

## Response

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### MISINTERPRETATIONS AND MISAPPLICATIONS OF THE TRANSTHEORETICAL MODEL

Bandura's editorial is an excellent example for readers of how misinterpretations and misapplications of the transtheoretical model (TTM) can result in misleading conclusions. His first misinterpretation is that because TTM is a stage theory it relies on a few discrete categories to account for the complexities of human functioning. The transtheoretical model calls on 15 core constructs (14 of which are continuous) to account for one human function—the intentional change of behavior. Here, Bandura makes the common mistake of equating stage with theory. Stage is a variable; it is not a theory. A theory includes the systematic relationships between variables, ideally culminating in mathematical relationships.

First, Bandura criticizes TTM for being a stage theory, then he criticizes it for not being a stage theory. This latter conclusion is based in part on the mistaken assumption that there are universal criteria for stage theories. There is a long line of distinguished stage theories, for example, that assume that people can and do return to earlier stages of functioning. Regression is one of the common constructs used to represent such reversals.

Bandura comments that categorizing people into the precontemplation stage fails to explain why they are not intending to take action. But no one claims that it does. Again, that is why there are 14 process variables to help explain, predict, and produce changes at each stage.

"Stage thinking can constrain the

scope of interventions to promote change." (All quotes are from Bandura's commentary.) For precontemplation, "... the prescription for change emphasizes the need to alter their outcome expectations about smoking." Emphasizing the pros of changing is only one of the principles we apply to produce progress. No one is constrained to a single prescription.

"The stage scheme under discussion substitutes a categorical approach for a process model of human adaptation and change." A review of our work would indicate that TTM was started as a simple process model. Ten change processes were theoretically derived from leading systems of therapy and behavior change. Stages were empirically discovered in studies of how people were applying these processes in attempts to overcome addictive behaviors. The stage variable is not a substitute for processes; the stage variable provides an integration of processes.

"Unlike the categorizing approach, a process model specifies the determinants and intervening mechanisms governing different facets of change." Reading our work, such as the introduction to this special issue, reveals how we specify the intervening processes governing different facets (stages) of change.

Because there are proponents of particular theories, such as some behaviorists, cognitivists, or existentialists who believe that their change prescriptions are contradictory and incompatible, we should not conclude they are necessarily correct. We need not be limited by dualistic (either/or) thinking and conclude that all of behavior change is determined just by internal cognitions or environmental conditions, personal commitments or social consequences, social support or stimulus control.

One of the challenges of the inte-

grative movement is to cross traditional boundaries of theories and therapies and search for theoretical, empirical, and practical approaches to integrating the best that behavior change systems have to offer. We have been pleased to discover that ordinary people struggling to change can apply processes that some specialists assume are contradictory. Thousands of ordinary people have taught us that apparently incompatible processes from competing theories can be integrated in the change process when applied at appropriate stages.

"Individualized interventions tailored to personal attributes and rates of progress are more effective than uniform ones." Here, it is not clear whether Bandura is criticizing us or citing us. Our research clearly demonstrates the advantages of tailored interventions over standardized interventions. Our research also demonstrates that interventions targeted just to stage are not as effective as those including the other 14 variables that produce progress across stages.

Bandura criticizes us for creating circularity of explanation and prediction. "To ask whether high stage status foretells enduring change is to ask whether good maintainers (maintenance stage) are good maintainers." But we never ask that obvious question or make such a circular prediction. Predictions of future action and maintenance have always been limited to the first three stages in which people are currently engaged in the high risk behaviors. Across a variety of problems and populations, these first three stages have been practical predictors of who signs up for health promotion programs, who shows up, who finishes up, and who ends up better off. Such important predictions are neither obvious nor circular.

Bandura can be just as misleading

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by what he omits as what he concludes. He fails to address the large and growing database from thousands of research participants across a diversity of populations and problems. He seems to assume that assessing a theory is primarily a rational analysis rather than an empirical process. To reject a theory without dealing with its data is like accepting a theory without dealing with data. This is more ideology than psychology.

We believe that science and practice are advanced more by learning from leading alternatives than by rejecting them. We do not reject Albert Bandura's construct of self efficacy. Instead, we appreciate it and learn from it. Consequently, his is one of

12 theories that have contributed to the theoretical and empirical development of the transtheoretical model.

The one time Bandura comes close to appreciating a positive contribution of TTM he unfortunately misinterprets the model. "What the stage scheme adds is simply the reminder that some people have no interest in changing their health habits and others are riper for change. This common knowledge hardly requires the encumbrance of stage theorizing." Common knowledge may conclude that people in the early stages are not interested in change, but TTM makes no such mistake. If these people are not interested in changing, then why does such a high per-

centage participate in proactive health promotion programs matched to the participants' stage of change? Why have so many completed such programs and progressed in such programs, if they are not interested in changing?

We believe that in the past, limited by an action-oriented paradigm, it was we who were not interested in them. Fortunately, in the present, we no longer have to dismiss the majority of at-risk populations as not being interested in change. We can substitute commonsense conclusions with uncommon science and service and reach out to help many more people change than we previously imagined possible.