Cognitions and Coping Strategies of Elite Skiers: 
An Exploratory Study of Young Developing Athletes

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For decades athletes, coaches, and researchers interested in sports have been intrigued with the impact of various psychological factors and cognitive strategies on athlete development and performance. Sport psychologists have been particularly interested in understanding the psychology of the elite athlete (Highlen & Bennett, 1979; Mahoney & Avener, 1977; Shelton & Mahoney, 1978).

An exploratory study conducted by Mahoney and Avener (1977) has initiated a renewed interest in the role that cognitive variables play in distinguishing successful and less successful elite athletes. Although the results of recent studies by Shelton and Mahoney (1978) and Highlen and Bennett (1979) suggest the relationship of self-confidence to performance, the results are less clear relative to dreams, visual imagery, anxiety, and several other cognitive strategies. In contrast to the findings for gymnasts (Mahoney & Avener, 1977), imagery, dreams, and self-verbalizations seemed to be of minimal importance in differentiating between successful and unsuccessful wrestlers in Highlen and Bennett’s (1979) study. Highlen and Bennett have argued that the differences in the findings of these two studies may be explained on the basis of open or closed skill classification.

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Cognitive strategies may be found to be quite different from sport to sport, rather than on the basis of an open or closed skill classification. Furthermore, several of the aforementioned cognitive strategies may change markedly during adolescence as this may well be a crucial period for the consolidation of the developing athlete's coping style (Newman, 1979). Thus, it appears crucial that cognitive strategies of successful and nonsuccessful elite athletes in a variety of sports be studied during their developmental years. The information generated hopefully will help researchers and coaches to understand and more effectively design training strategies for athletes in particular sports.

**Method**

In December of 1978, elite skiers ($N = 47$) training at the Stratton Mountain School in Vermont, a preparatory school specifically oriented toward the development of World Class and Olympic caliber student-athletes, volunteered to take part in the study. The skiers ranged in age from 12 to 19 ($M = 15.75$) and included 26 males and 21 females.

Skiers included members of the U.S. Olympic Ski Team, a World Cup Race winner, members of the various U.S. and foreign ski teams, U.S. Junior Olympic Champions, and other high-level skiers still striving to make one of these teams or to earn a scholarship to a college or university. As a group these athletes were found to be noticeably higher in achievement motivation than other populations, but were not different from other populations on competition trait anxiety or state anxiety (Billing, Rotella, & Wakat, Note 1). In addition, males and females in this sample did not differ from each other on competitive trait anxiety or on achieving tendency.

At the conclusion of the 1978–1979 ski racing season, all interested and available volunteers were administered two separate questionnaires. The first was a standardized questionnaire derived from Mahoney and Avener (1977) and modified for skiing. The second instrument, "Coping and Attentional Inventory," was developed by Rotella and the coaches at the Stratton Mountain School. All of the athletes were informed that the questionnaires had several purposes: (a) to help develop a better understanding of the psychological factors impinging upon success in skiing, (b) to help sport psychologists and coaches more effectively counsel athletes relative to their mental preparation for skiing, and (c) to foster the development of training and competitive strategies for future generations of skiers (this was important for getting the attention and honest interest of the skiers). Confidentiality was assured for all participants, but feedback was promised for any skier desiring it.

The National Ski List Ranking was used to assess skiing performance during the 1978–79 ski racing season for slalom and giant slalom events. This measure, which ranks performance over 1 year, is preferable to assessing performance based on a single performance which could be influenced by a variety of