

## ONLINE FIRST

# Positive Affect and Self-affirmation Are Beneficial, but Do They Facilitate Maintenance of Health-Behavior Change?

## *A Self-determination Theory Perspective*

**W**e acknowledge the efforts of Peterson et al,<sup>1</sup> Ogedegbe et al,<sup>2</sup> and Mancuso et al<sup>3</sup> in developing randomized controlled trials to test the effects of an intervention that was designed to increase positive affect and self-affirmation on sustained health-behavior change. Aligned with psychosocial models of behavior change, patients in both groups received an educational workbook relevant to the clinical focus of the study, a behavioral contract committing them to behavior change, and bimonthly telephone calls intended to assist them in overcoming perceived barriers to change. Also, patients in the intervention group received small gifts and were encouraged to incorporate positive, self-affirming thoughts into their daily lives during the bimonthly telephone calls. Across the 3 trials, results showed that the intervention had a significant effect on physical activity at 12 months among patients after percutaneous coronary intervention<sup>1</sup> but not among patients with asthma<sup>3</sup> and that the intervention had a significant effect on medication adherence at 12 months but not on reduction in blood pressure among hypertensive African American patients.<sup>2</sup> Such findings are the first (to our knowledge) to show a salubrious effect of induced positive affect on sustained behavior change in a clinical population.

### *See also pages 329 and 337*

Having acknowledged the findings of the 3 trials, we believe that it is also important to consider what the trials *did not* demonstrate. First, there was not a consistent pattern of effects across the 3 trials. Indeed, only 2 of the 4 primary outcomes were significantly improved by the intervention. Second, there was no attempt to obtain empirical confirmation of possible mechanisms through which the intervention was theorized to have its effect on behavior change (such as self-efficacy), a criticism that may be leveled against many theories of health behavior and their associated clinical trials.<sup>4</sup> Third, there was no attempt to examine maintenance of change, which can be assessed only after the intervention has ended completely.<sup>5</sup> Because the 3 trials examined change while the intervention was still operative, it is not clear whether the treatment gains would be maintained after completion of the intervention—a critical test for use in clinical settings.

In this invited commentary, we use self-determination theory (SDT) to guide a brief discussion of theory and research on health-behavior change and the psychological

mechanisms through which true maintenance is theorized to occur. Self-determination theory is an organismic approach to human motivation and personality in social contexts with applications to health-behavior change and its maintenance.<sup>6</sup> In this context, SDT argues that internalization of the value of, and requisite skills for, health-behavior change is necessary to facilitate its long-term maintenance. Yet, SDT also acknowledges that this natural, active process of coming to endorse the value of a behavior that was originally prompted by external sources can function more or less effectively. Indeed, SDT posits a continuum of internalization along which behavioral regulations vary in the extent to which they are experienced as autonomous vs controlled. To illustrate, patients with asthma are said to be controlled if they engage in physical activity because of pressure from others (such as a physician or a spouse) and/or from themselves. In contrast, hypertensive African American patients are said to be autonomous if they adhere to their medication regimens because doing so is personally important and/or aligned with deeply held values and beliefs. Therefore, whereas controlled forms of behavioral regulation involve pressure to think, feel, or behave in certain ways, autonomous self-regulation involves an experience of volition and choice in the initiation and maintenance of health-behavior change.

Autonomous self-regulation and perceived competence are considered by SDT to be the psychological mechanisms through which maintenance of health-behavior change occurs.<sup>5,6</sup> Importantly, results from randomized clinical trials focused on various health behaviors have supported this theoretical postulate. For instance, an intervention based on SDT and intended to support autonomy and perceived competence facilitated 24-month prolonged abstinence from tobacco, relative to standard community care.<sup>7</sup> Moreover, changes in autonomous self-regulation and perceived competence during the 6-month intervention explained a significant proportion of patients' long-term maintenance of health-behavior change. Similar findings have been reported for behaviors such as dental hygiene,<sup>8</sup> weight loss maintenance,<sup>9</sup> and physical activity.<sup>10</sup> It is also interesting to note that support for patient autonomy<sup>11</sup> and patient autonomy per se<sup>12</sup> are considered to be medical outcomes that are equivalent in importance to enhancing patient well-being and thus are already mandated in clinical care.

From the perspective of SDT, it is critical that interventions target internalization of both autonomous self-

regulation and perceived competence in order to promote maintenance of behavior change after the intervention has ended completely. Health care practitioners can facilitate the process of internalization by providing support for satisfaction of the basic psychological needs for autonomy, competence, and relatedness, which energize behavior and enhance quality of life. To do so, health care practitioners (1) can elicit and acknowledge the patient's perspective, explore the patient's values and how they relate to the behavior change, offer a rationale for effective options and advice that are given, support the patient's own initiation of change, and refrain from use of controlling language (support for autonomy); (2) remain positive that the patient can succeed, identify barriers to change, and assist the patient in developing techniques for building skills and solving problems (support for competence); and (3) develop a warm, empathic, nonjudgmental, and unconditionally positive relationship (support for relatedness).<sup>5</sup>

Returning to the trials that are the focus of this invited commentary, we recommend that future research target positive affect and self-affirmation in a context of support for satisfaction of the basic psychological needs for autonomy, competence, and relatedness. It is possible that the intervention, which was designed to increase positive affect and self-affirmation, enhanced patients' resolve to overcome difficult experiences<sup>1</sup> and/or their desire to sustain change.<sup>2</sup> Yet, we have no reason to expect maintenance of health-behavior change without also providing support for the internalization of autonomous self-regulation and perceived competence. In conclusion, it is interesting to note that targeting positive affect per se is in no way antithetical to providing support for satisfaction of the basic psychological needs, as change in autonomous self-regulation has been associated with change in subjective vitality, which itself predicted long-term maintenance of tobacco abstinence.<sup>13</sup>

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**Published Online:** January 23, 2012. doi:10.1001/archinternmed.2011.1830

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**Financial Disclosure:** None reported.

**Funding/Support:** This commentary was supported in part by grant UL1RR024160 from the National Center for Research Resources American Recovery and Reinvestment Act Supplement, which was awarded to the University of Rochester's Clinical and Translational Science Institute.

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