Cross-Validation of the Self-Motivation Inventory

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Adherence for up to 6 months to an exercise regimen is only about 50% among the general population (e.g., Haynes, 1979), suggesting that there are important individual differences among people embarking on a training program. One such difference is level of self-motivation as measured by the Self-Motivation Inventory (SMI; Dishman & Ickes, 1981). Self-motivation is defined as the tendency to engage in a behavior regardless of extrinsic reinforcement (Dishman & Ickes, 1981). Dishman and Ickes demonstrated that those with high scores on the SMI, and presumably with strong self-motivation, are more likely to adhere to an exercise program. Though there are mixed findings with the SMI (e.g., Ward & Morgan, 1984), others have reported that subjects often give poor motivation as a reason for dropping out of an exercise program (e.g., Oldridge, Wicks, Hanley, Sutton, & Jones, 1978). Since self-motivation is a potential predictor of exercise adherence that may be amenable to training, it is important to understand the correlates of this measure in order to establish its divergent and convergent validity and to direct the focus of any attempt to increase self-motivation and exercise adherence.

Dishman (1982) suggests that self-reinforcement skills partly constitute the characteristics of self-motivation. One component of the self-reinforcement process (e.g., Fuchs & Rehms, 1977) is that of accurately evaluating one’s own behavior. In the exercise setting, this may include accurately attributing the benefits of exercise to the exercise process. Several studies have shown that belief in the effects of exercise is related to adherence (e.g., Dishman & Gettman, 1980) and that an improvement in self-reinforcement skills improves exercise adherence (e.g., Keefe & Blumenthal, 1980). Although the effects of health locus of control beliefs (i.e., taking responsibility for maintaining one’s health) upon adherence has mixed support (e.g., Haynes, 1979), it follows that if individuals attribute health to factors beyond their control, then it is unlikely they would attempt to control such factors. Self-control training has also been found to reduce anxiety (Meichenbaum, 1977) and depression (Fuchs & Rehm, 1977). Therefore the construct of

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self-motivation may include characteristics related to the tendency to control anxiety and resist depression as well. Such a relation would be particularly interesting, given that some studies have suggested that aerobic exercise alleviates both anxiety and depression (e.g., Ledwidge, 1980).

The purpose of the present investigation was to explore the concurrent and construct validity of self-motivation with the intention of clarifying the characteristics being measured by the SMI. The following hypotheses are proposed: SMI scores are expected to be (a) positively related to regular exercise, (b) negatively related to anxiety and depression, (c) positively related to self-reinforcement, (d) positively related to accepting responsibility for health while negatively related to attributing health to factors beyond one's control, and (e) positively related to reporting to be motivated to exercise.

Method

Subjects

The participants of this study were 220 volunteers from the Honolulu Marathon Clinic multiethnic membership (totalling 500) who were subsequently involved in a 9-month adherence study (Heiby, Onorato, & Sato, 1985). The subjects consisted of 128 men and 92 women whose mean age was 35.8 years ($SD = 11.47$) and who had completed an average of 15.4 years ($SD = 3.2$) of education. There were no significant gender differences in age and education level. The mean height was 5 ft 6 in. ($SD = 4.09$ in.) and weight was 139.45 lbs ($SD = 30.40$). Prior to joining the clinic, 89% had participated in some exercise regimen. Some 36% of these subjects completed the Honolulu Marathon 9 months after they entered the study.

Materials

There were six measures for which the order of presentation was randomized. The exercise scale consisted of single items with 5-point rating scales concerning (a) enjoyability of exercise, perceived ability to exercise, and current exercise habits, (b) motivation to exercise, and (c) open-ended questions concerning education, and physical characteristics such as height, weight, and age.

The Self-Motivation Inventory (SMI; Dishman & Ickes, 1981) was used as a measure of self-motivation. It is a 40-item, 5-point Likert inventory. Validation data include correlations between SMI scores and exercise adherence ($r = .44$), self-report of exercise frequency ($r = .23$), and the Thomas–Zander Ego Strength Scale ($r = .63$). Validation studies for the SMI used both college age ($M$ years = 19.1) and middle-age ($M$ years = 40) populations (Dishman & Ickes, 1981). The SMI's reported internal and test–retest reliabilities are .91 and .92, respectively.

The Frequency of Self-Reinforcement Questionnaire (FSRQ; Heiby, 1982, 1983) is a rationally derived 30-item true-false inventory. The FSRQ was used as a measure of the frequency of both overt (e.g., indulging in an enjoyable activity) and covert (e.g., thinking positive thoughts about yourself) reinforcement. Validation data include correlations between FSR scores and frequency of self-praise in a variety of contexts (Heiby, 1982). Norms are based on a population of college students, $N=300$ (Heiby, 1983). Test–retest and split-half reliabilities are .92 and .87, respectively.