as often as needed to develop generative thinking skills. Varied application of reasoning strategies to fit different circumstances increases their understanding and generalizability. Observing models verbalize how they use their cognitive skills to solve problems highlights the capacity to exercise control over one's thought processes, which has been shown to boost observers' sense of efficacy over and above the strategic information conveyed. Similarity to succeeding models boosts the instructional impact. And finally, modeling how to manage failures and setbacks fosters resilience to aversive experiences.

Gist (1989) taught managers how to generate ideas to improve the quality of organizational functioning and customer service by providing them with guidelines and practice in innovative problem solving. Cognitive modeling, in which models verbalized strategies for generating ideas, proved superior to presenting the same guidelines solely in the traditional lecture format. Managers who had the benefit of cognitive modeling expressed a higher sense of efficacy and generated considerably more ideas and ideas of greater variety. Regardless of format of instruction, the higher the instilled efficacy beliefs, the more abundant and varied were the generated ideas.

The advantages of cognitive mastery modeling are even more evident when the effectiveness of alternative instructional methods is examined as a function of trainees' preexisting level of perceived efficacy. Gist, Rosen, and Schwoerer (1988) taught managers with a computerized tutorial how to operate a spreadsheet program and use it to solve business problems. Cognitive modeling provided the same information and the same opportunities to practice the computer skills but used a videotape of a model demonstrating how to perform the activity. Videotaped cognitive modeling instilled a uniformly high sense of efficacy to acquire computer software skills regardless of whether managers began the training self-assured or self-doubting of their computer capabilities. A computerized tutorial had weaker effects on efficacy beliefs and was especially ineffective with managers who were insecure in their computer efficacy. Cognitive modeling also promoted a high level of computer skill development. The higher the preexisting and the instilled efficacy beliefs, the better the skill development. The benefits of mastery modeling extend beyond development of technical skills. Compared to the computer tutorial training, mastery modeling produced a more effective working style, less negative affect during training, and higher satisfaction with the training program. Mastery modeling provides an instructional vehicle that lends itself well for enlisting affective and motivational determinants of competency development.

We have entered a new era in which the construction and management of knowledge and development of expertise relies increasingly on electronic inquiry. Much information is currently available only in electronic rather than print form. The electronic network technologies greatly expand opportunities to attain expertise. Skill in electronic search is emerging as an essential competency. Knowledge construction through electronic inquiry is not simply a mechanical application of a set of cognitive operators to an existing knowledge base. Rather, it is a challenging process in which affective, motivational, and self-regulatory factors influence how information is gathered, evaluated, and integrated into knowledge structures.

Information seekers face an avalanche of information in diverse sources of varying value and reliability. It requires a robust sense of efficacy to find one's way around this mounting volume and complexity of information. People who doubt their efficacy to conduct productive inquiries, and to manage the electronic technology, can quickly become overwhelmed. In developing their cognitive skills for untangling the web, individuals were taught how to frame the electronic inquiry by selecting key constructs and finding reliable sources; how to broaden the scope and depth of inquiry by using appropriate connectors; and how to sequence the inquiry optimally (Debouski, Wood, and Bandura, 2001). Compared to a group that received a computer tutorial, those who had benefit of cognitive modeling that conveyed the same search rules gained higher perceived efficacy and satisfaction in knowledge construction. They spent less time in errors and redundancies,

used better search and sequencing strategies, learned more, and were more successful in constructing new knowledge. Putting a human face with whom one can identify in electronic instructional systems substantially boosts their power.

Belief in one's efficacy to manage electronic technology influences not only how well individuals acquire knowledge by this means, but also their receptivity to electronic innovations, job satisfaction and productivity (Gish, Rosen, and Schwoerer, 1989; McDonald and Siegall, 1992). Many organizational activities are now performed by members of virtual teams working together from scattered locations through computer mediated collaboration. Working remotely with little direct supervision across time, space, and cultural orientations can be quite taxing. Those of high perceived efficacy for remotely conducted collaborative work have more positive job attitudes and achieve higher job performances than those of low perceived efficacy (Staples, Hulland, and Higgins, 1998).

CULTIVATION OF SELF-REGULATORY COMPETENCIES

The capacity for self-regulation through the exercise of self-influence is another core feature of an agentic theory of human motivation and action (Bandura, 2006). The accelerated growth of knowledge and rapid pace of social and technological change are placing a premium on capabilities for self-motivation and self-development (Bandura, 2002). Indeed, to keep up with a world that is rapidly changing, people have to develop, upgrade, and reform their competencies in continual self-renewal. To achieve this, they must develop skills in regulating the cognitive, motivational, affective, and social determinants of their functioning.

Self-management is exercised through a variety of interlinked self-referent processes including self-monitoring, self-efficacy appraisal, personal goal setting, and enlistment of motivating incentives (Bandura, 1986, 1991; Locke and Latham, 1990). Knowledge of how these various subfunctions of self-regulation operate provides particularized guides on how to develop and implement this capability.

People cannot influence their own motivation and actions if they do not keep track of their performances. Neither goals without knowing how one is doing nor knowing how one is doing without any goals is motivating (Bandura, 1991). Success in self-regulation partly depends on the fidelity, consistency, and temporal proximity of self-monitoring. Observing one's pattern of behavior is the first step toward doing something to affect it but, in itself, such information provides little basis for self-directed reactions.

Goals and aspirations play a pivotal role in the exercise of self-directedness. Goals motivate by enlisting self-evaluative investment in activities rather than directly. Once people commit themselves to goal challenges they care about how they do. Two types of affective motivators come into play – people seek *self-satisfaction* from fulfilling valued goals, and are prompted to intensify their efforts by *discontent* with substandard performances. The goals that are motivating are the type that activate self-investment in the activity. They include explicitness, level of challenge, and temporal proximity. Explicit goals motivate because they specify the type and amount of effort needed to attain them. Many of the goals people set for themselves result in failure because they are too general and personally non-committing. To create productive involvement in activities, goals must be

explicit (see Chapter 9). The amount of effort enlisted and satisfaction that accompany different goal attainments depend on the level at which they are set. Strong interest and self-investment in activities are sparked by challenges. There is no self-satisfaction with easy successes. Nor do goals that are widely out of one's reach bring any satisfying accomplishments and, over time, they can weaken one's sense of efficacy.

The effectiveness of goals in regulating motivation and performance depends on how far into the future they are projected. Long range goals provide the vision and give direction to one's activities. But they are too distant to serve as current motivators. There are too many competing activities at hand for distant futures to exert much impact on current behavior. It is too easy to put off serious efforts in the present to the tomorrows of each day. Self-motivation is best sustained by attainable subgoal challenges that lead to distant aspirations. Short-term subgoals enlist the strategies and motivators in the here and now needed to get to where one is going. Difficult goal challenges are not achievable at once. Seemingly overwhelming activities are mastered by breaking them into smaller manageable steps. Concentrated effort in the short term brings success in the long term (Bandura and Schunk, 1981, Latham and Brown, 2006; Morgan, 1985).

Goal systems structured along the lines described above function as remarkably robust motivators across diverse activity domains, environmental settings, populations, and time spans (Bandura, 1997; Locke and Latham, 1990). The chapter by Latham (Chapter 9) provides further guidelines on how to structure and implement goal systems for productive engagement in personal and organizational pursuits.

Perceived self-efficacy plays an influential role in the self-regulation of motivation and actions through goal systems. It does so in part by its impact on goal setting. The stronger the people's belief in their capabilities the higher the goal challenges they set for themselves and the firmer their commitment to them. Graduated subgoals provide a means for building perceived self-efficacy and intrinsic interest where they are lacking (Bandura, 1991, 1997). There are several ways they achieve these effects (Bandura and Schunk, 1981). Sustained effort fostered by proximal goals builds competencies. Subgoal attainments provide clear markers of increasing mastery. Evidence of progress builds self-efficacy. Subgoal attainments also bring self-satisfaction. Satisfying experiences build intrinsic interest in activities. Effective self-regulation is also central to personal management of emotional states and problem behaviors that have a negative spillover on work performance. Employee absenteeism costs US industries billions of dollars annually. It is a serious problem that disrupts work schedules, raises costs, and decreases productivity. Frayne and Latham (1987) provide the elements for an effective self-management system to reduce absenteeism. Employees who often missed work were taught in groups how to manage their motivation and behavior more effectively. They kept a record of their work attendance. They analyzed the personal and social problems that prevented them from getting to work, and were taught strategies for overcoming these obstacles. They set themselves short-term goals for work attendance, and rewarded themselves for meeting their goals. Training in self-regulation increased employees' beliefs in their efficacy to overcome the obstacles that led them to miss work. They improved their work attendance and maintained these changes over time (Latham and Frayne, 1989). The stronger they believed in their self-management capabilities, the better was their work attendance. A control group of employees who did not receive the program in self-regulation continued their absentee ways.

CONCLUSION

The guiding principles and applications reviewed in the preceding sections underscore the centrality of perceived self-efficacy as a personal resource that yields dividends in motivation, performance attainments, and emotional well-being. Social cognitive theory embeds perceived efficacy within a broad network of sociocognitive factors. There are several features of sociocognitive theory that lend themselves readily to widespread social applications. Its key sociocognitive factors are amenable to change, the theory specifies how to alter them, clarifies the mechanisms through which they work, and provides explicit guidelines on how to translate theory into effective practice for personal and social change.

A substantial body of evidence verifies that perceived self-efficacy operates as a common mechanism through which changes are achieved by diverse modes of influence, across markedly diverse spheres of functioning, with heterogeneous populations, and under differing life conditions. This widespread generalizability is in keeping with Occam's maxim advocating theoretical parsimony.

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NOTE

Some sections of this chapter contain revised, updated, and expanded material from the book *Self-Efficacy: The Exercise of Control* (1997) New York, Freeman.

EXERCISES

Personal self-efficacy building

Identify a skill of competency that you lack but would like to have. Based on the material in this chapter, design a training program (others may be part of the program) which would increase your self-efficacy in this realm. Include both behavioral and cognitive aspects.

Building team efficacy

Based on your previous work experience in teams, identify a situation in which team efficacy was low.

What competencies did the team lack which undermined their effectiveness? How would you build the needed types of efficacy? What would you do to prevent overconfidence?