Stages of Change as an Outcome Measure in the Evaluation of Mental Skills Training Programs

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The need for systematic evaluation of mental skills training programs (MSTPs) is a significant professional practice issue in applied sport psychology. Dishman (1983) cautioned the sport psychology community against using naive inference to evaluate the effectiveness of their activities and urged the development of an objective body of knowledge to guide applied services. Others have also noted that to be taken seriously, sport psychology practitioners must convincingly demonstrate the effectiveness of their interventions and procedures (DeFrancesco & Cronin, 1988; Gould, Petlichkoff, Hodge, & Simons, 1990; Hardy & Jones, 1994; Strean & Roberts, 1992; Vealey, 1988, 1994). Systematic evaluation methods enhance accountability and credibility within the profession by providing an accurate record of what sport psychologists can and cannot deliver (Brewer & Shillinglaw, 1992; Smith, 1989). Moreover, ongoing evaluation of MSTPs is consistent with sport psychologists’ ethical obligation to rely on scientifically and professionally derived knowledge when providing professional services (American Psychological Association, 1992).

Determining how to evaluate MSTP effectiveness is a complex task. Objective improvements in sport performance are an obvious and important indicator of program impact (Greenspan & Feltz, 1989). On some occasions, however, obtaining such measures may be difficult or even unnecessary. MSTPs conducted during the off- or preseason, when athletes are not competing, may preclude performance data, except under contrived conditions. In addition, performance outcomes are sometimes secondary to other intervention goals, such as mastering pain

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management skills, improving communication processes, or developing life skills (e.g., Heil, 1993; Miller, 1982; Murphy, 1995). Thus, MSTP effectiveness must sometimes be evaluated in ways that are not based solely on sport performance. As noted by Vealey (1988), appropriate variables in such evaluations include effort, persistence, satisfaction, enjoyment, and attitudes. MSTP effectiveness can also be evaluated by examining the extent to which athletes are adhering to a structured program and using mental skills training on their own (Bull, 1991; Shambrook & Bull, 1996).

Whenever possible, evaluation procedures should be theoretically driven (American Psychological Association, 1992). The transtheoretical model (Prochaska & DiClemente, 1984, 1986, 1992) offers an appropriate framework for theory-based evaluation of MSTPs, but we believe sport psychologists have overlooked its potential. The transtheoretical model is a detailed approach that addresses not only the general nature of behavior change but also the specific processes involved and the levels at which change occurs. This model is relevant both for ceasing negative behaviors (e.g., smoking; Fava, Velicer, & Prochaska, 1995) and acquiring positive ones (e.g., regular exercise; Cardinal & Sachs, 1995, 1996; Gorely & Gordon, 1995). A central assumption of the transtheoretical model, one that is highly relevant to MSTP evaluation, is that behavior change does not occur as an all-or-none dichotomous process but instead as a progressive transition through a series of identifiable stages leading to relatively permanent behavior change. The stages of change within the transtheoretical model are as follows:

1. Precontemplation: Individuals are not considering any behavior changes.
2. Contemplation: Individuals are considering behavior changes but have not taken any steps toward that goal.
3. Preparation: Individuals have taken some preliminary steps toward behavior change.
4. Action: Individuals are regularly engaging in a new behavior but have been doing so for less than 6 months.
5. Maintenance: Individuals have been engaging in a new behavior for 6 months or longer.

Measures based on these five stages have been shown to differentiate individuals according to their readiness for and initiation of new behaviors (Cardinal & Sachs, 1995, 1996; Prochaska & DiClemente, 1992; Prochaska & Marcus, 1994). Although no previous attempts have been made to evaluate MSTPs using such measures, changes in psychological skills training can be assessed with a modified version of the classification procedures developed for other behaviors (e.g., Marcus & Simkin, 1993; Prochaska et al., 1994). More specifically, if an MSTP is effective in stimulating behavior change related to psychological skills training, then we would expect to see shifts toward the more action-oriented stages following exposure to the intervention.

**Method**

**Participants**

Male youth baseball players ($N = 37$) participated in the study as members of a treatment or control group. The treatment group ($n = 20$) trained as an elite