Some Reflections on Reflections

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Having ceded many late nights to this portly volume, it took forceful self-persuasion to put pen to paper again to prepare this invited commentary on the commentaries about it. I am grateful to the editor for including extensive reviews of Social Foundations of Thought and Action (Bandura, 1986) in the inaugural issue of this significant forum for theoretical contributions. The thoughtful reviews by Kihlstrom and Harackiewicz and by Lerner address themselves to the nature of the causal structure of social cognitive theory. This is a well-selected focus because the model of causality serves as the central integrating principle throughout the book. The social cognitive approach posits a system of triadic reciprocal causation in which (a) action, (b) inner personal factors in the form of cognitive, affective, and biological events, and (c) environmental influences all operate as interacting determinants. The analytic decomposition of triadic causality presents formidable empirical challenges. However, the temporal dynamics of triadic reciprocity ease some of the technical difficulties of verification. The mutual influences and their reciprocal effects do not all spring forth simultaneously. It takes time for a causal factor to exert its influence. The interacting factors, therefore, work their mutual effects sequentially over variable time courses. Due to the time lags in the operation of the triadic factors, it is possible to gain some understanding of how different segments of reciprocal causation operate without having to mount a Herculean effort to assess every possible interactant at the same time.

Different subspecialties of psychology center their inquiry on selected segments of reciprocity. Cognitive psychologists select the interactive relation between thought and action as their major sector of interest. They examine how conceptions, beliefs, self-percepts, and intentions shape and direct behavior. What people think, believe, and feel affects how they behave. The natural and extrinsic effects of their actions, in turn, partly determine their thought patterns and affective reactions.

Social psychologists examine the segment of reciprocity between the person and the environment in the triadic system. This line of inquiry adds to our understanding of how environmental influences in the form of modeling, tuition, and social persuasion alter cognitions and affective proclivities. The reciprocal element in this segment of causation has been of central concern to the subspecialty of person perception. People evoke different reactions from their social environment by their physical characteristics, such as their age, size, race, sex, and physical attractiveness. They similarly activate different reactions depending on their socially conferred roles and status.

Of all the different segments in the triadic causal structure, the reciprocal relationship between behavior and environmental events has received the greatest attention. Indeed, ethological, transactional, and behavioristic theories focus almost exclusively on this portion of reciprocity in the explanation of behavior. In the transactions of everyday life, behavior alters environmental conditions, and it is, in turn, altered by the very conditions it creates.

Clarifying how the various subsystems function interactively can advance understanding of important aspects of the superordinate causal system. What has been lacking is research on how the multiple reciprocal links of influences operate together and how the patterning and relative strength of the constituent factors in the causal structure change over time. Since the publication of the Social Foundations volume, Wood and I have been conducting microanalyses of triadic reciprocal causation using a dynamic computerized environment (Wood & Bandura, 1989b). The interactional causal structure is examined within the context of managing an organization. In this series of experiments, each of the major interactants in the triadic causal structure—cognitive, behavioral, and environmental—functions as an important constituent in the transactional system (Bandura & Jourden, 1989; Bandura & Wood, 1989; Wood & Bandura, 1989a; Wood, Bandura, & Bailey, in press). The cognitive determinant is indexed by self-beliefs of efficacy, cognized goals, and quality of analytic thinking. The options that are actually executed constitute the behavioral determinant. The properties of the environment, the level of challenge it prescribes, and its responsiveness to behavioral interventions represent the environmental determinant. The constituent factors in the ongoing transactional system are measured repeatedly. The findings of this program of research have helped to clarify how composite causal structures operate and how the relative contribution of the constituent factors changes over time.

As Lerner notes in his commentary, most developmental psychologists subscribe to a causal model emphasizing person—context interactions. However, almost all the research conducted within the framework of developmental contextualism examines selected segments of triadic reciprocal causation rather than the full causal structure. Our analytic tools are not as yet well equipped to encompass triadic reciprocity as it operates in the transactions of everyday life. However, microanalytic laboratory studies of triadic reciprocal causation advance knowledge on how such a causal
system operates. Both laboratory and naturalistic studies are, therefore, important to a full understanding of the nature of multifaceted interactional causal processes.

The discussion by Kihlstrom and Harackiewicz of the multidimensional nature of perceived self-efficacy raises the general issue of how personal causality is best conceptualized and assessed. The influential contribution of personal factors to human functioning is often insufficiently recognized because the issue tends to be cast in terms of individual differences rather than personal determinants. The difference in these conceptions is illustrated by instances in which a personal factor is necessary for certain types of performances but it is developed to the same level in different individuals. In this instance, interindividual variation in the personal factor is negligible but the personal causation is vital. Personal determinants operate as dynamic factors in causal structures rather than as static entities that people possess in differing amounts. The alternative perspectives on personal causation reflects more than variations in semantic labeling. The individual differences approach is rooted in trait theory, whereas the personal determinants approach is founded on a transactional model of causation.

Efforts to elucidate how personal determinants contribute to psychosocial functioning have relied extensively on omnibus tests of personal attributes designed to serve diverse purposes. Such omnibus measures contain a fixed set of items, many of which may have little relevance to a particular phenomenon of interest. It is unrealistic to expect measures of personal factors cast in generalities to shed much light on their contribution to psychosocial functioning in particular contexts and task domains. Trait measures usually yield, at best, modest correlations. Measures of this sort may have some practical value in that some predictive gain, however small, is better than sheer guesswork. But major progress in understanding how personal factors operate in causal structures is best advanced through microanalysis of interactive processes. This requires measurement of the personal determinants that are germane to particular classes of activities. Thus, for example, measures of perceived self-efficacy tailored to given domains of functioning have much more predictive power than do omnibus measures of perceived personal control (Bandura, in press-b). The convenience of general-purpose measures of personality characteristics is thus gained at the cost of explanatory and predictive power.

The nature and regulative function of self-conceptions have traditionally been conceptualized in personality theory in terms of the self-concept (Rogers, 1959; Wylie, 1974). Such self theories are concerned, for the most part, with global self-images. A global self-conception does not do justice to the complexity of self-belief systems, which can vary substantially across different task domains, different levels of complexity within the same domain, and different contexts and situational circumstances. Social cognitive theory approaches the structure of self-belief systems in more refined, domain-linked ways.

Use of domain-tailored measures does not mean that there is no generality to perceived self-efficacy. If different classes of activities require similar functions and subskills one would expect some generality in judgments of personal efficacy. Even if different activity domains are not subserved by common subskills, some generality of perceived self-efficacy can occur if competencies are developed in dissimilar domains. Commonality of subskills and covariation of development will yield some generality. One can derive degree of generality from multidomain measures, but one cannot extract the patterning of perceived personal efficacy from conglomerate omnibus ones.

A major current movement in psychology is away from vague, omnibus cognitive structures to more domain-linked competencies (Cantor & Kihlstrom, 1987). Even in the field of cognitive development, the bulwark of global structuralism (Piaget, 1947/1950) is being abandoned for more heterogeneous and multiform developmental mechanisms and cognitive competencies (Feldman, 1980; Flavell, 1978).

The affinity to global dispositional constructs and measures has also fostered an erroneous dichotomy that pervades the literature in the field of personality. This is the disjoined duality of process and structure. Social-cognitive conceptions of personality are often depicted as being solely process theories, whereas dispositional approaches are said to be concerned with personality structures. Social cognitive theory rejects the false separateness of process and structure (Bandura, in press-a). Personality structures are created by process operations, and it is difficult to conceive of a personality process that is disembodied from any underlying structure.

Self-regulation of moral conduct serves to illustrate the interdependence of process and structure (Bandura, in press-c). In social cognitive theory, conduct is regulated through moral standards that represent enduring cognitive structures for judging the moral status of conduct in situations containing many morally relevant decisional ingredients. It is via the cognitive rule structures that the self-regulatory constituent processes of self-monitoring, self-evaluation, and self-sanc- tions operate anticipatorily on conduct. In short, processes do not function in a vacuum without structural properties that provide the substance and direction for those processes. A social cognitive theory combining moral rule structures and self-regulative processes operating through them within a network of reciprocal influences is no less a structural theory of personality than, for example, the psychoanalytic approach in which a superego controls conduct.

The social cognitive theory of moral thought and action also illustrates the disavowal of the dualistic view of the person—society relation. Self-sanctions keep conduct in line with internal standards. But moral standards do no function as fixed internal regulators of conduct. Self-regulatory mechanisms do not operate unless they are activated, and there are many psychosocial processes by which self-sanctions can be disengaged from inhumane conduct. This is achieved by reconstruing detrimental conduct as serving moral purposes, obscuring causal agency, disregarding or misrepresenting the injurious effects of ones actions, and blaming and devaluing the recipients of maltreatment. Selective activation and disengagement of self-reactive control permit different types of conduct with the same moral standards under different constellations of social circumstances. Thus, the ongoing regulation of moral conduct is better explained in terms of dialectic processes than by socially disembodied individual differences in moral standards.

Meichenbaum's commentary contains several puzzling misconstruals of social cognitive theory that should not go uncorrected. There is nothing like serious inaccuracies in a commentary to stir an author to reach for the pen. Consider the role of perceived self-efficacy in human functioning. The book under discussion contains detailed conceptual and em-
pirical analyses of the causal function of self-efficacy beliefs and the different psychological processes through which they exert their effects on human action. These efficacy-activated events include cognitive, motivational, affective, and selection processes. Some of these processes are of interest in their own right rather than only as intervening influences of action. Diverse causal tests conducted with different modes of efficacy induction, varied populations, and all sorts of domains of functioning provide convergent support for the explanatory and predictive generality of the self-efficacy determinant. However, in social cognitive theory, perceived self-efficacy is only one of many determinants of human motivation and action. Entire chapters in Social Foundations of Thought and Action are devoted to the origins of other classes of determinants and the mechanisms through which they produce their effects.

To begin with, human action is partly regulated by knowledge structures that serve as guides for the construction of complex modes of behavior. Two chapters examine how these knowledge structures are acquired through observational learning, inferences from exploratory experiences, information conveyed by tuition, and innovative cognitive syntheses of preexisting knowledge. The transformational and generative operations by which cognitive models are translated into proficient action receive detailed analyses, as do the changes in multilevel regulation of skills as they are perfected.

Another chapter is devoted to the anticipative mechanism of forethought in the regulation of human motivation and action. Predictive knowledge of conditional relations between environmental events fosters foresightful adaptations. The ability to envision the likely outcomes of prospective actions is another way in which anticipative mechanisms contribute to human motivation and action. These outcome expectancies may take the form of external, vicarious, or self-generated consequences. Three lengthy chapters are devoted to how such outcome expectancies operate singly and in concert to influence the course of human action. Another chapter explains how cognized goals and internal standards rooted in value systems create self-incentives and guides for action through self-regulatory mechanisms.

Social cognitive theory clearly posits a multifaceted causal structure, rather than placing the entire explanatory burden on self-beliefs of efficacy. Indeed, the chapter on perceived self-efficacy cautions readers not to misinterpret commonality of mechanism as exclusivity of mechanism. Because people’s beliefs about their capabilities touch most everything they do does not mean that nothing else affects their actions. Meichenbaum misinterprets my comments on this issue as a concession regarding the adequacy of the construct of self-efficacy. To acknowledge the multiple determinants of human motivation and action in no way diminishes the role of the self-efficacy determinant in causal processes. To compound the puzzling misconstrual, Meichenbaum then asks, “One wonders what other mechanisms Bandura has in mind.” This is hardly a mysterious matter. As already noted, eight chapters of the book address, at considerable length, other determinants and the cognitive mechanisms through which they exert their effects. Moreover, it presents research explicitly showing that outcomes are multiply determined by perceived self-efficacy operating in concert with such factors as personal standards, affective self-reaction, and cognitive strategies (Bandura & Cervone, 1983, 1986; Locke, Frederick, Lee, & Bobko, 1984). Subsequent research has similarly analyzed how perceived self-efficacy operates in the causal structure in conjunction with other determinants emphasized in social cognitive theory (Bandura & Jourden, 1989; Bandura & Wood, 1989; Dzewaltowski, 1989; Dzewaltowski, Noble, & Shaw, 1989; Ozer & Bandura, 1990; Wood & Bandura, 1989b). The odd characterization of social cognitive theory as a one-factor theory has absolutely no foundation in fact.

In other comments regarding perceived self-efficacy, Meichenbaum pits self-efficacy as a determinant against the interviewing processes through which it effects change as though they were competing explanations. As noted earlier, a vast body of research, reviewed fully in the Social Foundations volume and elsewhere (Bandura, 1989, 1990), documents the diverse processes through which people’s beliefs in their efficacy affect their functioning. Self-efficacy beliefs determine, among other things, whether people’s thought patterns are self-aiding or self-impeding, the nature of their inferential judgments, the level of motivation they enlist and sustain in given endeavors, their vulnerability to stress and depression, and their choice of activities and environmental settings which shape developmental trajectories. Extension of self-efficacy theorizing and research to health functioning document the substantial impact of self-beliefs of coping efficacy on biological systems that mediate health and illness. These microanalytic studies of the biochemical effects of perceived self-efficacy include autonomic reactions (Bandura, Reese, & Adams, 1982), neurotransmitters and stress-related hormones (Bandura, Taylor, Williams, Meford, & Barchas, 1985), endogenous opioids (Bandura, Cioffi, Taylor, & Brouillard, 1988; Bandura, O’Leary, Taylor, Gauthier, & Gossard, 1987), and various components of the immune system (Wiedenfeld et al., 1989). With regard to the sources of self-beliefs of efficacy, considerable progress has been made in our understanding of how efficacy-relevant information conveyed actively, vicariously, persuasively, and physiologically is used to form self-efficacy beliefs.

In his discussion of research designed to facilitate postcoronary recovery through efficacy enhancement, Meichenbaum focuses on the trivial mechanics of recording an efficacy judgment and then pits perceived self-efficacy against some of the very processes through which it effects changes. Prior studies in this program of research had already demonstrated that the more patients’ beliefs in their physical and cardiac efficacy were enhanced by treadmill attainments, the more they engaged in activities that help to strengthen cardiovascular capabilities. The particular study under discussion was founded on knowledge gained from these previous investigations on the processes through which enhanced self-beliefs of cardiac efficacy serve to facilitate psychological and physical recovery from a heart attack. Other lines of research had shown that the course of personal change is determined not only by a person’s own self-efficacy beliefs but also by how significant others treat that person depending on their beliefs about his or her efficacy. Psychological recovery from a heart attack is clearly a social rather than solely an individual matter. Wives who believe their husbands have a robust heart are more likely to encourage them to resume an active life, whereas those who believe their husband’s heart is impaired and vulnerable to further damage are likely to retard the recovery process by curtailing their activities. We, therefore, strengthened wives’ beliefs in
their husbands' physical and cardiac capabilities. The stronger the patient's and wife's beliefs in his cardiac capabilities at the end of the brief intervention, the greater was the patient's long-term improvement in cardiovascular functioning. Meichenbaum poses the question of whether the explanation lies in ethological descriptions of social interactions rather than in people's efficacy beliefs, as though beliefs of cardiac vulnerability have no effect whatsoever on how postcoronary patients and their spouses live their lives.

Understanding of human functioning is not advanced by severing efficacy-activated processes from their efficacy sources or treating them as rival factors. This point can be further illustrated by research demonstrating the influential role of beliefs of self-efficacy in academic attainments. Gibson and Dembo (1984) devised an efficacy scale to measure teachers' beliefs in their capabilities to motivate and promote learning in students. In a microanalytic observational study, they found that teachers who have a high sense of instructional efficacy devote more classroom time directly to academic learning, provide students who have difficulty learning with the help they need to succeed, and praise their academic accomplishments. In contrast, teachers who have a low sense of instructional efficacy spend more time on non-academic pastimes, readily give up on students if they do not get quick results, and criticize them for their failures. Thus, teachers who believe strongly in their capability to promote learning create mastery experiences for their students, whereas those beset by self-doubts about their instructional efficacy construct classroom environments that are likely to undermine students' judgments of their capabilities and their cognitive development.

Instructional factors alter children's self-beliefs of efficacy (Schunk, 1984, 1989). Children's beliefs in their intellectual efficacy, in turn, affect their level of motivation, flexibility in the use of solution strategies, development of intrinsic interest in the subject matter, and level of academic performance (Bandura & Schunk, 1981; Collins, 1982; Schunk, 1984). Ashton and Webb (1986) documented the cumulative impact of different levels of teachers' perceived self-efficacy. At the individual level, teachers' beliefs concerning their own instructional efficacy predict students' level of mathematical and language achievement over the course of an academic year, with students' entering ability controlled.

The combined evidence from preceding studies shed some light on how teachers' perceived self-efficacy affects the quality of instructional transactions and how the resultant development of children's perceived self-efficacy influences the rate of academic progress at the individual level. Teachers operate collectively within an interactive social system rather than as isolates. Reciprocal social influences in a school can raise or lower teachers' beliefs in the efficacy of their school as a whole to accomplish significant academic progress. We are presently conducting research on the multiple social sources of collective school efficacy and its impact on level of school accomplishments using the school as the unit of analysis. In short, research on the efficacy determinants of psychosocial change has moved well beyond "ethological description" of social interactions to stringent tests of causal linkages operating within interpersonal networks.

Meichenbaum seems to take umbrage at the use of technical psychological terms, although it is unclear whether the distaste for technical terms is specific to social cognitive theory or applies equally to the theories he favors. I have no quarrel with people who try to present technical terms in colloquial forms provided the meanings of the psychological constructs and processes are not thereby altered. Wordsmiths who sell their wares to the general public do so all the time. Unfortunately, all too often the process of simplification strips constructs of significant defining properties or invests them with the surplus meanings carried by the colloquialisms. Advances in a field are best achieved by well-defined constructs that fully reflect the phenomena of interest and are rooted in a theory that specifies their determinants, mediating processes, and multiple effects.

Meichenbaum is of the view that an integration of social cognitive and psychodynamic theories will provide the best glimpse of the human condition. But exactly what does the unification mean? How does one combine theories that rest on fundamentally different assumptions about the determinants and mechanisms of human motivation and action and retain any conceptual coherence? Psychological theories provide abstractions about human phenomena but the particular set of phenomena that happen be singled out for attention by different theorists are not the patented possessions of the theories nor do the phenomena have to be permanently saddled with the interpretive baggage imposed on them by particular conceptual schemes. Important advances in the understanding of human behavior are often impeded when deficient theories appropriate significant phenomena. Progress is achieved when the phenomena are reconceptualized within a more fruitful theoretical framework. Witness the limited and impoverished yield of research spawned by the psychoanalytic theory of identification and the voluminous cumulative research stimulated by the social cognitive theory of the determinants, mechanisms, diverse effects, and operative power of psychological modeling (Bandura, 1969, 1986; Bronfenbrenner, 1958). A comprehensive theory of human functioning must, of course, encompass the factors that govern human thought, affect, and action, whatever Aristotle, Comte, Freud, Jung, Mead, Montesquieu, or one's grandmother may have had to say about some of them at one time or another. But the multifronted factors must be integrated within a unified conceptual framework; otherwise one ends up with discordantly fragmented eclecticism.

The basic human phenomena have been charted by the ancient psychic mariners and are not new to any particular theory. The challenge is to provide conceptions of them that have explanatory, predictive, and operative power. Eucumenical appeals for unification of social cognitive and psychodynamic theories go unsupported by any empirical evidence for the superiority of the theoretical hybridization. Close empirical scrutiny has repeatedly shown that psychodynamic assessments are relatively poor predictors of human behavior (Dawes, Faust, & Meehl, 1989; Meehl, 1965; Wiggins, 1973). Indeed, actuarial systems combining a few psychosocial factors are typically superior to psychodynamic assessments in predicting how people will behave. Similarly, self-appraisal is usually a better predictor than psychodynamic assessments that supposedly measure critical determinants of people's behavior of which they are unaware (Shrauger & Osberg, 1982). Efforts at laboratory tests of some of the less loosely specified tenets of such theories have floundered in conceptual and methodological quagmires (Erdwin, 1980; Eysenck & Wilson, 1973;Grünbaum, 1984). Psychodynamic approaches have been shown to be wanting not only in predictive power but also in their efficacy to alter human behavior.

I read with mingled amusement and astonishment Meich-
enbaum’s ascription of the parentage for behavior theory to Freud. In the quoted passage that supposedly verifies the lineage, Freud says that while undergoing analysis clients should cope with their nemesis. Considering the high success achieved rapidly by mastery-oriented treatments without the psychoanalytic appendage (Bandura, 1988), there is every indication that the analysis is a protractively expensive irrelevance to behavioral change. How long are we going to keep squeezing that same old orange and coming up dry? The burden of proof rests with the unificationists to demonstrate empirically that psychodynamic grafts produce a theory that has superior predictive and operative power. The rhetoric of faith can no longer substitute for evidence.

Note

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References


