

## Research article

# PSYCHOLOGICAL SKILLS USAGE AND THE COMPETITIVE ANXIETY RESPONSE AS A FUNCTION OF SKILL LEVEL IN RUGBY UNION

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### ABSTRACT

This study examined the intensity and direction of competitive anxiety symptoms and psychological skill usage in rugby union players of different skill levels. Elite ( $n=65$ ) and nonelite ( $n=50$ ) participants completed measures of competitive anxiety, self-confidence, and psychological skills. The elite group reported more facilitative interpretations of competitive anxiety symptoms, higher levels of self-confidence, lower relaxation usage, and greater imagery and self-talk use than their nonelite counterparts. The findings suggest that nonelite performers primarily use relaxation strategies to reduce anxiety intensity. In contrast, elite athletes appear to maintain intensity levels and adopt a combination of skills to interpret symptoms as facilitative to performance. Potential mechanisms for this process include the use of imagery and verbal persuasion efficacy-enhancement techniques to protect against debilitating symptom interpretations.

**KEY WORDS:** Competition, skill level, psychological skills.

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### INTRODUCTION

The multidimensional conceptualization of competitive anxiety incorporating cognitive and somatic components has provided a clearer understanding of how athletes respond to competitive stressors (see Jones, 1995; Woodman and Hardy, 2001 for a review). However, scales designed to assess the construct, such as the Competitive State Anxiety Inventory-2 (CSAI-2; Martens et al., 1990) and Sport Anxiety Scale (SAS; Smith et al., 1990), like many other traditional anxiety instruments, measure the “intensity” of cognitive and perceived physiological symptoms that are purported to signify the presence of anxiety.

Therefore, they do not consider the interpretation of symptoms in relation to the upcoming sporting event (Jones and Swain, 1992; Parfitt et al., 1990). Indeed, Jones (1991; 1995) proposed that researchers should examine the direction of anxiety, which refers to the extent that individuals’ interpret the intensity of their symptoms associated with precompetition anxiety as either facilitative or debilitating to performance. The subsequent adoption of modified directional versions of the CSAI-2 (Jones and Swain, 1992) and SAS (Hanton et al., 2003) to investigate symptom interpretation has led to considerable attention in the sport psychology literature. Directional interpretations have been examined as a function of individual difference variables; both personal and

situational in nature, which have supported the value of distinguishing between the intensity and direction of associated competition-related symptoms in both a state and trait context (see Mellalieu, Hanton et al., 2006, for a review). Indeed, the extant literature indicates that direction may actually be more sensitive than intensity when distinguishing between group differences (Jones and Hanton, 2001; Mellalieu et al., 2003).

One individual difference variable that has consistently been shown to be a discriminating factor of the directional response is that of skill level (e.g., Eubank et al., 1995; Hanton et al., 2003; Jones et al., 1994; Jones and Swain, 1995; Perry and Williams, 1998). Studies examining competitive anxiety as a function of skill have shown that while elite and nonelite athletes generally do not differ in the intensity level of responses, elite performers report significantly more facilitative interpretations of these symptoms, and greater levels of self-confidence when compared to nonelite performers.

A potential explanation for these differences in symptom interpretations can be found in Jones's (1995) control model of debilitating and facilitating anxiety. Based upon the work of Carver and Scheier (1986; 1988), Jones (1995) proposed that performers who perceive themselves as being in control and able to cope with their anxiety and achieve their goals are predicted to interpret symptoms associated with competitive anxiety as facilitative. In comparison, those who perceive themselves not to be in control, and possess negative expectancies regarding goal attainment, are predicted to interpret symptoms as debilitating (Jones, 1995). Support for the model's predictions has been provided in a number of empirical investigations (Hanton et al., 2003; Jones and Hanton, 1996; Ntoumanis and Jones, 1998; O'Brien et al., 2005).

In a specific examination of Jones's model in the context of skill level, Hanton and Connaughton (2002) interviewed elite and nonelite swimmers regarding their retrospective interpretations of cognitive and somatic symptoms, self-confidence, and the perceived effects of these components upon performance. Consistent with the model's predictions, responses perceived to be under control were interpreted to have facilitative consequences for performance; conversely, symptoms seen to be outside of the performers' control were viewed as debilitating. In addition, self-confidence was reported to influence anxiety interpretation, demonstrating its potential role in the protection against the debilitating effects of anxiety (cf. Hardy et al., 1996; Mellalieu, Neil et al., 2006). Indeed, in discussing the relationship between anxiety and self-confidence, Hanton and Connaughton suggested that

the confidence strategies employed to cope with the competitive situation may differ between performers of different skill levels and therefore determine the subsequent interpretation of the symptoms experienced. A follow-up qualitative investigation by Hanton et al. (2004) then explored the psychological skills that underpinned this mechanism. Specifically, elite performers reported using cognitive confidence management strategies including mental rehearsal, thought stopping, and positive self-talk to protect against debilitating interpretations of competitive anxiety. Collectively, therefore, these findings suggest therefore that elite athletes may be utilizing more psychological skills in order to enhance self-confidence and protect against the potential debilitating effects of stressful situations.

A number of studies have investigated the relationship between psychological skills and competitive anxiety. For example, Fletcher and Hanton (2001) examined the intensity and direction of competitive state anxiety in swimmers who differed in their use of psychological skills. Findings showed that performers who reported a greater usage of relaxation strategies experienced lower levels of anxiety and interpreted symptoms as more beneficial to performance than their comparison groups. Maynard and colleagues found similar results when they employed an intervention approach with nonelite soccer players (Maynard et al., 1995a; 1995b). A number of other intervention investigations have also found support for the use of both individual skills (imagery; Hale and Whitehouse, 1998; Page et al., 1999) and multimodal psychological skill packages (goal setting, imagery, and self-talk; Hanton and Jones, 1999; Mamassis and Doganis, 2004) in changing interpretations of symptoms in elite and nonelite populations respectively.

Taken together the studies that have considered the influence of psychological skills upon symptom interpretation in elite and nonelite populations suggest that lesser skilled performers experience their anxiety intensity levels as debilitating and appear to use primarily relaxation strategies, relying minimally on other psychological skills. In contrast, elite athletes appear to use a combination of psychological skills, including goal setting, imagery, and self-talk strategies, and interpret their symptoms associated with anxiety as facilitative. However, these findings are tentative due to the exploratory nature of a number of the previous research designs adopted and the fact that no studies have directly compared elite and nonelite performers' anxiety responses and their respective psychological skill usage. In addition, as the

majority of investigations have sampled performers from individual sports (e.g., swimming; Fletcher and Hanton, 2001; Hanton and Jones, 1999; Page et al., 1999) there is a need to explore psychological skills usage and anxiety interpretation across other sport types (e.g., team, contact-based). Lastly, in the context of professional practice, knowledge of how elite and nonelite athletes respond in stressful circumstances and the techniques they adopt are of important value for practitioners concerning the implementation of psychological skills training and intervention with athletes of different standards. The aim of this study therefore was to compare the intensity and direction of the competitive anxiety response together with psychological skills usage as a function of skill level in rugby union.

A number of predictions were made based upon the competitive anxiety literature. First, in line with the extant skill level findings (e.g., Jones et al., 1994; Jones and Swain, 1995; Perry and Williams, 1998), it was predicted that while elite performers would not differ from their nonelite counterparts in terms of the intensity of responses reported they would interpret their symptoms as more facilitative to performance. Second, based on the proposition that self-confidence acts as a protection mechanism against debilitating anxiety interpretations (Hardy et al., 1996; Hanton et al., 2004; Mellalieu, Neil et al., 2006), elite performers were predicted to report greater levels of self-confidence. Finally, for psychological skill usage, it was predicted that elite athletes would use greater amounts of psychological skills, including goal setting, imagery, and self-talk (Hanton and Jones, 1999), while nonelite performers would report greater relaxation skill usage (Fletcher and Hanton, 2001).

## METHODS

### *Participants*

Data for the study were collected from 115 male rugby union performers ( $n = 65$  elite,  $n = 50$  nonelite), who ranged in age from 18 to 36 years ( $M = 20.38$ ,  $SD = 2.92$ ), all of whom provided written informed consent. Elite participants were sampled from professional competition within the UK while the nonelite players were selected on the basis that they competed at a semi-professional club standard or below (cf. Hanton and Connaughton, 2002). All were in competition or training for competition at the time of data collection.

### *Instrumentation*

Test of Performance Strategies (TOPS). The 64-item TOPS (Thomas et al., 1999) was developed to measure the psychological skills used by athletes in

various sporting situations. Specifically, within its 16 subscales, it examines activation, relaxation, imagery, goal setting, self-talk, automaticity, emotional control, and negative thinking/attentional control skills during competition and practice settings. Seven factors are common to both competition and practice contexts, whereas negative thinking is only included in the competition context and attentional control only in the practice context. For the purposes of the current investigation and, in line with the hypotheses, only the competition scale was examined. Examples of items during competition included for relaxation "I am able to relax if I get too nervous at competition" and for goal setting "I set personal performance goals for a competition". Items for imagery included "I visualize competition going exactly the way I want it". Participants rated the frequency of each item on a scale anchored by 1 (never) to 5 (always), with overall psychological skill usage scores ranging from 4 to 20. Initial analyses of the psychometric properties underpinning the TOPS have been encouraging in terms of its construct validity (see Hardy et al., 1997; Thomas et al., 1999), while Thomas et al. (1999) have reported Cronbach alpha coefficients of between 0.78 and 0.80 for the competition subscales. For the current study, values of between 0.72 and 0.83 were reported.

Modified Sport Anxiety Scale (SAS). A modified version of the SAS (Smith et al., 1990) was used to measure the intensity and direction of the trait component of worry and somatic anxiety and comprised 16 of the 21 original items. The scale measuring concentration disruption was removed due to its reported failure to function in accordance with theoretical expectations (Dunn et al., 2000). This left seven items in the worry subscale and nine items in the somatic anxiety subscale. Examples of the worry subscale include "I feel nervous" and "I am concerned about performing poorly", while the somatic scale contains items such as, "I feel tense in my stomach" and "My heart races". For the intensity measure, respondents rated each item on a 4-point Likert scale ranging from 1 (not at all) to 4 (very much so). Intensity subscale scores ranged from 7 to 28 (worry) and 9 to 36 (somatic anxiety). Internal consistencies for the SAS subscales have been reported with Cronbach alpha coefficients ranging from 0.71 to 0.92 for somatic anxiety and 0.70 to 0.86 for worry (Hanton and Connaughton, 2002; Smith et al., 1990; White and Zellner, 1996). For this study, values of between 0.74 and 0.82 were reported for the somatic and worry scales respectively. Satisfactory levels of convergent and discriminant validity have also been observed (Smith et al., 1990).

For the purposes of the present study, the SAS was modified to include Jones and Swain's (1992) direction scale. Participants were required to rate the degree to which the intensity of each symptom experienced was usually interpreted as either facilitative or debilitating to subsequent performance. The direction scale, originally used as a modification of the CSAI-2 (Martens et al., 1990; Jones and Swain, 1992), consisted of a bipolar 7-point Likert scale, ranging from -3 (very debilitating) to +3 (very facilitative), with the midpoint of 0 representing a level of symptom that was interpreted as "unimportant" to performance. The direction subscale scores ranged from -21 to +21 (worry) and -27 to +27 (somatic). High levels of internal consistency have been demonstrated for the direction scale when incorporated into both the CSAI-2 and the SAS. Specifically, Cronbach alpha coefficients for the SAS were 0.87 and 0.88 for worry direction and 0.85 to 0.88 for trait somatic anxiety direction (Hanton et al., 2003). For the current study, values of between 0.85 and 0.91 were reported for the somatic and worry scales respectively.

Competitive Trait Anxiety Inventory-2 (CTAI-2) Self-Confidence Subscale. Self-confidence was measured using the subscale from Albrecht and Feltz's (1987) trait modification of the CSAI-2 (i.e., CTAI-2), where each item is responded to in terms of how the individual usually feels. The scale comprised 9 items with respondents rating the intensity of each on a 4-point Likert scale ranging from 1 (not at all) to 4 (very much so) with total scores ranging from 9 to 36. Sample items include "I feel self-confident" and "I'm confident I can meet the challenge". A Cronbach alpha value of .83 has been reported for this scale (Perry and Williams, 1998). A value of .85 was reported for the current study.

### **Procedures**

In order to counter for any potential method bias a number of procedural measures were undertaken (cf. Podsakoff et al., 2003). First, to prevent any contextual influences (e.g., audience effects), the TOPS, SAS, and CTAI-2 self-confidence scale, were completed by participants on their own, in random order, and away from the competitive environment. Next, in order to ensure temporal separation of measurement instruments the scales were administered separately within a 24-hour time lag. Finally, prior to completion, each participant was presented with standardized instructions based upon the recommendations of Smith et al. (1990) and Martens et al. (1990) respectively. These emphasized the confidentiality of responses and the

need to consider each item on its own merit, thus attempting to minimize social desirability, accentuate honesty, and indicate that there were no right or wrong answers.

### **Data analysis**

Employing a moderate effect size, the sample size used gave a statistical power that exceeded the required value of 0.80 (Cohen, 1988). Data analysis was then divided into two stages. First, data screening procedures were conducted to investigate the accuracy of the data. Elite and nonelite groups were then examined in relation to participants' scores on the modified SAS, CTAI-2 self-confidence, and TOPS subscales using separate Multivariate Analyses of Variance (MANOVA) procedures. Univariate Analyses of Variance (ANOVA) with Bonferroni adjustments ( $p < 0.01$ , for SAS and CTAI-2 self-confidence subscales; and  $p < 0.001$  for TOPS subscales) were employed for follow-up analyses.

## **RESULTS**

### **Preliminary data analysis**

Participants' scores on the measures were examined for accuracy of data entry, missing values, and fit between their distribution and the assumptions of multivariate analysis. No missing values were recorded and there were no univariate or multivariate within-cell outliers at  $p = 0.001$ . In line with recommendations of Tabachnick and Fidell (1996), the assumptions of normality, homogeneity of variance-covariance matrices [ $F(3, 74928) = 1.21, p > 0.05$ ], linearity, and multicollinearity were also observed to be satisfactory.

### **Modified SAS and self-confidence scores as a function of skill level**

A one-way MANOVA was conducted for skill level to determine if any significant differences existed between elite and nonelite groups for the SAS and self-confidence subscales. The MANOVA was significant, Wilks's lambda = 0.93,  $F(5, 60) = 8.36$ ,  $p < 0.01$ ,  $\eta^2 = 0.09$ , with follow-up ANOVAs indicating significance for somatic intensity and worry direction only (Table 1). Specifically, the elite group reported a less debilitating interpretation of symptoms associated with worry (nonelite -7.11; elite -1.26;  $p < 0.01$ ) and a more facilitative interpretation of somatic responses (nonelite 0.17; elite 7.10;  $p < 0.01$ ) than the nonelite group. The elite group also reported higher CTAI-2 self-confidence scores (nonelite 23.20; elite 29.35;  $p < 0.01$ ).

**Table 1.** Competitive Anxiety Intensity and Direction and CTAI-2 Self-Confidence scores as a function of skill level. Data are means ( $\pm$ SD).

	Elite (n = 65)	Nonelite (n = 50)	df	F	p	$\eta^2$
<b>SAS</b>						
Somatic Intensity	17.84 (6.29)	17.17 (4.53)	1, 110	1.14	.18	.03
Worry Intensity	14.06 (3.80)	15.26 (3.79)	1, 110	1.50	.22	.01
Somatic Direction	7.10 (7.60)	.17 (5.71)	1, 110	8.74	<b>.01</b>	.01
Worry Direction	-1.26 (9.96)	-7.11 (7.51)	1, 110	9.48	<b>.01</b>	.01
<b>CTAI-2</b>						
Self-Confidence Intensity	29.35 (4.55)	23.20 (5.18)	1, 110	6.79	<b>.01</b>	.01

**TOPS scores as a function of skill level**

One-way MANOVA was conducted for skill level to determine if significant differences existed between elite and nonelite groups for the TOPS subscales in competition. The MANOVA for competition was significant, Wilks's lambda = 0.93,  $F(10, 55) = 24.81$ ,  $p < 0.01$ ,  $\eta^2 = 0.13$ , with follow-up ANOVAs indicating significance for imagery, self-talk, and relaxation usage (Table 2). Specifically, the elite group reported using more imagery (nonelite 13.10; elite 15.29;  $p < 0.01$ ), and self-talk (nonelite 14.71; elite 16.32;  $p < 0.01$ ) in competition, while the nonelite performers reported greater usage of relaxation strategies (nonelite 15.10; elite 13.23;  $p < 0.05$ ).

**DISCUSSION**

This study examined multidimensional anxiety and psychological skills usage as a function of skill level in rugby union players. The predictions were based upon previous research that has *independently* examined skill level (e.g., Jones et al., 1994; Jones and Swain, 1995; Perry and Williams, 1998), psychological skills usage (e.g., Fletcher and Hanton, 2001; Maynard et al., 1995a), and multidimensional anxiety symptoms. Partial support was provided for all the research predictions under investigation. Specifically, in the context of the

anxiety responses, while no differences were reported in intensity across skill level groups the elite performers viewed these symptoms as more facilitating to their performance than the nonelite athletes. These findings compare favorably with existing comparisons of competitive anxiety responses as a function of skill level. Interestingly, however, in the present study, although significantly less debilitating than the nonelite sample, the mean values for elite performers' worry anxiety direction were still perceived as debilitating ( $M = -1.26$ ). This finding would appear to be in line with existing investigations of anxiety intensity and direction that suggest responses differ as function of sport type. Specifically, performers in contact sports, such as rugby union, experience more detrimental effects from cognitive anxiety symptoms due to the increased threat arising from personal confrontation (cf. Mellalieu et al., 2004). Conversely, as somatic state anxiety symptoms are classically conditioned to environmental cues, physical manifestations experienced tend to dissipate at the onset of competition as players become more involved in the activity (i.e., as the game progresses). The presence of somatic symptoms therefore tend to be viewed as facilitating in sports such as rugby union that they signify action, increased effort, or readiness for competition and the forthcoming contact.

Potential explanations for the observed

**Table 2.** TOPS subscales as a function of skill level. Data are means ( $\pm$ SD).

	Elite (n = 65)	Nonelite (n = 50)	df	F	p	$\eta^2$
<b>TOPS</b>						
Activation	13.97 (1.94)	13.34 (2.32)	1, 107	.83	.32	.12
Relaxation	13.23 (2.48)	15.10 (3.16)	1, 107	18	<b>.001</b>	.18
Imagery	15.29 (3.19)	13.10 (2.99)	1, 107	27.20	<b>.001</b>	.20
Goal setting	14.58 (2.94)	12.66 (2.24)	1, 107	2.15	.09	.08
Self-talk	16.32 (2.47)	14.71 (2.52)	1, 107	14.83	<b>.001</b>	.17
Automaticity	15.00 (3.50)	13.91 (6.63)	1, 107	1.40	.29	.05
Emotional control	14.74 (2.66)	13.71 (2.69)	1, 107	.41	.59	.08
Negative attitude	8.31 (2.56)	7.57 (2.33)	1, 107	.93	.33	.09

differences in symptom interpretations across skill level may be found in the greater self-confidence reported by elite performers when compared to their nonelite counterparts. Indeed, one of the most consistent findings in the anxiety literature is that 'facilitators' of symptoms associated with the anxiety response report greater levels of self-confidence than debilitators (cf. Hanton et al., 2004). Self-confidence has subsequently been suggested to act as a resiliency factor and protect against the debilitating effects of anxiety (Hardy et al., 1996; Mellalieu, Neil, et al., 2006). The nature by which athletes use self-confidence to manage responses in stressful situations was identified in Hanton et al.'s (2004) qualitative investigation into the role of self-confidence in the competitive anxiety intensity and symptom interpretation relationship. In their study, elite performers reported using cognitive confidence management strategies including mental rehearsal, thought stopping, and positive self-talk to protect against debilitating interpretations of competitive anxiety. In the current study, elite athletes reported greater self-confidence and usage of imagery and self-talk than their nonelite counterparts. These findings are consistent with those of Hanton et al. (2004) and provide further support for the potential protection effects of self-confidence.

Based upon the work of Bandura (1997), Hanton et al. have suggested that the confidence protection mechanism may take effect via athletes visualizing or recalling forthcoming or past successful skill performances when experiencing symptoms associated with doubts and negative images of performance. Similarly, the use of other cognitive strategies in combination, such as self-talk and cognitive restructuring, are also purported to serve a similar confidence management function by reducing, removing or altering the negative 'doubting' cognitions that athletes' experience. These cognitive strategies are therefore suggested to alter the overall mental experience of athletes from a negative state to a more positive confident outlook towards forthcoming performance.

Hanton et al.'s (2004) suggestions would appear to be congruent with Jones's (1995) model of control, and the proposals of Carver and Scheier (1998; 1999), in relation to how individuals use self-confidence to cope with adversity when attempting to achieve goals. Specifically, when appraising the likelihood of goal attainment individuals retrieve and utilize expectancies in the form of behavioral scenarios that are played through mentally (i.e., imaged). Those individuals that image positive scenarios and positive outcomes are suggested to lead to positive expectancies (i.e., enhanced self-confidence), while negative scenarios are reported to

lead to reduced expectancies and levels of self-confidence in the ability to reach goal attainment.

Based upon the findings of the current study, together with those of Hanton et al.'s (2004), practitioners should attempt to focus upon developing confidence protection strategies that build robust efficacy expectations in order to influence self-confidence symptoms and protection against anxiety debilitation. In conjunction with the use of mental imagery, individual-specific mental skill packages should therefore be developed that incorporate various forms of efficacy enhancement including enactive mastery or performance accomplishments, and verbal persuasion or positive self-talk.

The findings that nonelite performers experience their anxiety symptoms as debilitating and attempt to reduce these symptoms via the use of relaxation suggest that practitioners should implement relaxation-based programs with this population group. However, while support has been found for the efficacy of psychological relaxation techniques in reducing competitive anxiety intensity and debilitating interpretations of associated symptoms (e.g., Maynard et al., 1995a; 1995b) such methods may not be appropriate for the activation and arousal demands of certain sports such as rugby union. In particular, the reduction of anxiety intensity may decrease the performer's activation state, and subsequent mental and physical readiness to withstand the physical and confrontational nature of the sport. Indeed, it may not be possible, or even desirable, to reduce such symptoms via stress management techniques due to the relative high levels of activation states required for task performance (Hanton et al., 2000; Mellalieu et al., 2004).

In such circumstances, performers may need to reduce symptom intensity, restructure cognitions, and then raise activation states once again to appropriate levels, particularly if individuals possess insufficient self-confidence to manage their symptoms and to protect against negative interpretations. Elite performers who are debilitators may however be better advised to implement some cognitive restructuring techniques using psychological skills and strategies to interpret their anxiety as facilitative to performance including a combination of goal setting, self-talk, and imagery (Hanton and Jones, 1999).

The primary limitation of the study was the cross-sectional nature of the design, which precluded the inference of causality between psychological skill usage and symptom interpretations. However, taken collectively with the existing empirical research that has considered the athletes use of

psychological skills and strategies (e.g., Fletcher and Hanton, 2001; Hanton and Connaughton, 2002; Hanton et al., 2004). The findings of the current study provide the basis to indicate that certain psychological skills (i.e., imagery and self-talk) are implicated in helping elite performers maintain robust perceptions of confidence, in order to cope with the stressful demands of high-level competition. Future research should therefore identify which psychological skill, or their combination, most contributes to the affective response in conditions of competitive stress. Indeed, Fletcher and Hanton (2001) have suggested that any future examination in this area should consider the effectiveness of different interventions in eliciting positive symptom interpretations and performance improvements. In particular, researchers should consider the efficacy of one strategy versus another or the effects of combining different strategies to form a psychological skills package.

An additional limitation with the study rests with the current conceptualization of psychological skills usage through the utilization of the TOPS scale. Specifically, the fact that it only purports to measure the amount an individual utilizes a psychological skill, and does not consider whether the performer perceives he/she is actually using that skill effectively. For example, in the case of our findings regarding nonelite performers, an athlete may continuously attempt to adopt a somatic-based relaxation strategy (e.g., passive stretching) to alleviate precompetition cognitive and somatic symptoms in the hour prior to performance, however, this may be ineffective due to the incorrect technique adopted. In contrast, an elite performer may utilize images of coping successfully in competition for a 30-second period in the dressing room directly prior to running out onto the field for the match, which may be sufficient to maintain his efficacy expectations regarding the upcoming performance. Clearly qualitative methods may be appropriate here to unearth information on these recommendations. Future research into psychological skills and experiences of the competitive anxiety response should therefore attempt to assess not only the frequency of usage but also the perceived effectiveness of the usage of that skill. Initial empirical support for the distinction between these concepts can be found in the coping literature where researchers have identified athletes' perceptions of strategy effectiveness to be as important as coping usage itself (Neil et al., 2004; see also Bolger and Zuckerman, 1995).

## CONCLUSION

The findings of this study suggest that elite and nonelite athletes differ in their use of psychological skills to cope with their experiences of symptoms associated with competitive anxiety. Specifically, nonelite performers primarily use relaxation strategies to reduce anxiety intensity while elite athletes appear to maintain intensity levels and adopt a combination of psychological skills to interpret symptoms as facilitative. Potential mechanisms for this process include the use of imagery and verbal persuasion efficacy-enhancement techniques. Nonelite performers who experience anxiety symptoms as debilitating should implement relaxation-based programs. However, this may be inappropriate for certain sports that require high levels of activation states. Performers may therefore need to reduce symptom intensity, restructure cognitions, and raise activation states once again to appropriate levels. Elite performers who are debilitated are advised to implement cognitive restructuring techniques to interpret their anxiety as facilitative to performance via a combination of goal setting, self-talk, and imagery. Future research into psychological skills and experiences of the competitive anxiety response should attempt to assess not only the frequency of usage but also the perceived effectiveness of the usage of that skill.

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## KEY POINTS

- Nonelite performers primarily use relaxation strategies to reduce anxiety intensity.
- Elite athletes maintain intensity levels and adopt a combination of psychological skills to interpret symptoms as facilitative.
- This process occurs through imagery and verbal persuasion efficacy-enhancement techniques.
- Nonelite performers who are debilitators should implement relaxation-based programs. However, in high activation level sports performers should reduce symptom intensity, restructure cognitions, and then raise activation states again to appropriate levels.
- Elite performers who are debilitators should implement cognitive restructuring techniques to interpret their anxiety as facilitative via a combination of goal setting, self-talk, and imagery.

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