The Disconnected Values Model: Intervention Strategies for Exercise Behavior Change

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This article proposes a new approach to health behavior change, the disconnected values (intervention) model (DVM). The DVM consists of predetermined cognitive-behavioral strategies for initiating and maintaining changes in health behavior, such as the implementation of an exercise program. The model consists of helping clients (a) examine the benefits, in contrast to the costs and long-term consequences, of the habit they most want to change; (b) identify their deepest values and beliefs (e.g., health, family, faith, integrity); (c) detect a “disconnect” between the negative habit and the identified values; and (d) conclude whether the disconnect is acceptable, given its costs and long-term consequences. The client’s conclusion that the disconnect is unacceptable creates incentive and commitment for health behavior change. The theoretical foundations of the DVM are explained, and its specific application for exercise behavior change is described. Three outcome studies also are reported, as well as a brief case study. Implications for practitioners and suggestions for future research are provided.

Attempts at encouraging desirable changes in health behavior in general, and in exercise behavior in particular, have been extensive in recent years. Yet the effectiveness of interventions for initiating and maintaining exercise programs has been uneven at best (Buckworth & Dishman, 2002; Lox, Martin, & Petruzzello, 2003). The purpose of this article is to propose a cognitive-behavioral approach to health behavior change, called the disconnected values model (DVM). The model contrasts an individual’s negative (i.e., unhealthy) habits with his or her deeply held values. The resulting discrepancy is referred to as a disconnect, which the individual can then choose to accept or change. Acknowledging that the inconsistency between undesirable behavioral patterns and chosen values is unacceptable leads to the development of an action plan, which is designed to replace the undesirable behavioral patterns with specific, scheduled new habits. The purpose of the DVM is to provide a framework that enables mental health professionals (MHPs) and consultants (e.g., licensed psychologists, sport and exercise psychology consultants, physical fitness trainers, performance coaches) to provide their clients...
with incentives to implement long-term positive habits, such as a consistent physical exercise program.

While the main focus of this article concerns use of the DVM to encourage commitment to exercise, the DVM also has direct implications for changing other forms of behavior. For example, within work or sport settings, MHPs and consultants could use the DVM to help clients implement a variety of behaviors that enhance energy, health, and performance effectiveness. Examples include changing dietary habits, developing better work-life balance (i.e., reducing work addiction, while encouraging more time for family, friends, and other nonwork related habits), improving quality of sleep, enhancing compliance with prescribed medical regimens, and continuing to receive counseling or coaching consultation.

It is important to understand, however, that the DVM is not psychotherapy, not stress management, not a coping skills program, and not a wellness or fitness program. It simply addresses the need to change features of one’s lifestyle to optimize energy and build new rituals that replace less healthy and less productive routines. Nevertheless, changing a person’s habits is enormously challenging. As Anshel and Kang (2007a) have asserted, “the client’s incentive for replacing unhealthy with healthy behavioral patterns rests primarily on the willingness to reflect on the consequences of their behavior, and identifying the sources of their passion (values)” (p. 123). The DVM offers a systematic method for helping clients engage in this process.

To illustrate the rationale for the development of the DVM, this article first highlights the urgent need for interventions that facilitate exercise behavior change. It also reviews the limitations of exercise intervention research, including inattention to values as a source of motivation, that have slowed progress toward improved methods. It then explains the DVM, along with its theoretical foundations, including its incorporation of (a) Festinger’s (1957) cognitive dissonance theory, (b) the client-centered philosophy of motivational interviewing (MI; Miller & Rollnick, 2002), and (c) acceptance- and values-based strategies from acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999). A detailed description of the DVM intervention method is also provided, along with discussion of three outcome studies and a case study involving successful exercise behavior change. In addition, potential use of the DVM in sport settings is explored, including discussion of client responses that suggest a need for referral to psychotherapy or other involvement of an MHP. Finally, limitations of the model and the need for additional empirical research are discussed.

The Need for New Exercise Interventions

The importance of exercise promotion has never been greater than it is today. Recent studies indicate that 63% of U.S. men and women are overweight, while about 33% are classified as obese. The consequences of this trend include a serious deterioration of health and quality of life—a deterioration that is already occurring in developed countries around the world. In a keynote address at the 2004 Society of Behavioral Medicine Conference in Baltimore, Risa Lavizzo-Mourey, president and chief executive officer of the Robert Wood Johnson Foundation, reported that for the first time in U.S. history, children today will live
shorter lives and experience lower quality of life than their parents. Since 1980, Lavizzo-Mourey observed, the percentage of overweight children ages 6–11 years has doubled and the percentage of overweight adolescents has tripled. Unfortunately, obesity and inactivity in childhood are significant predictors of similar characteristics in adults, and these health behaviors are associated with such illnesses as diabetes and hypertension—conditions that become increasingly prevalent with each passing year (Nestle & Jacobson, 2000). In addition, many forms of psychological distress (e.g., low self-esteem, clinical depression, chronic and acute anxiety, stress, and negative mood), proliferate in the absence of physical activity, contributing to further reductions in quality of life.

While there are numerous complex and expensive medical procedures for treating physical and emotional illnesses, exercise offers a low-risk intervention that yields obvious physical benefits—and, as Morgan (1997) concluded, “desirable psychological outcomes in individuals with mild to moderate levels of mood disturbance” (pp. 227–228). Despite the widely acknowledged insight that exercise is beneficial to physical and mental health, however, the antecedent habits of poor diet and lack of exercise have proven very difficult to change (Nestle & Jacobson, 2000). Approximately 60–70% of adults who begin an exercise program will quit within 6–9 months (Marcus, King, Bock, Borrelli, & Clark, 1998).

Of course, the problem of nonadherence to treatment is not a new one in the health psychology literature. For example, Sackett (1976), in a noted study of treatment compliance, found that scheduled appointments for treatment are missed 20–50% of the time and that about 50% of patients are remiss in taking the medications prescribed by their physician. In addition, over a course of 6 months, programs involving health behavior change (e.g., smoking cessation, dietary restrictions, weight control strategies) have an average adherence rate of well below 50%. Exercise nonadherence rates are similar, and interventions designed to improve exercise adherence have been only modestly successful (Marcus & Forsythe, 2003). Clearly, effective interventions to promote participation in and maintenance of exercise programs are sorely needed, yet they have not emerged. Their absence may be attributable, at least in part, to deficiencies in current intervention research.

Limitations of Intervention Research

Although existing theories and models of behavior change have provided coherent frameworks for explaining, describing, and predicting exercise behavior, use of these models in efforts to increase exercise behavior have met with limited success (Buckworth & Dishman, 2002). The amount of outcome variance explained in studies testing the efficacy of exercise interventions, for example, has rarely been above 30% (Baranowski, Anderson, & Carmack, 1998). To understand the weakness of exercise interventions, it is necessary to address the limitations of exercise intervention research, including problems with both methodology and intervention design, which have been reviewed by Buckworth and Dishman (2002), Dishman and Buckworth (1997), Lox et al. (2003), Morgan (1997), and Sallis and Owen (1999). Dishman and Buckworth (1997), who conducted a meta-analysis of 127 studies and 14 dissertations to assess exercise
adherence interventions involving healthy adults, have noted that studies often lack a theoretical framework or model to examine the efficacy of an intervention intended to promote exercise participation and adherence. These authors correctly concluded, “without a theoretical framework, the choice of variables cannot be well justified and the ability to interpret results is limited” (p. 252). Lox et al. concurred with this conclusion, observing that “intervention strategies based on a sound theoretical framework offer the greatest potential for altering physical activity behavior” (p. 103).

Finally, another limiting factor in the exercise intervention literature, which several reviews have identified, is use of insufficiently sophisticated research designs, including (a) reliance on small samples of carefully selected participants, such as clinical populations or individuals already engaged in intervention programs, making it difficult to generalize from the results (Dishman, 1991); (b) failure to control for the exerciser’s motives, rationale, and personal commitment to begin and maintain an exercise program; (c) inadequate follow-up (Dishman and Buckworth have noted that only 20% of studies include a follow-up to the interventions); and (d) assuming that participants desired a change in behavior (Buckworth & Dishman, 2002; Marcus & Stanton, 1993).

Exercise researchers also have typically deprived their participants of personal involvement choosing the type and schedule of exercise. Indeed, researchers have traditionally imposed goals for behavior change on the participant rather than allowing them to set self-determined goals, which increases perceived choice (Markland, 1999) or perceived behavioral control (Ajzen, 1985). In his review of the related literature, Anshel (2006) pointed out that one assumption underlying studies of exercise and mental well-being is that the participant will enjoy the exercise experience, as opposed to feeling compelled or required to engage in physical activity that is deemed undesirable or unpleasant. Yet clinicians are well aware that clients are more likely to prefer exercise programs that take into account their personal needs. An obese individual, for example, might prefer water-related exercise, such as swimming or water aerobics, so that he or she does not experience lower limb discomfort from physical exertion on a treadmill or jogging track. Nevertheless, in many exercise adherence studies, the participants are required to attend group sessions, exercise at specific preset times, and follow predetermined exercise routines.

The DVM, by contrast, attempts to maximize clients’ commitment to engaging in values-consistent behavior, while minimizing their sense of involuntary or compelled behavior. Rollnick, Mason, and Butler (1999) have suggested that practitioners use a client-centered approach to health behavior change, including negotiation strategies that maintain respect and patient integrity to “provide clear structure to the consultation” while also allowing clients to “raise whatever subjects they wish” (p. viii). The goal is to help clients recognize that they can choose an exercise behavior consistent with their values. One strategy that the DVM uses to enhance this sense of perceived control is what Oldridge (2001) has referred to as the “regimen factor.” Specifically, Oldridge suggests “keeping the regimen straightforward, providing clear instructions and periodic checks, promoting good communication with the patient (client), and reinforcing their accomplishments” (p. 322).
Disconnected Values Model

Other limitations of exercise research include an emphasis on discrete evaluations of specific cognitive (e.g., positive self-talk, imagery, cognitive reappraisal) or behavioral strategies (e.g., goal setting, seeking social support), as opposed to assessment of a complete intervention program (Buckworth & Dishman, 2002; Lox et al., 2003). Studies also have typically focused on outcomes (e.g., changes in attitude toward exercise and level of exercise adherence) rather than on the mechanisms or processes by which changes in exercise-related attitudes and behavior actually occur (Ockene, 2001). As Glasgow, Klesges, Dzewaltowski, Bull, and Estabrooks (2004) concluded from their review of related literature, “it is well documented that the results of most behavioral and health promotion studies have not been translated into practice” (p. 3). One reason for this is that the specific mechanisms leading to exercise behavior change remain largely unknown. Incorporating use of the DVM into their repertoire of cognitive-behavioral techniques may help MHPs and consultants facilitate behavior change while simultaneously shedding light on the processes by which that change occurs.

The Importance of Values for Exercise Interventions

One neglected area of study related to health behavior change is the individual’s conception of what matters in life or makes life worth living (Dunn, Andersen, & Jakicic, 1998)—a construct Loehr and Schwartz (2003) have referred to as “purpose.” The inconsistency between values that individuals identify as important to their lives (e.g., health, family, performance excellence) and a sedentary lifestyle can serve as an essential source of incentive for changing exercise habits. In other words, values are essential to understanding and facilitating exercise behavior change.

Values, however, do not only guide behavior, they also provide an impetus for motivating behavior and a standard against which individuals can assess their behavior (Rokeach, 1973). In this way, values are more central determinants of behavior than are interests and attitudes (Super, 1995), the latter of which are more situation-specific, though they may derive from a core set of values. In addition, interests and attitudes are transitory, and once satiated, they may no longer influence an individual’s behavior. Values, by contrast, are almost always firmly entrenched and stable. They typically transcend specific situations and tend to guide behavior over long periods of time. Thus, a plethora of interests and attitudes may be derived from a relatively small number of values.

Values play a particularly important role in establishing individual identity and guiding behavioral choices. For example, as Rokeach contends, a person who values health will tend to develop daily rituals and long-term habits that enhance health and general well-being. Hogan and Mookherjee (1981) described values as “one of the most distinguishing characteristics motivating human beings,” noting that the “effects of values on human behavior, beliefs, and attitudes are indisputable” (p. 29). In fact, Hogan and Mookherjee contended that an individual’s values ultimately guide his or her behavior and that sharing values with a group strongly affects an individual’s willingness to sacrifice personal, self-serving needs for the benefit of others (e.g., family members, friends, work colleagues). While studies
concerning the influence of values on exercise behavior are few, research has suggested that an individual’s values are likely to explain his or her health-related habits (Brown & Crace, 1996; Hogan & Mookherjee).

The DVM assumes that exercise behavior will be influenced by an individual’s willingness or ability to detect a disconnect between values and unhealthy habits. This discrepancy becomes particularly relevant when addressing the values of health and happiness, two fundamental tenets of quality of life. For example, individuals who value health are more likely to engage in behaviors that enhance their health than individuals who consider health unimportant or irrelevant. Thus, an individual who values health yet leads a sedentary lifestyle, does not exercise, lacks proper nutrition, or exhibits other unhealthy habits is living in a way that is inconsistent with his or her values. According to Loehr and Schwartz (2003), an individual’s values and actions are disconnected if he or she considers health an important value yet devotes relatively little time and effort to regular exercise. This disconnect forms an important segment of the DVM intervention. An individual’s willingness to acknowledge the disconnect is central to forming a strong incentive to change his or her exercise behavior.

**Theoretical Foundations of the DVM**

The process of behavior change is particularly challenging because habits and routines—in this case, sedentary habits involving little regular exercise—are firmly entrenched in the individual’s lifestyle (Ockene, 2001). In addition, attempting to increase exercise behavior can be especially difficult because it typically evokes an array of long-held feelings and attitudes that may reflect negative previous experiences (e.g., the physical education teacher who used exercise as a form of punishment, burnout from too much physical training as a former athlete, perceived failure or injury resulting from previous exercise attempts). Moreover, vigorous exercise requires effort and physical discomfort to obtain benefits. The degree of discomfort, often measured as *ratings of perceived exertion* (Borg, 1998), is directly related to several criteria, such as current body weight, fitness level, and extent to which the person’s lifestyle is sedentary. In effort to facilitate change that involves experience of discomfort, the DVM draws upon conceptions of behavior change from cognitive dissonance theory (Festinger, 1957), MI (Miller & Rollnick, 2002), and ACT (Hayes, Strosahl, & Wilson, 1999).

**Cognitive Dissonance**

Cognitive dissonance theory (Festinger, 1957) posits that individuals have a natural tendency to seek consistency among their cognitions, including their beliefs, personal views, emotions, and values. An inconsistent set of attitudes or behaviors creates dissonance, and this results in an effort to realign the attitude with the behavior. The most important factors that influence an individual’s drive for change include the number of dissonant beliefs and the degree of importance the individual attaches to each belief. For example, beliefs about the importance of family may be dissonant from such behaviors as ignoring family members, avoiding parenting tasks, or failing to develop positive relationships with other family members. Dissonance may be diminished by one of the following strategies: (a)
reducing the importance of the conflicting beliefs, (b) acquiring new beliefs that change the balance between cognition and behavior, or (c) removing the conflicting attitude or behavior. While cognitive dissonance theory provides an important theoretical foundation for the DVM, a DVM intervention asks clients to go a step further and acknowledge the specific costs and long-term consequences of the negative habits that contribute to their experience of dissonance. Once this is acknowledged, the DVM guides the individual through development and implementation of a self-regulation action plan consisting of cognitive-behavioral strategies for replacing negative habits with new, health-promoting (i.e., “positive”) rituals.

**Motivational Interviewing**

The DVM is also informed by MI, a client-centered intervention method designed to enhance an individual’s intrinsic motivation for behavior change (Hecht et al., 2005; Miller & Rollnick, 2002). MI consists of three essential procedures: (a) collaborating with the client in a supportive and nonjudgmental manner to initiate and maintain behavior change, (b) exploring the reasons for and against changing unhealthy behaviors in an effort to resolve the client’s ambivalence about change, and (c) developing the client’s sense of responsibility for initiating and maintaining behavior change. MI enhances intrinsic motivation because the client, not the MHP, must decide if, how, and when change will occur (Miller & Rollnick, 2002).

MI has several characteristics that have important implications for the DVM. First, MI is client-centered, focusing on the concerns and perspectives of the individual. It does not rely on teaching clients new mental skills, reshaping cognitions, or reexamining the past. Second, MI intentionally addresses the specific changes in behavior that are most desirable and realistic for the client, while at the same time, addressing possible barriers to change. Third, MI is a method of communication that focuses on the exploration and resolution of ambivalence as a means to elicit change; it is not merely a set of effective interviewing techniques (Miller & Rollnick, 2002). Above all, MI does not attempt to impose change; it is not coercive. Changes must be in the client’s inherent interest and relevant to his or her values and concerns. The goals of MI include (a) increasing the client’s motivation to instigate behavior change and implement desirable behavior patterns; (b) resolving ambivalence and resistance, thereby allowing the client to move toward behavior change; and (c) promoting long-term adherence to new, desirable behaviors.

Empirical studies have demonstrated that application of MI techniques has resulted in reduced alcohol intake (Bien, Miller, & Burroughs, 1993; Brown & Miller, 1993), elimination of smoking (Williams et al., 2002), reduced drug use (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003), changes in dietary habits (Resnicow, Jackson, Wang, Dudley, & Baranowski, 2001), and promotion of healthy habits (Resnicow et al., 2002). MI facilitates the initiation of behavior change. To date, however, MI has not been shown to result in the long-term change of new habits. Mhurchu, Margetts, and Speller (1998) found that an MI-based exercise intervention yielded behavior change sufficient to result in significant improvements in participants’ lipids profiles, but these new exercise habits were
not sustained during a 3-month follow-up period. Harland and colleagues (1999) found that an MI group demonstrated higher levels of exercise participation after 12 weeks than a control group. Once again, however, these changes were not sustained post 1-year follow-up.

Acceptance and Commitment Therapy

The DVM also emphasizes the importance of helping clients live in accordance with their values, a tenet it shares with ACT and other acceptance-based approaches to psychotherapy. ACT emphasizes the ways that normal human tendencies to avoid unpleasant thoughts and emotions can lead to ineffective behaviors. Although these behaviors are intended to minimize unwanted forms of experience, they are, in fact, inconsistent with an individual’s values and, as a result, can give rise to additional discomfort or suffering (Hayes, Strosahl, & Wilson, 1999). Of course, individuals often are unwilling to confront psychological barriers (e.g., unwanted emotions) that interfere with their ability to engage in behaviors that will lead to desired outcomes. The goal of ACT is not to change or control these undesirable personal and private thoughts or emotions. Rather, the primary therapeutic focus is to develop sufficient “psychological flexibility” to experience a full range of emotion (including the unwanted thoughts and feelings) while acquiring new, effective behaviors.

Two aspects of ACT are particularly relevant to the DVM—values and committed action. In an ACT approach, clients assess the failure of their previous attempts to avoid unpleasant thoughts and feelings (a process known as “creative hopelessness”) and learn to see their unwanted experiences as only thoughts, not truths or permanent states. Moreover, clients come to recognize that their very struggle to avoid the unwanted thought or experience is maintaining their distress and constraining their behavior. Specific interventions, such as exposure, can then help clients abandon their efforts to get rid of “bad” thoughts or avoid uncomfortable emotions. The exposure process can include engaging in aversive experiences or tasks (i.e., committed action) in the service of living in a way that is more consistent with one’s values. In a study of patients with social phobia, for example, Ossman, Wilson, Storaasli, and McNeill (2006) described their primary treatment goal as encouraging “therapeutic exposure and the activation of fear-relevant private events within the context of behavior change efforts aimed at increasing participants’ commitment to living in more socially fulfilled and meaningful ways” (p. 402).

Several aspects of the DVM resemble ACT treatment. For example, both interventions foster clients’ awareness regarding their negative (i.e., undesirable) habits and their costs and consequences. In addition, in both ACT and the DVM, the client’s goal is not simply elimination of the negative habit (though this may occur), but the effective movement toward meeting specific meaningful goals or desired outcomes. Another component shared by ACT and the DVM is helping the client to clarify his or her values, while defining and committing to behaviors consistent with those values. Finally, ACT and the DVM both require an action plan to implement more desirable behaviors without trying to extinguish “bad” thoughts or actions. For example, not being in the mood to exercise would be considered normal by both ACT and the DVM, as would occasionally consuming high fat food in proper portions. Instead of focusing on avoidance of a negative
habit, both ACT and DVM approaches would emphasize an action plan that helps the client focus on behaviors that are in accordance with his or her wishes.

**The DVM’s Two Postulates**

In addition to these influences from cognitive dissonance theory and interventions such as MI and ACT, the DVM also relies upon two key postulates, or predictions, that define self-motivated behavior. These postulates have strong implications for promoting exercise participation and maintenance, yet they are often overlooked in existing exercise intervention research. Postulate one is that self-motivated behavior reflects a person’s deepest values and beliefs about his or her passion, that is, the power of purpose (Loehr & Schwartz, 2003). Purpose prompts the desire to become fully engaged in activities that “really matter” in meeting personal goals and future aspirations. Postulate two is that human behavior is motivated by identifying deeply held values, living a life consistent with those values, and consistently holding oneself accountable to those values. Ostensibly, then, an individual whose values include health, family, faith, and performance excellence—examples of commonly held values—should be self-motivated to exercise because exercise is consistent with these values and will likely lead to achieving goals related to them.

Developing a deeper sense of purpose, however, also consists of shifting one’s attention away from one’s own needs and desires to serving and meeting the needs of others. For instance, exercisers who value their family may realize that they will have more energy for meeting the needs of family members if they engage in this desired behavior. In other words, the successful bid to develop an exercise habit rests on recognizing the inconsistency between one’s negative habits (i.e., lack of regular exercise) and the value of relationships and other fundamental life concerns. Of course, this recognition, or sense of purpose, must then be followed by engagement in behavior that fosters and maintains those values. As Loehr and Schwartz (2003) concluded, “deeply held values fuel the energy on which purpose is built” (p. 140). This fundamental aspect of the DVM is illustrated in Figure 1.

It should be noted that the successful use of the DVM also depends on the effective interaction of client and practitioner. This interaction should reflect the following: (a) open exchange of information (e.g., identifying the discrepancy in an honest nonjudgmental way); (b) determination of the client’s personal sense of purpose, that is, “the energy derived from connecting to deeply held values and a purpose beyond one’s self-interest” (Loehr & Schwartz, 2003, p. 131); (c) self-reflection (e.g., acknowledging the costs and long-term consequences of living a sedentary lifestyle); (d) determination of personal goals (e.g., knowing what I want or need); and (e) identification of the strategies needed to reach those goals (e.g., generating an action plan that replaces negative habits with positive routines). These processes require confronting the client’s self-destructive behaviors and negative habits (e.g., poor nutrition, lack of exercise, high stress and anxiety, impatience). In the parlance of Loehr and Schwartz, “if we lack a strong sense of purpose (i.e., what really matters to us; our passion) we cannot hold our ground when we are challenged by life’s inevitable storms” (p. 133). Thus, while most previous interventions have consisted of examining the effects of selected cognitive (e.g., mental imagery, positive self-talk, reappraisal, adaptive coping) and
Figure 1 — The disconnected values model.
behavioral strategies (e.g., goal setting, social support, preperformance routines), researchers and practitioners have tended to ignore the concomitant emotions and values that each client brings to the exercise experience. The DVM does not rely on specific cognitive or behavioral strategies, although such strategies may embellish the person’s “action plan” in carrying out the intervention.

Using the DVM to Overcome Negative Habits

The DVM intervention begins by acknowledging the existence of negative habits, which are defined as behaviors, emotions, or beliefs that are neither healthy nor in the client’s best interests. Despite having ability to prevent or stop these negative habits (e.g., not exercising, poor diet), however, the individual continues to engage in them. The result is typically low energy, premature mental and physical fatigue, and poor health, which compromise the individual’s happiness, productivity, energy, and quality of life. Psychological, emotional, or behavioral tendencies that inhibit good health are labeled “negative” because they have a deleterious effect on the person’s quality of life. Continued expression of these negative habits is directly linked to problems and limitations in other aspects of life, such as work performance, happiness, and energy.

As depicted by Loehr and Schwartz (2003), negative habits can be physical, cognitive, or spiritual. Negative physical habits are defined as persistent actions that lead to low energy, low productivity, unhappiness, or poor health. Emotional negative habits are ongoing feelings of unhappiness and dissatisfaction, as well as some generally positive moods that compromise performance and high quality of life. Cognitive negative habits consist of thoughts that distract the person from the task at hand (e.g., chronic multitasking, lack of concentration, and impaired information processing) and limit high quality performance. Finally, the category of spiritual negative habits reflects beliefs, emotions, and actions (e.g., avoiding committed relationships) that contradict one’s deepest values and beliefs about what is really important to them, thereby making it difficult to maintain a sense of passion or purpose in life.

Habits, healthy or unhealthy, are rarely maintained unless they are perceived to have at least one benefit (Loehr & Schwartz, 2003). These perceived benefits typically outweigh the habit’s costs and long-term consequences. For example, the negative habit of exhibiting anger or impatience in response to others’ actions has the perceived benefit of prompting action, maintaining situational control, and release of unpleasant feelings. The person may acknowledge the “costs” (e.g., alienating others, poor social relationships, heightened stress) and long-term consequences (e.g., developing heart disease and hypertension, lack of respect and trust by others) of acute anger, yet the benefits are viewed as more important in meeting the person’s short-term goals. Under these conditions, the negative habit persists.

Barriers to Exercise

Exercise barriers consist of any persistent thoughts, emotions, or actions that prevent or inhibit an individual from engaging in an ongoing exercise habit (Dunn et al., 1998; Lox et al., 2003). Even when these barriers are actual (e.g., injury, lack
of transportation) or perceived (e.g., time restraints, discomfort, anxiety), they are almost always controllable and, thus, changeable. For instance, the emotional barrier of exercise anxiety (i.e., worry or perceived threat) can be controlled by addressing the sources of concern (e.g., feelings of intimidation, irrational thinking about physical appearance) and developing adaptation strategies (e.g., positive self-talk, self-analysis, distraction activities) that overcome these perceptions. Thus, persons who are uncomfortable and self-conscious about exercising among younger, fitter, thinner individuals at a fitness facility can focus on their exercise regimen, while ignoring others in the room. Individuals who face time constraints can develop time management strategies and obtain social support from significant others to allow for exercise time. Loehr and Schwartz (2003) have referred to these as “barriers to full engagement because they impede the optimal flow of energy” (p. 157).

Barriers that compromise quality of life are categorized as physical, cognitive, emotional, and spiritual. Physical barriers refer to a person’s actions that compromise energy and the values that form obstacles to one’s mission—in this case, forming and maintaining an exercise habit. Other examples include poor hydration and nutrition, persistent conflict with others, low energy and fatigue, and poor sleep. Cognitive barriers are defined as habits that impair the speed or accuracy of information processing, contribute to poor time management and organization skills, and lead to mental fatigue. Emotional barriers entail unhelpful emotions that result in poor performance because of low energy, inability to adapt properly to life’s “storms,” and being consumed or controlled by chronic unpleasant emotions that impede one’s journey toward fulfillment (e.g., guilt, anxiety, fear, insecurity). Finally, spiritual barriers consist of a sense of emptiness or lack of self-satisfaction due to (a) engaging in daily routines that are disconnected from one’s values, (b) not pursuing personal relationships with people who really matter, or (c) not having a purpose or mission to fulfill. The result is a lack of passion about living a meaningful life.

Perceived Benefits and Costs of Negative Habits

In their Drugs in Sport Deterrence Model (DSDM), Strelan and Boeckmann (2003) have suggested that an athlete’s use of banned drugs is facilitated by the benefits of this behavior. As Strelan and Boeckmann contend, there are benefits to every negative habit, including drug taking, or individuals would not sustain them. (It should be noted that the DSDM is a conceptual model describing the factors underlying drug-taking behavior, not an intervention model.) In addition, unless the benefits of negative habits are recognized, revealing their costs has little effect on behavior. Examples of the benefits of not exercising might include more time to do other things, not experiencing the discomfort of physical exertion, eliminating expenses related to fitness club memberships and exercise gear, and avoiding the mental discomfort that accompanies attending facilities inhabited by younger and fitter individuals. The tendency to acknowledge the benefits of negative habits is commensurate with the contemplation stage of the transtheoretical model applied to exercise settings (Prochaska & Marcus, 1994): “Contemplators see the pros and cons of their risk behavior as about equal. Consequently, they are ambivalent about changing” (pp. 162–163). In other words, the perceived costs associ-
ated with not exercising do not exceed or are perceived as less important than the benefits.

It is well known, for example, that a sedentary lifestyle is accompanied by factors that compromise health, well-being, and quality of life. In the DVM, these negative outcomes would be referred to as either costs or long-term consequences. The costs of not exercising regularly would include reduced fitness, weight gain, and higher stress and anxiety. The long-term consequences of these costs include poorer physical and mental health, reduced quality of life, heart disease, and in some cases, shorter lifespan.

The important question that DVM practitioners ask their clients is, “Are these costs and consequences acceptable?” If clients find them acceptable, then the negative habit of not exercising and maintaining a sedentary lifestyle will likely continue (Anshel & Kang, 2007a, 2007b). A change in behavior is far more likely, however, if the costs are far greater than the benefits, and clients conclude that these costs are unacceptable. In fact, a critical factor in permanently changing a health behavior is linking the costs and long-term consequences of the person’s negative habit to the person’s deepest values and beliefs (Loehr & Schwartz, 2003).

**Determining One’s Deepest Values and Beliefs**

To help clients determine what they hold as their deepest values and beliefs, they are given a list of values that could describe their passion or their most important beliefs, thoughts, and behaviors. They are asked to rank their top five values. Usually, health, family, character, happiness, concern for others, honesty, and faith are included in this list. The decision to begin and maintain an exercise program is more likely if clients acknowledge (a) that the costs and long-term consequences of a negative habit are greater than its benefits, (b) that these costs run counter to the client’s deepest values and beliefs about what is important, and finally (c) that this discrepancy between the client’s negative habits and their values is unacceptable. Thus, behavior change is more likely to be permanent when the client concludes that life satisfaction is linked to behaving in a way that is consistent with his or her deepest values. Using a checklist of personal values from which clients can select their top five (they do not need to rank these) is recommended. Sample values include health, integrity, kindness, knowledge, commitment, humor, faith, courage, family, loyalty, excellence, security, family, respect for others, wealth, generosity, fairness, happiness, and security.

**Establishing a Disconnect**

To help clients detect an inconsistency between their values and their negative (self-destructive) habits, DVM practitioners ask, “To what extent are your values consistent with your actions or negative habits? If health is one of your most important values, for instance, describe at least one habit that you know is not good for you, and therefore, is inconsistent with this value? What about your family? Do you value your spouse or partner, children, or parents? If you lead a sedentary lifestyle and are not involved in a program of regular exercise, yet one of your deepest values is your family, to what extent is your sedentary lifestyle...
inconsistent with this value? Is there a disconnect between your beliefs about good health and your unhealthy behavioral patterns?"

**Acceptability of the Disconnect**

This component of the model is crucial for determining whether the client is ready to change his or her current negative habits (e.g., lack of exercise) and to engage in an action plan. If clients acknowledge that the negative habit of not engaging in exercise is inconsistent with their deepest values and beliefs about what is really important to them, the follow-up questions are: “Do you see a disconnect between your values (e.g., health, high quality of life, happiness) and not engaging in a regular exercise program? If so, is this disconnect acceptable?” If clients view the disconnect (between the negative habit of not exercising and their values) as acceptable, even after identifying the costs and long-term consequences of this negative habit, then no change in behavior is likely to occur.

There are two conditions under which referral to a psychologist is advised at this point. The first condition is to have an MHP help the client gain insight about the likely reasons the disconnect is acceptable, especially if the client is prepared to live with the negative habit even if it is life threatening. The second condition for referral is if the client concludes that the disconnect is, indeed, unacceptable, yet refuses to engage in an action plan to replace the negative habit with one or more healthier routines. Perhaps the client engages in irrational thinking (e.g., “I don’t deserve to be healthier or thinner”), has a high fear of failure (e.g., “If I don’t try, I can’t fail”), low self-esteem, or some other pathological explanation for refusing to initiate new behaviors that are actually perceived as beneficial and healthier. The DVM posits that instead of terminating the intervention, there may be other negative habits, or disconnects, that warrant the client’s consideration for change. In other words, if one door closes, another may open. Clients are far more likely to commit to behavior change only if they designate a disconnect as unacceptable.

**Developing an Action Plan**

Clients who do conclude that the disconnect is unacceptable are ready to develop a detailed action plan. The plan should include detailed conditions for initiating and maintaining regular aerobic and resistance exercise routines. Specific plans could include the type of exercise, the location, days of the week and times of day when exercise will occur, exercise testing to establish a baseline of fitness and health indicators, availability of social support (e.g., exercising with a partner), and inclusion of a personal trainer or fitness coach. The results of past studies indicate that specificity of timing and precise description of behavior dramatically increase the probability of successfully carrying out a self-controlled action plan (Loehr & Schwartz, 2003). The client who engages consistently in an effective action plan is not unlike a professional golfer who consistently engages in a set of between-shot and preshot routines (Bull, Albinson, & Shambrook, 1996).

Whereas an action plan is comprised of planning a 24-hr day through effective time management, it is also suggested that the client demonstrate a strong
initial commitment to health behavior change by engaging in a series of one-time action steps. One-time action steps directly expand the client’s capacity spiritually, emotionally, mentally, and physically. Sample action steps for spiritual expansion are finding a mentor, becoming a mentor, joining a spiritual organization, donating money or time to charity, prayer, and spending more time with family. Expanding emotional capacity may include purchasing a gift or sending a card to someone special, adopting a pet, planning a trip with a partner or significant other, or performing community service. Sample one-time action steps for expanding mental capacity include purchasing or starting new subscriptions to educational materials, taking lessons to learn a new skill, or improving time management skills. Finally, physical capacity may be expanded by joining a fitness club, hiring a personal trainer or registered dietician, eating breakfast regularly, learning to manage stress more efficiently, or scheduling a massage.

Provider Characteristics

In addition to traditional issues in establishing a professional environment in which to engage with clients, the DVM also requires that providers (a) refrain from judging the client’s feelings and actions, even if the client acknowledges and accepts the disconnect; (b) furnish physical resources to help in carrying out the client’s action plan (e.g., identifying an exercise partner, determining needed equipment, contacting a personal trainer, helping clients to become familiar with exercise facilities and equipment); and (c) monitor progress in, or expanding, their action plan with follow-up sessions.

Empirical Research Support for the DVM

To date, three outcome-based studies by Anshel and Kang (2007a, 2007b, 2008) have lent preliminary support to the DVM’s efficacy. In one study, Anshel and Kang (2007a) tested the DVM on replacing negative habits with positive routines for improving full engagement at work among 41 university faculty. Results from an inventory that determined the extent of desirable work habits indicated statistically significant improvements on mental, emotional, physical, and spiritual dimensions of the model as determined by a self-report instrument. Examples included improved fitness and dietary habits (expanded physical capacity), improved time management and organization (expanded mental capacity), maintenance of a more positive mood state and more effective adaptation to “storms” in the workplace (expanded emotional capacity), and maintenance of a proper work-life balance while acting in a values-consistent manner (expanded spiritual capacity).

In two additional tests of the DVM, Anshel and Kang (2007b, 2008) examined the effect of a 10-week intervention on selected measures of fitness and nutrition among university faculty and staff and among male and female members of a city police department. Both studies consisted of teaching the model to all participants in a 90-minute orientation. Participants were then assigned a fitness coach with whom they were tested and then trained over the 10 weeks. Participants were
given a series of fitness tests and a blood test to measure their lipids profile (e.g., blood cholesterol, triglycerides) immediately before and following the program. Weekly seminars on proper dietary habits were also offered. Results of the multivariate analyses in both studies indicated significantly improved fitness (i.e., cardiovascular, strength, percent body fat, and lipids profile scores for low density (not high density) lipoproteins. In the faculty study, adherence for cardiovascular activity was 73% and strength-training adherence was 65%. In the police study, adherence for cardiovascular activity averaged 80% and adherence for strength training averaged 75%. The results of these preliminary outcome-based studies suggest that the DVM provides an effective cognitive-behavioral approach to promoting regular exercise and changes in nutritional habits.

The researchers in these DVM studies also reported specific ways in which the results validated the DVM. Forms of validation (Mills, 2003) that were supported include (a) theoretical validity, which refers to the ability of the study to explain the model; (b) evaluative validity, which indicates the results were obtained and reported in an unbiased manner; (c) outcome validity, which demonstrates that the intervention led to successful resolution of the specified problem; (d) process validity, which verifies that the study was conducted in a dependable and competent manner; and (e) catalytic validity, which indicates that the study’s participants were moved to action on the basis of their heightened understanding of the study’s subject.

In terms of theoretical validity, all three studies (Anshel & Kang, 2007a, 2007b, 2008) included an initial 3-hour seminar and subsequent development of an action plan, as well as motivational interviewing techniques. Moreover, findings of all three were consistent with Festinger’s cognitive dissonance theory, and participants’ behaviors were consistent with the values-driven outcomes of ACT interventions. Specifically, the participants’ gained insights into their negative habits, which compromised their health, happiness, and quality of life and recognized the disconnect between their values and their negative habits. Participants also replaced their negative habits with positive routines, worked with a performance coach in carrying out the action plan, and adhered to these new rituals. Evaluative validity was evident by significant improvements in selected fitness and blood lipid measures. Outcome validity was obtained by significant improvements from pretest to posttest, indicating strong adherence to program concepts. Process validity was achieved in these studies by including trained, professional coaches, including the seminar leader who provided initial information and nurtured participant motivation to engage in the program. Finally, catalytic validity was apparent in the relatively high exercise adherence rates and the significant improvements on all fitness and lipids scores following the intervention. While in these studies the DVM has demonstrated initial efficacy in changing health behavior and improving adherence, further research is still needed to determine the effects of the model on long-term adherence to the newly acquired habits.

Now that the DVM has been described, the following case study provides a descriptive account of one way the DVM can be used to facilitate exercise behavior change. The case study is followed by implications for consultants and mental health professionals.
**Brief Case Study: Doug**

Doug is a nonsmoking, 48-year old married male with no children, a height of 6 ft., 4 in., weighing 310 pounds, 36% body fat (the average for males is 20–25%), and a waist circumference of 48 in. Doug’s two main problems were the absence of regular (i.e., daily) exercise and a high-fat, low-fiber diet. Two years earlier, Doug had engaged in a strength-training program and enjoyed it. Because of chronic sore feet and general discomfort, however, aerobic exercise was not an attractive option for Doug. His goals were to lose weight, increase muscular strength, and have more energy.

Three “coaches” were involved in Doug’s 10-week DVM program: a licensed psychologist with a specialization in health-related issues, a registered dietician, and a personal trainer. Issues addressed by the psychologist included, but were not restricted to, dysfunctional eating patterns (e.g., emotional and passive eating), and evidence of psychopathology that would impede progress in the program that required therapy (e.g., depression, low self-esteem). The registered dietician recorded Doug’s current diet and helped him make proper food choices that were sensitive to his highly restricted dietary preferences. In addition, Doug supplied the dietician with a recent blood test that included a lipids profile of his cholesterol measures. The personal trainer, employed at a local fitness club, provided a series of preprogram fitness tests (e.g., cardiovascular fitness, upper and lower body strength, percent body fat, blood pressure) followed by an exercise prescription. Although Doug was required to engage in three 1-hour sessions of exercise per week, instruction was provided only 1 hour per week. Doug was tested again at the end of the 10-week program for fitness and blood lipids.

Applying the DVM as an orientation before the formal program included six steps. First, Doug was to develop a mission statement about the intended outcomes of this 10-week program. He needed to identify the physical, mental, emotional, and spiritual reasons for improving his health and energy. Second, in the model’s cost-benefit tradeoff segment, Doug was asked to identify the negative habits that most impaired his quality of life, energy, and professional career. To understand the reasons he persisted at those undesirable habits, he was instructed to list their benefits. For example, the benefits of eating a fast food breakfast almost daily included good taste, low cost, convenience of the restaurant’s location (i.e., on the way to his job), a feeling of fullness for much of the morning, and relatively good nutrition. Then he was asked to list the costs and long-term consequences of these habits. Costs included high fat content, high number of ingested calories, greater expense than homemade breakfasts, and less nutrition than a balanced breakfast. Possible long-term consequences were increased “bad” cholesterol, reduced “good” cholesterol, weight gain, premature heart disease, and even some cancers.

In the third segment, Doug was asked to identify five of his most important values. He specified family, faith, health, work quality and career, and character. He was then asked to make two lists, placed adjacent to each other on a single page. One list consisted of his unhealthy habits and performance barriers (e.g., overeating, eating two “fast food” meals a day, avoiding fresh vegetables, not
exercising, eating pastry late at night); the other specified his values, that is, the aspects of life about which he felt passionate. Doug was instructed to compare the contents of the two lists and identify any disconnects between them, noting areas in which a negative habit was inconsistent with a particular value.

Doug was able to identify four disconnects, and he was then asked to contemplate (for as long as he needed) the following statement: “Given that the costs and long-term consequences of your negative habits are inconsistent with your values, are these disconnects acceptable?” He was informed that if he concluded any disconnects were acceptable, he would be more likely to maintain the negative habit. If any disconnect was unacceptable, however, it would indicate he was ready to engage in an action plan to replace the negative habit with a positive, desirable routine. The core of the DVM is that the client acknowledges that the disconnect and the costs and consequences of maintaining the disconnect are unacceptable. Doug maintained a strong religious faith and practice, which contributed to his conclusion that his negative habit was inconsistent with his belief in God. In addition to taking better care of his “temple” and serving the Lord, he also wanted to have more energy to enjoy his relationships with family members. In other words, Doug concluded that maintaining a disconnected lifestyle was unacceptable, and he was ready for change.

The next step was for Doug to develop an action plan consisting of specific alternative behaviors. An example of a behavior specified in Doug’s plan was an agreement to eat a healthy breakfast at home at least 3 days per week, as opposed to eating at a fast-food restaurant every day. Doug’s decision to lead a life more consistent with his values resulted in high treatment adherence. Over the 10-week program, he attended 26 of the 30 exercise coaching sessions (87%). A postprogram interview revealed that a combination of prayer and remembering his disconnected value system were imperative to maintaining his new set of routines related to eating behavior and exercise. As a result of his adherence, Doug obtained significant physiological benefits. Tests conducted immediately after the program indicated markedly improved lipids profile scores (not a single score in the abnormal range), significant improvements in upper and lower body strength, a submaximal VO2 score reflecting improved cardiovascular fitness, reduced systolic and diastolic blood pressure, a reduced waistline measure (i.e., by 3 inches), and reduction in percentage of body fat from 36% to 29%. In addition, Doug’s self-reports indicated increased energy for work and family, as well as a generally improved feeling of well-being.

In a postintervention interview, Doug was asked what experiences of the program contributed to his decision to initiate and maintain changes in his exercise and eating behaviors. He indicated five main factors that led to his commitment to health behavior change. First, he had positive feelings toward his coaches that likely promoted improved fitness, nutrition, and mental health. He established a meaningful relationship with them and respected their skills. As Rollnick et al. (1999) assert, establishing good rapport is among the primary objectives of effective interventions because changing behavior begins with establishing trust with a client. Second, Doug’s behavior changes were motivated by the blood test results he received before beginning the program. In addition to poor fitness (which did not surprise him), he was “shocked” by the extent of his poor blood lipids, which
reflected potential for advanced heart disease and the likelihood of serious health-related consequences. His wife, who was present at several sessions with the dietician, was especially alarmed. Use of quantitative data in this manner is an important aspect of the DVM’s action plan because, as Loehr and Schwartz (2003) assert, people are often persuaded by numbers, particularly by medical test data.

A third factor that lead to Doug’s health behavior change, consistent with the DVM, was the support system used in the intervention—three coaches and, to a lesser extent, the researcher, who provided the program’s orientation. The coaches provided detailed guidance, instruction, and emotional support that encouraged Doug to maintain his progress. Moreover, they provided positive and constructive feedback on his new, more desirable behaviors. A fourth factor that promoted Doug’s adherence to new behaviors was the establishment of exercise routines based on planned actions that were supported by others. Doug’s action plan included a 24-hour time-management schedule in which his full weekday was extensively planned. Planned activities included times for exercise, meals, snacks, recovery breaks, contact with loved ones and colleagues, presleep rituals, scheduled times for sleep and waking, and other activities that were consistent with his most important values. The fifth and final issue that promoted adherence to DVM strategies was that each coach held Doug accountable for living a life that was consistent with his values.

It is apparent that the skilled coaches who carried out the program in this case constituted an optimal treatment team for implementing the DVM. Not surprisingly, Doug attributed his success, in part, to his coaches’ credibility and extensive knowledge. Yet having extensive involvement with expert coaches would be prohibitively expensive for many individuals. In standard clinical environments, the DVM client should be able to maintain long-term changes in new health-related behaviors after learning the exercise routines, dietary changes, or other behaviors that make up the action plan. As a measure of long-term adherence to the DVM, Doug reported that he had continued in his new exercise and eating habits 3 months after formal completion of the 10-week program, and he did so without additional contact with his coaches.

Implications for Consultants and Mental Health Professionals

The DVM is a client-centered intervention tool for individuals who are not licensed MHPs (e.g., personal trainers, exercise psychology consultants, medical practitioners); it is not intended for psychotherapy purposes. There is, however, a distinct role for mental health professionals in exercise settings in which the DVM is used. In fact, the service of MHPs in exercise settings has been virtually ignored in the extant applied literature. There are numerous issues that exercisers present to their fitness coaches and consultants that require formal counseling. It is imperative, therefore, that (unlicensed) consultants be able to identify these issues and behaviors for possible referral. In addition, MHPs also must be able to address the underlying, perhaps pathological, issues (e.g., clinical depression, chronic anxiety, poor body image, low self-esteem, irrational thinking) that require attention before the DVM is used to change health behavior.
There are at least three possible “red flags” that may signal the need for referral to psychotherapy when applying the DVM. The first is the client’s own admission to a history of quitting exercise programs because of a mental health condition. Such conditions could include depression, low self-esteem, neurotic perfectionism, or anxiety about one’s physical characteristics or about exercising in a public setting (social physique anxiety). A second indicator that a client may need psychotherapy is unwillingness to detect a disconnect between negative habits and values. It may be that the client does not see the habit as negative, despite its apparent costs and consequences, or that the value is not perceived as very important. A third indicator is a situation in which the client perceives a disconnect, and despite serious costs and consequences associated with it, concludes that the disconnect is acceptable. Other signs that psychotherapy may be warranted include refusal to “be scheduled,” poor time management skills, failure to carry out an action plan, or refusal to enter an exercise facility (Hays & Smith, 2002). Readers are referred to the motivational interviewing conceptual framework (see Rollnick, Miller, & Butler, 2008) for application of principles consistent with the DVM in clinical settings.

**Limitations and Future Research Directions**

The DVM is a new approach to health behavior change and, as such, requires additional empirical study. For instance, the set of unique personal characteristics that would make an individual increasingly susceptible, versus resistant, to the model’s components is unknown at this time. Many questions require further investigation: Do heightened trait anxiety, maladaptive forms of perfectionism, perceived competence, and other dispositions influence an individual’s readiness to identify habits that could be categorized as unhealthy or undesirable? Will the individual’s level of self-esteem promote or impede the cognitive skills needed to identify values, detect misalignment between those values and a negative habit, and devise an action plan? In addition, what situational factors are needed to enhance adherence to the action plan? What cognitive and behavioral strategies or interventions are needed to promote adherence?

It should also be noted that the DVM in its current form is intended only for adults 21 through 60 years of age. Individuals in this age range are most likely to possess the requisite cognitive skills to operationalize the model’s features—as well as the wherewithal to initiate and maintain an action plan. The excluded age groups (i.e., children, adolescents, and the elderly), by contrast, differ in aspects of cognitive and physical functioning that are critical for optimal effectiveness of the DVM. Children and adolescent age groups do not typically contemplate costs and long-term problems associated with health-inhibiting behaviors in the same manner as adults. In addition, values held in childhood or late adulthood may also differ from those common to adults in the specified age range (Taylor, Baranowski, & Sallis, 1994). Elderly individuals, for example, often face limitations to their physical activity, and they are likely to have experienced sociocultural conditioning that inhibits making specific health behaviors (e.g., dietary changes). An individual’s motives for engaging in health behaviors also may change as a function of age. Improvement in body weight or musculature, for example, may be primary
exercise motives for those in younger age groups, while social interaction may motivate the decision to exercise among the elderly (Shephard, 1994). These different age groups can also face different barriers to exercise. The elderly, for instance, are more likely to face such barriers as medication effects or lack of transportation, while children and adolescents may have difficulty meeting financial expenses related to exercise behavior change (e.g., costs associated with exercise equipment or personal training). Despite these concerns, however, the DVM could be tailored, with additional empirical research, to meet the needs of these other age groups. It could also be modified to address the unique individual needs and personal characteristics of specific clients.

There are no doubt other moderator variables in addition to age that could influence research outcomes when testing the DVM. Examples include the influence of the gender of the client and the therapist or coach on meeting targeted behavioral patterns, the influence of racial differences on the most effective means to implement the model, and the extent to which faith, family, health, and other values, as opposed to the client’s personal life, contribute to the replacement of unhealthy habits with positive, healthier routines. In addition, the effects of context, such as the workplace, as opposed to one’s personal life, could prove significant. The importance with which the individual values professional competence, for example, may predict the model’s effectiveness in the corporate sector. Continued research should always be evaluated for the sources of validity mentioned earlier, and studies should consist of both quantitative and qualitative data—a triangulation approach to understanding the underlying factors that best explain program efficacy and long-term adherence to one’s action plan.

Sport psychologists and other professionals seeking to facilitate health behavior change need new, creative approaches that have sound empirical support. As Glasgow et al. (2004) have concluded about the future of health behavior change research, “If we are serious about evidence-based behavioral medicine and about closing the gap between research findings and application of these findings in applied settings, we cannot continue ‘business as usual’” (p. 11). To advance our understanding of health behavior change, future research that examines the DVM’s efficacy in helping clients initiate and adhere to regular exercise, while also evaluating the mechanisms for changes in cognition (e.g., decision making, commitment), affect (e.g., mood state, confidence), and exercise behavior, is warranted.

References


