

On rectifying the comparative anatomy of perceived control: Comments on "Cognates of personal control"

ALBERT BANDURA

Stanford University, California

The recent years have witnessed a resurgence of interest in the nature, origins, and functions of human agency. Among the mechanisms of personal agency, none is more central or pervasive than people's beliefs in their capability to regulate their own functioning and to manage events that affect their lives. Such self-beliefs affect how people think, feel, strive, and behave. Peterson and Stunkard (1992) have taken on the unenviable task of characterizing and contrasting alternative theories of perceived control, with only a few pages devoted to each theory. It is difficult to do justice to important conceptual differences, complexities of processes, and bodies of evidence regarding comparative predictive power in a cursory review. This invited commentary addresses a number of misinterpretations of self-efficacy theory and research.

Misconstrual of Domain Particularity as Response Specificity

According to Peterson and Stunkard, self-efficacy is restricted to specific responses in "very specific contexts." This is a misrepresentation of the diverse application of self-efficacy theory. The level of generality at which self-efficacy is assessed varies depending on the scope of the explanatory and predictive demands. If the task is to predict performance attainment in a given activity in a particular context, then the assessment of perceived personal efficacy should be tailored to that particular set of task demands. To explore how a team's sense of efficacy affects their performance in a Superbowl match, the players' perceived self-efficacy should be measured for the opponent they will have to beat not for some faceless unspecified competitor. Similarly, in testing theoretical propositions about the processes through which self-

efficacy thought affects action, microrelations at the level of particular activities must be examined.

In many situations, self-efficacy theory seeks to explain particular classes of performances within generic classes of settings. For this purpose, people judge their efficacy across the full range of task demands within a given domain of functioning with items cast at an intermediate level of generality. Consider a clinical example of impaired driving capability in agoraphobics. In assessing their perceived self-efficacy in this domain of functioning, they judge their efficacy to navigate automobiles across a wide range of *generic* contexts ranging from driving in residential areas to driving in suburban business districts, on crowded freeways, in urban traffic, and on winding mountain roads (Bandura, Adams, Hardy, & Howells, 1980). In the urban context, self-efficacy is specified for driving in city traffic rather than being tied to "highly specific" situational conditions such as driving in San Francisco during Friday rush hour traffic in a downpour up Nob Hill behind a cable car with a suspect breaking system. Self-efficacy for a specified domain of functioning is usually assessed at the intermediate level of generality because the self-regulative demands in a particular setting may be unrepresentative of those operating under the conditions in which people usually perform the activity. To continue with our timorous motorist, scaling precipitous Nob Hill requires considerably greater self-regulative efficacy than navigating through level urban streets. Hence, perceived self-efficacy for the unusual specific context would be less predictive than for the generic common context. Efficacy predictiveness for common conditions is gained, however, at the loss of some predictiveness for the more unique conditions within the same generic context. If the task is to predict motoring venturesomeness in San Francisco, then the self-efficacy probes should be concerned with personal efficacy to navigate the precipitous streets of enchanting San Francisco rather than flat urban terrains. Because assessing perceived self-efficacy for all variants of a generic context

Send correspondence and reprint requests to Albert Bandura, Department of Psychology, Building 420, Jordan Hall, Stanford University, Stanford, CA 94305.

can be time consuming, casting efficacy items at an intermediate level of generality expands the scope of predictiveness. Moreover, self-efficacy assessments often involve complex activities, as when teachers judge their efficacy to promote different levels of academic attainments in their students over the course of a year or judge their schools' collective efficacy to do so.

Self-efficacy theory eschews all-purpose omnibus measures using a fixed set of items shrouded in ambiguity concerning the domain of functioning, the level of situational demands, and the settings in which the behavior will be performed. The more general and indefinite the items, the less one can know exactly what is being measured and the lower is their predictive utility. In comparative studies, domain-related efficacy scales are better predictors than are general measures of perceived personal control (Alagna & Reddy, 1984; Beck & Lund, 1981; Brod & Hall, 1984; Kaplan, Atkins, & Reinsch, 1984; Manning & Wright, 1983; McAuley & Gill, 1983; Smith, 1989; Taylor & Popma, 1990; Walker & Franzini, 1983). This does not mean that there is no generality to perceived capability. Self-efficacy theory specifies conditions under which some generality in perceived self-efficacy can be expected. One such condition is when different domains of activities are governed by similar subskills. Generality will also occur through codevelopment of competencies in dissimilar domains. In addition, higher order self-regulative strategies may contribute to some generality of perceived self-efficacy because they can be used to enhance performance across a variety of activities.

Multidomain measures reveal the patterning and degree of generality of people's sense of personal efficacy. Some may judge themselves highly efficacious across a wide range of domains of functioning; others may judge themselves as inefficacious in most domains; and many may judge themselves relatively efficacious in domains in which they have cultivated their competencies, moderately efficacious in domains in which they are somewhat less conversant, and inefficacious in domains comprising activities that exceed their capabilities. Degree of generality can be derived from multidomain scales, but the patterning of perceived personal efficacy cannot be extracted from conglomerate omnibus tests.

Nonreactivity of Self-Efficacy Judgments

Peterson and Stunkard suggest that expressing self-efficacy judgments may have reactive effects, as if this issue had not been investigated. In fact, a considerable body of evidence shows that assessment of self-efficacy does not have reactive effects. People's affective reactions and performance attainments are the same regardless of whether they do or do not make prior self-efficacy judgments. The

nonreactivity of self-efficacy assessment is corroborated across diverse activities, including coping behavior and anxiety arousal (Bandura et al., 1980), motivational level (Bandura & Cervone, 1983; Cervone, 1989), pain tolerance (Reese, 1983), cognitive attainments (Brown & Inouye, 1978), and exercise adherence (Lyons, Harrell, & Blair, 1990). Performances are also unaffected by whether people make their self-efficacy judgments privately or publicly (Gauthier & Ladouceur, 1981; Weinberg, Yukelson, & Jackson, 1980). Nor does making efficacy judgments alter level of congruence between self-efficacy judgments and behavior (Telch, Bandura, Vinciguerra, Agras, & Stout, 1982). Self-efficacy judgments are not influenced by a responding bias to appear socially desirable (Seltenreich, 1990; Stotland, Zuroff, & Roy 1991; Velicer, DiClemente, Rossi, & Prochaska, 1990).

Explanatory Scope

Peterson and Stunkard raise the possibility that the different theories of personal control explain different aspects of human functioning. Presumably, "locus of control accounts for perseverance, self-efficacy for behavior change, and explanatory style for demoralization" (p. 115). This arbitrary restriction in scope is disputed by research conducted within the self-efficacy framework. Perceived self-efficacy exerts its impact on human functioning in four major ways (Bandura, 1989, in press): cognitive, motivational, affective, and selection processes. With regard to perseverance, perceived self-efficacy determines people's aspirations, the amount of effort they mobilize in a given endeavor, their perseverance in the face of obstacles, and their resilience in the face of failure and setbacks (Bandura, 1991c; Bandura & Cervone, 1983, 1986; Cervone, 1989; Cervone & Peake, 1986; Jacobs, Prentice-Dunn, & Rogers, 1984; Locke & Latham, 1990).

People's beliefs in their coping capabilities regulate their emotional states as well as their level of motivation (Bandura, 1989, 1991b). Perceived self-efficacy to manage potential threats plays a central role in anxiety arousal and exerts its effects through three main pathways of influence. In one causative path, self-efficacy beliefs alter how potential threats are perceived and cognitively processed (Ozer & Bandura, 1990). In a second path of influence, self-efficacy beliefs alter anxiety by supporting efficacious coping behavior that transforms threatening environments into benign ones (Bandura, 1988). The third way in which self-efficacy beliefs regulate anxiety arousal is by exercising control over perturbing thought patterns (Kent & Gibbons, 1987; Ozer & Bandura, 1990).

A weak sense of efficacy to fulfill goals that affect evaluation of self-worth and to secure things that bring

satisfaction to one's life give rise to bouts of depression. Perceived self-inefficacy contributes to depression and self-demoralization in at least three different ways (Bandura, 1991c). People who impose on themselves stringent standards of self-worth they think they cannot attain drive themselves to bouts of depression (Bandura & Abrams, 1986; Kanfer & Zeiss, 1983). A second route to depression is through a low sense of efficacy to develop social relationships that provide meaning and satisfaction to people's lives and cushion the adverse effects of chronic stressors (Holahan & Holahan, 1987a, 1987b). Supportive relationships, in turn, reduce vulnerability to depression by building a sense of personal efficacy (Cutrona & Troutman, 1986; Major et al., 1990). The third route to depression is through thought control efficacy. A low sense of efficacy to exercise control over dejecting ruminative thought contributes to the occurrence, duration, and recurrence of depressive episodes (Kavanagh, *in press*; Kavanagh & Wilson, 1989).

I am puzzled by what Peterson and Stunkard mean when they say that perceived self-efficacy is primarily concerned with behavior change. Environmental events are never completely the same nor is adaptational functioning completely static. In research conducted within the framework of social cognitive theory, perceived self-efficacy is altered so as to verify its mediating processes and diverse effects on human functioning. Change paradigms are used not because self-efficacy is restricted to "behavior change" but because such paradigms provide the best test of causal relationships (Bandura, 1989). By creating conditions that alter perceived self-efficacy, ambiguity concerning the source and direction of causation is removed. Simply correlating a set of factors as they happen to occur on a single occasion provides a weak test of theory because it leaves the source and direction of causality in question.

Role of Self-Efficacy in Social Cognitive Theory

The portrayal of social learning theory by Peterson and Stunkard as concerned mainly with vicarious processes does not provide even a superficial resemblance to the theory in which the self-efficacy construct is embedded. Social cognitive theory posits multiple sources of perceived self-efficacy, rather than just vicarious influences, and a multifaceted causal structure (Bandura, 1986). Multivariate studies have advanced understanding of how perceived self-efficacy operates in concert with goal setting, outcome expectations, analytic strategies, and affective reactions in regulating human functioning (Bandura & Jourden, 1991; Dziewaltowski, 1989; Dziewaltowski, Noble, & Shaw, 1990; Locke, Frederick, Lee, & Bobko, 1984; Ozer & Bandura, 1990; Williams, 1987; Wood & Bandura, 1989).

Relation of Self-Efficacy Beliefs to Outcome Expectations

Peterson and Stunkard are puzzled why theories stress personal control, whereas, in their view, outcome expectations are the crucial determinant of behavior. There is little empirical evidence to support the presumed causal priority of outcome expectations. There are countless activities that people believe will bring admiration, fame, and fortune, but they do not pursue them because they believe they do not have what it takes to succeed. A low sense of efficacy nullifies the motivating potential of alluring outcome expectations. Conversely, a strong sense of personal efficacy can sustain efforts over extended periods in the face of uncertain or repeated negative outcomes. Because ordinary social realities are strewn with impediments, failures, adversities, setbacks, frustrations, and inequities, a resilient sense of personal efficacy is needed to sustain the perseverant effort needed to produce eventual success (Bandura, 1989). In short, self-efficacy beliefs determine whether or not people act on outcome expectations.

The extent to which outcome expectations contribute independently to performance motivation varies, depending on how the relation between actions and outcomes is structured, either inherently or, socially, in a given domain of functioning. For most activities, outcomes are determined by level of competence. Hence, the types of outcomes people anticipate depend largely on how well they believe they will be able to perform in given situations. In social, intellectual, and physical pursuits, those who judge themselves highly efficacious will expect favorable outcomes, whereas those who expect poor performances of themselves will conjure up negative outcomes. Thus, in activities in which outcomes are highly contingent on quality of performance, self-judged efficacy accounts for most of the variance in expected outcomes. When variations in perceived self-efficacy are partialled out, the outcomes expected for given performances do not add to prediction of motivation or behavior (Barling & Abel, 1983; Barling & Beattie, 1983; Devins & Edwards, 1988; Dziewaltowski, Noble, & Shaw, 1990; Godding & Glasgow, 1985; Lee, 1984a, 1984b; Solomon & Annis, 1990; Williams & Watson, 1985). This widely replicated finding should not be misread to mean that anticipated outcomes are unimportant, but rather that people's beliefs about their efficacy largely determine the outcomes they expect their efforts to produce. Hence, if you know their perceived self-efficacy, you mostly know the types of anticipated outcomes on which they are acting.

Self-efficacy beliefs account for only part of the variance in expected outcomes when outcomes are not completely controlled by quality of performance. This situation occurs when extraneous factors also affect

outcomes, when outcomes are restrictively structured by gender, race, age, socioeconomic status, or some other factor, or when outcomes are socially tied to a minimum level of performance so that some variations in quality of performance above or below the standard do not produce differential outcomes.

Source of Self-Efficacy Beliefs

Peterson and Stunkard speculate that the generalized dispositions of locus of control and explanatory style influence self-efficacy beliefs. This speculation is not supported by empirical evidence. Belief that superior performance in premedical science courses ensures entry to medical school (internal locus of control) does not necessarily lead students to conclude that they are highly efficacious in calculus and organic chemistry. Indeed, research shows that locus of control and perceived self-efficacy bear little or no relation to each other (Manning & Wright, 1983; Smith, 1989; Taylor & Popma, 1990). Causal attributions have some relation to perceived self-efficacy, but available evidence suggests that the influence may flow in a direction that is opposite to that proposed by Peterson and Stunkard. Self-efficacy beliefs influence causal attributions for outcomes (Alden, 1986; McAuley, Duncan, & McElroy, 1989; Silver, Mitchell, & Gist, 1989). People with a low sense of efficacy are inclined to attribute their failures to deficient capabilities, whereas those who have a firm belief in their efficacy ascribe their failures to insufficient effort.

Considerable progress has been made in our understanding of the different sources of personal efficacy and their relative power to effect changes in people's beliefs in their capabilities (Bandura, 1986). Self-efficacy beliefs are altered by mastery experiences, vicarious experiences based on social modeling of competencies and coping orientations, social persuasion concerning personal capabilities, and changes in physiological reactions and states. Information that is relevant for judging personal efficacy, whether conveyed enactively, vicariously, persuasively, or physiologically, is not inherently enlightening and becomes instructive only through cognitive processing of efficacy information and reflective thought.

People do not approach tasks devoid of any notion about themselves and the world around them. Through transactional experiences, they evolve a structured self-system with a rich semantic network. These self-schemata regarding one's personal efficacy exert influence on the activities people undertake, what they look for, and how they interpret and organize the efficacy information generated in dealings with their environment. Research on how preexisting patterns of self-schemata influence cognitive processing of efficacy information holds greater promise of advancing understanding of personal control than of appeal to an omnibus locus of control. The field of psychology is moving away from globalism to more particularized knowledge structures, belief systems, and mechanisms governing human motivation, affect, and action (Bandura, 1991a).

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