Achievement goal orientations and the use of coping strategies among Winter Olympians

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Abstract

Objectives: To examine the relationship between task and ego orientations and the use of stress-coping strategies among athletes participating in the 1994 Winter Olympic Games. We expected that athletes who were high on task and low on ego orientation would employ more problem-solving strategies than athletes with other ego and task profiles. We also expected that athletes high in ego and low in task orientation would employ more emotion-focused strategies than other athletes with other ego and task profiles. Gender differences were also investigated.

Design: Cross-sectional, retrospective. Data were collected immediately after the closing of the Olympic Games.

Methods: Norwegian athletes (N=69, 50 males and 20 females, mean age=25.2 years) participated in the study. Goal orientations and coping strategies were assessed using questionnaires.

Results: After a median split on the task and the ego orientation scales to determine the athletes who were high/low on task and low on ego orientation would employ more problem-solving strategies than athletes with other ego and task profiles. We also expected that athletes high in ego and low in task orientation would employ more emotion-focused strategies than other athletes with other ego and task profiles. Gender differences were also investigated.

Conclusions: The relative strength of high and/or low task and ego orientation has an impact on elite athletes’ use of coping strategies in competition. Being high in ego orientation seems to be more influential among female than male elite athletes in their use of coping strategies.

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Elite athletes in competition are exposed to a number of potential stressors that may have a detrimental effect on their performance. Whether stress is perceived, however, varies from athlete to athlete, and one variable that affects the perception of stress, and the coping strategies used to deal with the perceived stress, is the achievement goal of the athlete (Vealey & Campbell, 1988). There is little research testing theoretical frameworks concerned with ways of coping with stressful situations in sport (Crocker, Kowalski, & Graham, 1998). The focus of this study was to investigate the relationship of achievement goals to the manner of coping with stress of elite Winter Olympic athletes.

The conceptual framework of achievement goal theory developed by Nicholls (1984, 1989, 1992) among others has been successfully utilised within the context of sport (e.g., Duda 1992, 1993; Roberts 1984, 1986) including studies involving elite athletes (e.g., Duda & White, 1992; Pensgaard, 1999; Roberts & Ommundsen, 1996). Achievement goal theory proposes that there are two predominant goals or bases of subjective success in achievement situations, namely a task and an ego goal orientation (Nicholls, 1989). When an athlete is task-oriented, the individual is interested in demonstrating mastery of the task, perceptions of ability are self-referenced, there is an interest in learning and self-development, and the focus is on the task with little concern for the outcome. An ego-oriented athlete, on the other hand, is interested in demonstrating superior ability to others and perceived ability is normatively referenced. Winning and beating others is the major focus of an ego-oriented athlete.

Contemporary research has revealed that important relationships exist between goal orientations and achievement cognitions and behaviour (e.g., Lochbaum & Roberts, 1993; Roberts & Ommundsen, 1996; Roberts, Treasure, & Kavussanu, 1997), and both Roberts (1984, 1986) and Duda (1993) have suggested a relationship between achievement goals and responses to stress in sport. Individuals who are predominantly ego-oriented may perceive more stress in achievement contexts because they utilise normative criteria to assess success. Support for this hypothesis was first provided by Lewthwaite (1990), who found that an ego-oriented goal was related to higher levels of anxiety in the athletic setting. Ntoumanis and Biddle (1998), on the other hand, found that when self-confidence was high there was no significant relationship between high ego orientation and high levels of anxiety.

Athletes who are predominantly task-oriented and have internal criteria of determining success may be better equipped to cope with stress, while athletes who are ego-oriented and have external criteria of success, such as outperforming other competitors, may be especially vulnerable to perceive stress and suffer possible performance decrements. Although support has been found for a relationship between achievement goals and the perception of stress, no study has examined the relationship of achievement goals and the use of coping strategies to deal with stress in elite sport. Further, most previous studies have considered goal orientations as bipolar in that one is either task- or ego-oriented. But Nicholls (1984, 1989) argues that the two achievements goals are orthogonal, one can be high and/or low in each or both. Therefore, the relative strength of the two goal orientations should affect the use of coping with stress strategies. Thus, the purpose
of this study was to examine the relationship between high and low task and ego orientation and the use of coping strategies of elite athletes in a major competitive sport event.

**Coping strategies and sport competition**

The way people cope with stress has been of major interest in psychology for the last three decades (Carver, Scheier, & Weintraub, 1989). Coping has been defined both as a positive response outcome expectancy (Ursin, 1988) and as a strategy independent of the outcome (Lazarus & Folkman, 1984). Lazarus and Folkman (1984, p. 141) define coping as “...constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person”. They describe two main categories of coping, namely problem-focused strategies and emotion-focused strategies. Problem-focused strategies refer to cognitive and behavioural efforts to try to alter the source of stress. Examples are to solve the problem, obtain information, plan in advance, learn new skills or to increase effort. Emotion-focused coping strategies are aimed at reducing the unwanted physical and emotional arousal. These include strategies such as mental and behavioural disengagement, denial or acceptance. Roth and Cohen (1986) argue that each form of coping (problem- and emotion-focused) has advantages and disadvantages. In a sport setting, a so-called maladaptive strategy such as venting of emotions can be highly effective and appropriate. In contrast, an adaptive strategy such as careful planning may be ineffective because there is not enough time before action has to be implemented.

Carver et al.’s (1989) view on coping is partly based on Lazarus and Folkmans’ (1984) theory, but they argue that a distinction between two general types of coping is too simple. Research that has employed the Ways of Coping Checklist (Folkman & Lazarus 1980, 1988) typically finds more than two factors, and thus lends support to this criticism. Carver and colleagues developed the COPE inventory that consists of 15 distinct coping scales representing four higher-order functional dimensions of coping. Therefore, it seems to be important to try to detect a more complex pattern of coping behaviours.

**Qualitative studies of coping in elite sport**

Gould, Eklund, and Jackson (1993), using a qualitative approach, investigated participants in the US Olympic wrestling team in Seoul in 1988, and found that athletes employed a variety of strategies to cope with the stress of competing at an elite level. Gould et al. also reported that the wrestlers were neither limited to particular strategies nor to single approaches in dealing with a particular stressor, but rather reflected a dynamic, complex process involving a number of strategies often used in combination. This was supported by another qualitative study among former National Champion figure skaters. Gould, Finch, and Jackson (1993) identified eight different coping dimensions reported by at least 40% of the athletes. An important element emerging from the findings of these two studies is the apparent variety of coping strategies employed by elite athletes.
Quantitative studies of coping in elite sport

Hardy, Jones, and Gould (1996) argue that coping with adversity is of major importance to achieve optimal performance in sport. However, surprisingly little attention has been paid to coping within sport psychology. Only a few studies have had coping as a primary variable. Prapa-vessis and Grove (1995) examined coping with performance slumps in high-performance Australian baseball players. They found a relationship between emotion-focused coping and perceived frequency of batting slumps and slump-related stress. Problem-focused coping was not found to be related to batting slumps. Crocker (1992) used a modified version of Folkman and Lazarus’ (1980, 1988) Ways of Coping Checklist (WCC) to investigate how competitive athletes cope with stress. Crocker found that the athletes employ a number of different strategies. He suggested that active coping and problem-focused coping are highly adaptive strategies that athletes should employ when they want to alter environmental circumstances contributing to their stress. Although the effectiveness of the different strategies is of interest, especially when it comes to how such strategies have been implemented in the sport context, the objective of this study was to focus on the coping process without determining the efficacy of the coping strategies.

Methodological challenges when studying coping in elite sport

One major problem with previous research within the coping area is the lack of authentic scenarios involving elite athletes (Anshel, 1990). Research conducted with elite athletes always faces methodological challenges. First, by definition, there will be a problem with small sample sizes and subsequent lack of statistical power. Second, it is difficult to get access to elite athletes unless they recognise the ecological validity of the research. However, there are ways we can overcome these problems. It is a fact that truly elite athletes are not numerous and, thus, a large sample size will always be unrealistic. But at the same time one can argue that if one has a high response rate, then one has the total population. This means one can discuss mean differences and not be totally constrained by probabilistic criteria of differences.

Gender

An additional purpose of this study was to investigate the role of gender concerning the use of coping strategies. Gender issues in sport is one of the areas where sport psychology research is limited in both scope and depth (Gill, 1992). The competitive sport context is typically described as being masculine and male-dominated, with the percentage of female coaches and leaders being low (Kristensen, 1994). Research has demonstrated that female athletes seem to have lower self-confidence (Lirgg, 1991), they are less competitive than males (Gill, 1988), and they experience higher sport-specific trait anxiety (Martens, 1977). Jones, Swain, and Cale (1991) found that female athletes experienced more progressive development of cognitive anxiety prior to important competition than males. Studies (e.g., Duda, 1986) have revealed that gender differences exist concerning achievement goal orientation: males more than females are likely to place a greater emphasis on ego involving goals in the athletic context. On the competitive level, male athletes seem to be more ego-oriented than female athletes (White & Duda, 1994). This may be due to the fact that female athletes tend to be more intrinsically motivated than their male counterparts.
(Deci & Ryan, 1985). Crocker and Graham (1995) found that female athletes used higher levels of seeking social support for emotional reasons, while males experienced higher levels of positive affect. Gill (1992) also further points out that most of our knowledge about elite athletes is based on studies involving male athletes. In the present context, we thought it is important to investigate whether there are any gender differences or similarities exist concerning achievement goals and the use of stress-coping strategies.

Therefore, the purpose of this study was twofold. First, we wanted to examine the relative impact of high and low task and ego orientation on the use of coping strategies of elite male and female athletes. We expected that athletes who were high on task and low on ego orientation would employ more problem-solving strategies (i.e., strategies like active coping, planning, etc.) than athletes with other ego and task profiles. We also expected that athletes high in ego and low in task orientation would employ more emotion-focused strategies (i.e., strategies like denial, venting of emotions, etc.) than other athletes with other ego and task profiles. Second, we wanted to investigate the role of gender in the relation of goal orientation to the use of coping strategies. Although the amount of research, and thus the current knowledge in this area, is sparse, we hypothesised that a high ego orientation would affect female athletes more than male athletes because, typically, female athletes tend to have lower ego orientation than their male counterparts. Thus, it may be less socially acceptable for female athletes to have a high ego orientation, and, therefore, they may be even more likely to employ more emotion-focused strategies.

**Method**

*Participants and procedure*

All of the Norwegian participants competing in the 1994 Winter Olympic Games ($N=91$) were requested to take part in this study. Seventy elite athletes (50 males and 20 females) returned the questionnaires within two months after the Olympics (a response rate of 76%). Data for one participant was incomplete and thus removed from the study because he did not answer the last part of the questionnaire. The mean age of the participants was 25.2 years [standard deviation (SD)=3.8] and the mean length of their international competitive experience was 6.9 years (SD=3.6). Participants in the study were highly successful elite athletes with 26 Olympic medallists in the sample. The participants represented a wide variety of sports, such as cross-country skiing, downhill, ski-jump, ice hockey, speed skating, biathlon and bobsleigh. In order to secure the anonymity of the athletes we did not break the sample down to sport-specific groups.

The questionnaires were mailed to the athletes at their home address and the package included a recommendation letter from the Norwegian Olympic Committee and an informed consent form. It was emphasised that participation was voluntary, that participants could withdraw at any time, and that the answers would be treated confidentially, according to Norwegian laws and regulations for personal data. Permission for such data collection was obtained from the Norsk Datatilsyn.
Measures

Goal orientations

The Perception of Success Questionnaire (POSQ; 1991; Roberts, Treasure, & Balague, 1998) was used to assess dispositional goal orientation. The scale consists of 12 items, six items for task orientation and six for ego orientation, with each response being made on a five-point Likert scale anchored by “strongly agree” and “strongly disagree”. The scale has been translated into Norwegian and validated involving 148 athletes (Roberts & Ommundsen, 1996). The internal consistency of the translated version was 0.81 for task (however, only four items were used) and 0.79 for ego orientation. Thus, the translated version of POSQ was employed in this study. Two items from the original task orientation scale revealed lower internal consistency for the task scale when they were included in the Roberts and Ommundsen study. Therefore, we included two additional task-oriented items, (i.e., “I work very hard” and “I do the very best I can”) to determine if it would improve the internal consistency of the scale. A factor analysis with both orthogonal and oblique rotation (two factors specified) was conducted on the participants to verify the factor structure with elite athletes. Both the varimax and the oblique rotation produced similar factor loadings, thus the varimax rotation was accepted. The two factors accounted for 45.1% of the variance. Alpha coefficients were 0.75 for the ego (six items, factor loadings from 0.66 to 0.75) and 0.76 for the task (eight items, factor loadings from 0.30 to 0.85) scale, while the correlation between the two subscales was low ($r=-0.09$), demonstrating the orthogonality of the two factors. We included all eight items on the task scale because it gave the highest Cronbach alpha level. The six-item task scale gave alpha=0.63. Separate scores are calculated for each subscale by adding responses (1–5) on the six and eight items of the respective subscales, and dividing by the number of items to attain a mean score.

COPE inventory

In order to determine the athletes’ coping strategies, the situation-specific version of the COPE inventory was used (Carver et al., 1989). The COPE contains five scales measuring distinct aspects of problem-focused coping (i.e., active coping, planning, suppression of competing activities, restraint coping, seeking instrumental support), five scales of emotion-focused coping (i.e., seeking emotional social support, positive reinterpretation and growth, acceptance, denial, turning to religion) and three behaviour-focused scales (i.e., focus on and venting of emotions, behavioural disengagement, mental disengagement). The turning to religion scale was not used in this study because of its possible provocative nature. Each subscale consists of four questions, and each item is scored on a four-point Likert scale (1=“I didn’t do this at all” to 4=“I did this a lot”). The athletes were asked to describe the most stressful negative experience they had experienced during the present Olympic Games. Following the description the instructions were: “Based on what you have described, please indicate on the following scale what kind of strategies you used to deal with the situation”. The scales have proven acceptable psychometric properties (Carver et al., 1989). COPE was translated into Norwegian and back translated to English by five professors at the Norwegian University of Sport and Physical Education. The translated version was also compared with an additional translation made by the Department of Psychology, University of Oslo, and only minor changes were made.

Owing to the small sample size, conventional factor analysis could not be used to verify the
factor structure of the translated COPE. Comrey (1988) recommends an alternative procedure where a measure of internal consistency, measured by coefficient alpha (Cronbach, 1951), for each subscale, is used to check whether the items are measuring the same constructs. This does of course only test that items within a single scale measure the same construct, while it does not control for the fact that an item may represent more than one latent construct. However, COPE has revealed sound psychometric properties in several studies (see Eklund, Grove, & Heard, 1998 for a thorough test of COPE). Descriptive statistics and alpha coefficients are reported in Table 1. Subscales with reliability coefficients less than 0.65 were eliminated from all subsequent analyses. The following subscales were thus eliminated: restraint coping (0.49) and mental disengagement (0.38).

**Satisfaction with results**

The participants were asked to indicate, on a scale of 0 to 100, how satisfied they were with their results when competing in the Olympic Games.

**Qualitative data**

**Subjective negative stress experience**

In order to gain more insight into what athletes at this level perceive as being stressful experiences, the participants subjects were asked to complete an open-ended question, where they were asked to describe when the negative stress experience occurred and what kind of stress experience they had. The answers of the actual negative stress experience were categorised by the two authors separately into one of six categories. The types of category emerged from the data and were

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>α</th>
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</thead>
<tbody>
<tr>
<td><strong>POSQ</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Task orientation</td>
<td>4.6</td>
<td>0.4</td>
<td>0.76</td>
</tr>
<tr>
<td>Ego orientation</td>
<td>3.9</td>
<td>0.7</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Satisfaction with result</strong></td>
<td>48.6</td>
<td>31.5</td>
<td>–</td>
</tr>
<tr>
<td><strong>COPE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active coping</td>
<td>10.2</td>
<td>3.2</td>
<td>0.67</td>
</tr>
<tr>
<td>Planning</td>
<td>9.8</td>
<td>3.3</td>
<td>0.78</td>
</tr>
<tr>
<td>Social instrumental</td>
<td>8.2</td>
<td>3.7</td>
<td>0.84</td>
</tr>
<tr>
<td>Social emotional</td>
<td>9.0</td>
<td>3.5</td>
<td>0.83</td>
</tr>
<tr>
<td>Suppression of competing activities</td>
<td>8.1</td>
<td>3.0</td>
<td>0.67</td>
</tr>
<tr>
<td>Redefinition and growth</td>
<td>10.7</td>
<td>2.9</td>
<td>0.70</td>
</tr>
<tr>
<td>Restraint coping</td>
<td>7.1</td>
<td>2.4</td>
<td>0.49</td>
</tr>
<tr>
<td>Acceptance</td>
<td>9.8</td>
<td>3.2</td>
<td>0.73</td>
</tr>
<tr>
<td>Venting of emotions</td>
<td>6.4</td>
<td>2.5</td>
<td>0.73</td>
</tr>
<tr>
<td>Denial</td>
<td>5.3</td>
<td>2.1</td>
<td>0.70</td>
</tr>
<tr>
<td>Mental disengagement</td>
<td>6.5</td>
<td>2.1</td>
<td>0.38</td>
</tr>
<tr>
<td>Behavioural disengagement</td>
<td>4.7</td>
<td>2.1</td>
<td>0.82</td>
</tr>
</tbody>
</table>
decided after the first screening of the open-ended answers. When disagreement occurred, the placement was decided after discussions. The six categories were: (1) expectations (from other people and themselves), (2) external distractions (i.e., the press/media and the spectators), (3) negative thoughts (lack of self-confidence, etc.), (4) the coach (conflict with the coach, lack of information and support), (5) the competition itself, and (6) injury.

Results

In order to test the hypothesised relationship between goal orientations and the use of coping strategies, the participants were divided into four groups based on a median split on the task and ego orientation subscales. The median was 4.6 and 3.8, respectively. Participants who scored on the median were removed from further analyses ($n=15$, five women and 10 men). In this way, we maximised the differences and established distinguishable groups. Even though the use of median split is not always the best way to create such groups, the small sample size combined with theoretical considerations warranted it in this case (Jaccard, Turrisi, & Wan, 1991). The high task/high ego group consisted of $n=14$, high task/low ego of $n=10$, low task/high ego of $n=18$, and low task/low ego of $n=12$. Means and standard deviations for the participants used in the analysis ($n=54$) for goal orientations and the COPE subscales are shown in Table 2. When we say “low” task or ego in this paper, it is relatively speaking, because none of the scores are in fact low. However, on an elite level minor differences tend to have major impact (e.g., while a 1% increase in VO$_2$max is hardly noticeable for the average person, it can be extremely beneficial.

Table 2
Means and standard deviations for the four goal orientation groups for the COPE subscales

<table>
<thead>
<tr>
<th>Variable</th>
<th>High task/high ego ($n=14$)</th>
<th>High task/low ego ($n=10$)</th>
<th>Low task/high ego ($n=18$)</th>
<th>Low task/low ego ($n=12$)</th>
<th>$P$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean SD</td>
<td>Mean SD</td>
<td>Mean SD</td>
<td>Mean SD</td>
<td></td>
</tr>
<tr>
<td>Task orientation</td>
<td>4.9 0.1</td>
<td>4.9 0.08</td>
<td>4.0 0.3</td>
<td>4.2 0.3</td>
<td></td>
</tr>
<tr>
<td>Ego orientation</td>
<td>4.5 0.3</td>
<td>3.2 0.5</td>
<td>4.4 0.3</td>
<td>3.3 0.4</td>
<td></td>
</tr>
<tr>
<td>COPE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active coping</td>
<td>10.0$^a$ 3.2</td>
<td>12.7$^a$ 3.7</td>
<td>10.7$^a$ 3.2</td>
<td>8.7$^b$ 3.1</td>
<td>0.01</td>
</tr>
<tr>
<td>Planning</td>
<td>9.8 3.6</td>
<td>12.3 4.1</td>
<td>10.1 2.9</td>
<td>9.0 2.3</td>
<td>0.06</td>
</tr>
<tr>
<td>Social instrumental</td>
<td>7.6 2.8</td>
<td>10.9 4.3</td>
<td>8.5 4.3</td>
<td>7.8 3.0</td>
<td>0.06</td>
</tr>
<tr>
<td>Social emotional</td>
<td>7.7$^a$ 3.6</td>
<td>11.1$^b$ 3.8</td>
<td>9.5$^a$ 3.3</td>
<td>8.4$^a$ 2.4</td>
<td>0.02</td>
</tr>
<tr>
<td>Suppression of competing activities</td>
<td>8.8 3.4</td>
<td>9.3 2.9</td>
<td>8.2 2.7</td>
<td>6.6 2.9</td>
<td>0.22</td>
</tr>
<tr>
<td>Redefinition and growth</td>
<td>9.4$^a$ 3.6</td>
<td>11.4$^b$ 3.4</td>
<td>11.9$^b$ 2.2</td>
<td>10.0$^a$ 2.0</td>
<td>0.02</td>
</tr>
<tr>
<td>Acceptance</td>
<td>9.5 3.4</td>
<td>8.7 3.7</td>
<td>10.2 3.7</td>
<td>9.5 2.3</td>
<td>0.95</td>
</tr>
<tr>
<td>Venting of emotions</td>
<td>6.5 2.9</td>
<td>6.6 2.5</td>
<td>6.7 3.0</td>
<td>6.1 1.9</td>
<td>0.64</td>
</tr>
<tr>
<td>Denial</td>
<td>5.2 1.5</td>
<td>5.8 2.8</td>
<td>5.5 2.7</td>
<td>5.0 1.2</td>
<td>0.39</td>
</tr>
<tr>
<td>Behavioural disengagement</td>
<td>4.9 1.9</td>
<td>5.2 3.7</td>
<td>4.3 0.8</td>
<td>4.1 0.3</td>
<td>0.69</td>
</tr>
<tr>
<td>Satisfaction with result</td>
<td>35.0 25.9</td>
<td>56.0 38.1</td>
<td>52.2 33.1</td>
<td>48.3 26.9</td>
<td>0.34</td>
</tr>
</tbody>
</table>

* Series with different subscripts ($^a$, $^b$) were significantly different (LSD post hoc test, $P<0.05$).
for a long-distance runner at the elite level), thus even though the differences might appear small, they may have great impact. Satisfaction with result was controlled for in every analysis.

Mean differences

As can be seen in Table 2, when the athletes were categorised as being in one of the four achievement goal orientation groups (high task/high ego, high task/low ego, low task/high ego, low task/low ego), there were differences in mean scores on many of the variables of interest. As this was 59% of the total population of the elite athletes, it is interesting to note the systematic differences. The high task/low ego group employed generally more problem-focused coping strategies than the other groups, with the low task/low group using these strategies the least. Despite the low numbers, we submitted the data to analysis of variance (ANOVA) procedures to determine whether there were reliable differences between the groups who were differentiated by the achievement goals.

Because the dependent variables was either highly correlated or not correlated at all (Table 3), we followed the recommendations outlined by Tabachnick and Fidell (2000), and conducted separate $2 \times 2$ ANOVAs with each of the different coping strategies as dependent variables and task (high and low) and ego (high and low) orientations as the independent factors. In all analyses, satisfaction with results was controlled for. No main effects emerged for any of the two goal orientations. However, significant interaction effects for task and ego orientations emerged for: (1) active coping $[F(1, 50)=5.189, P<0.05]$, with the high task/low ego group scoring higher than the other groups on active coping; (2) social emotional support $[F(1, 50)=4.499, P<0.05]$, where the high task/low ego group had the highest score; and (3) positive redefinition and growth $[F(1, 50)=5.672, P<0.05]$, where the low task/high ego group and the high task/low ego group scored higher than the high task/high ego and low task/low ego groups (LSD (Least significant difference) post hoc test).

When asked to express the stress experiences of competing in the Winter Olympics the athletes reported a variety of stress experiences. The high task/high ego group reported that the competition
itself was the most continual stress experience (28.6%). The high task/low ego participants reported expectations (33.3%) and negative thoughts (22.2%) as their greatest concern, while the low task/high ego group reported expectations (27.8%), external distractions (27.8%) and the coach (22.2%) as being the most stressful. The low task/low ego group reported injury (33.3%) as their main concern.

**Gender**

In order to examine the relationship between goal orientations, gender and the use of coping strategies, we conducted several separate 2 × 2 ANOVAs on task (high–low task × male–female) and ego (high–low ego × male–female) as the independent variables and the coping strategies as the dependent variables. We recognise that there is a low number of female participants in the present study. However, we collected data on almost all Norwegian participants who competed in the Olympics and we wanted to determine whether gender differences occurred. Therefore, we conducted separate analyses for task and ego orientation.

Despite the low numbers of females, several significant interaction effects emerged between high and low ego orientation and gender. Significant interactions were found on several variables (see Table 4). First, for active coping \( [F(1, 57)=7.772, P<0.01] \), where it was revealed that high ego orientation did not affect active coping among male athletes, while female athletes high on ego orientation used active coping less (mean = 8.8, SD = 2.9) than female athletes low on the ego dimension (mean = 12.7, SD = 3.3, effect size (ES) = 1.3). Second, for planning \( [F(1, 57)=7.739, P<0.01] \), there was no effect among male athletes while female athletes high on ego orientation used less planning strategies (mean = 7.8, SD = 2.9) than female athletes low on the ego dimension (mean = 11.7, SD = 4.9, ES = 1.0). However, high ego male athletes (mean = 10.9, SD = 2.7) employed more active coping than did high ego female athletes. Third, for denial \( [F(1, 57)=4.947, P<0.05] \),

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**Table 4**

Means and standard deviations of female and male athletes high and low on ego orientation of the COPE subscales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High ego ( (n=10) )</td>
<td>Low ego ( (n=7) )</td>
<td>High ego ( (n=24) )</td>
<td>Low ego ( (n=20) )</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------</td>
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<td>---------------</td>
</tr>
<tr>
<td>Active coping</td>
<td>8.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.9</td>
<td>12.7&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.3</td>
</tr>
<tr>
<td>Planning</td>
<td>7.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.9</td>
<td>11.7&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.9</td>
</tr>
<tr>
<td>Social instrumental</td>
<td>7.4</td>
<td>4.2</td>
<td>9.2</td>
<td>5.4</td>
</tr>
<tr>
<td>Social emotional</td>
<td>8.3</td>
<td>4.1</td>
<td>9.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Suppression of competing activities</td>
<td>6.7</td>
<td>2.4</td>
<td>7.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Redefinition and growth</td>
<td>10.0</td>
<td>2.8</td>
<td>11.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Acceptance</td>
<td>9.3</td>
<td>3.3</td>
<td>9.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Venting of emotions</td>
<td>6.6</td>
<td>2.8</td>
<td>6.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Denial</td>
<td>7.1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.3</td>
<td>5.1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.4</td>
</tr>
<tr>
<td>Behavioural disengagement</td>
<td>5.3</td>
<td>2.2</td>
<td>4.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

<sup>a</sup> Series sharing the same subscript \( (\cdot, \cdot) \) were not significantly different (LSD post hoc procedures, \( P<0.05 \)).
where there was an interaction between ego orientation and gender, with female athletes scoring high on the ego dimension using more denial (mean = 7.1, SD = 3.3) than female athletes scoring low on the ego dimension (mean = 5.1, SD = 1.4, ES = 0.9), and also significantly higher than high or low ego male athletes. There was no difference among the male athletes between high and low ego orientation, for the use of denial. Finally, there was no significant gender difference on high or low task orientation.

Discussion

The main focus of this study was to investigate whether the use of coping strategies for competitive stress by elite athletes was influenced by their dispositional goal orientation. Consistent with expectation, we found that goal orientations interacted with coping with competitive stress. High task/low ego orientation was associated with use of more problem-focused strategies, while a high level of ego orientation affected the use of coping strategies among female, but not among male athletes.

Overall, the high task/low ego athletes employed more active coping strategies than high task/high ego, low task/high ego and the low task/low ego groups. Active coping strategies involve the athlete taking active steps to try to do something and remove the stressor. Moreover, it occurs during what Lazarus and Folkman (1984) labels secondary appraisal, meaning the process of bringing to mind a potential response to the threat. A task-oriented athlete is considered to be self-referenced and not so concerned with comparing performance with other athletes. In a highly competitive situation, such as the Olympics, the other competitors are a major potential source of stress (Scanlan, Stein, & Ravizza, 1991), thus being pre-disposed towards self-referenced criteria of success is preferable to being pre-disposed to other referenced criteria of success. In this way, the task-involved athlete is less likely to compare him/herself to others and this helps in coping with stress. Ego-oriented athletes, on the other hand, are more likely to compare themselves to others and thus to experience stress. This interpretation is supported by the fact that the low task/high ego group of athletes reported expectations, external distractions and the coach as their most frequently recalled stress experience. In particular, experiencing the coach as a source of stress is associated with a low perception of control within the context and a subsequently lack of satisfaction with the result (Pensgaard & Ursin, 1998).

Contrary to what we expected, the high task/low ego group also employed more social emotional support. This is regarded as a strategy falling between problem-focused and emotion-focused coping strategies. Unlike many other coping tests, the COPE inventory measures both social instrumental and social emotional support. Carver et al. (1989) claim that although they often co-occur in practice, they are conceptually distinct. Seeking emotional support means that the person is getting moral support, sympathy and understanding. Whether an athlete would use this strategy would also seem to be dependent on what kind of motivational and social climate the athlete perceives. A predominantly highly task-oriented athlete may be more liable to seek emotional support independent of what kind of climate the athlete is experiencing because he/she is less concerned with what other people think. Thus, this could explain why the high task/low ego group employed this strategy. A predominantly ego-oriented athlete will be less prone to reveal uncertainty to other people because this could be viewed as a sign of weakness. Although
seeking social emotional support is considered to be an emotion-focused strategy, it is also considered to foster a return to problem-focused coping. Within a sport context, this could well be the case because the coach is very often viewed as an influential factor, and thus positive feedback from the coach will have an impact on the athlete’s perception of the situation.

Both the high task/low ego and the low task/high ego orientation groups employed more positive redefinition and growth strategies than the high task/high ego and low task/low ego groups. The positive reinterpretation and growth dimension is regarded as emotion-focused coping aimed at managing distress emotions rather than dealing with the stressor per se. Carver et al. (1989), however, suggest that when construing a stressful transaction in positive terms, this should lead the person to more problem-focused actions. Although most stressors elicit both problem-focused and emotion-focused coping, problem-focused coping tends to predominate when people feel that something constructive can be done, while emotion-focused coping tends to prevail when people feel that the stressor is something that must be endured. It is a consistent pattern in this study that the high task/high ego group scores lower than the high task/low ego and low task/high ego groups on all of the measured coping strategies. One could argue that a high task/high ego athlete is able to emphasise either task or ego involvement dependent on the situation, and that they may also use a wider range of coping strategies, and not one in particular. Roberts et al. (1996) suggest that the possible negative effect of having a high ego orientation may be mediated by a high task orientation. Elite athletes tend to have high scores on both task and ego orientation. Thus, it seems important to obtain a deeper understanding of how a high task/high ego goal orientation profile may effect other dimensions of the performance situation.

It is not always easy to determine whether a coping strategy is effective or not and whether stable coping styles remain relatively constant across time and situations. This is an area of disagreement (Hardy et al., 1996). Folkman (1992) and Lazarus and Folkman (1984) argue that situational factors are the most important and Krohne (1988) claims that coping styles are useful predictors of coping behaviour. Carver et al. (1989), however, have taken a more interactive perspective. What we do know is that in order to employ problem-focused strategies one has to perceive a certain degree of control (Ursin, 1988; Kim & Duda, 2001). Perception of control, then, is related to lower perception of stress. Thus, it may be that an athlete who is predominantly task-oriented experiences less stress due to higher perception of control, and when stress is perceived, mostly problem-focused strategies are employed. That would be consistent with Lochbaum and Roberts’ (1993) study, where it was found that athletes with an ego orientation focused on potentially maladaptive achievement strategies, whereas athletes with a task orientation focused on more adaptive achievement strategies (i.e., practised on their own and enjoyed practice because they wanted to improve).

Hardy et al. (1996) have criticised previous goal orientation research for focusing primarily on comparison between participants who are high in ego orientation and participants who are high in task orientation. While the validity of this criticism may be debated, it is important not to ignore the orthogonality of the two dimensions and consider that individuals have elements of both orientations when in achievement activities. And recent studies (e.g., Roberts, Treasure, & Kavussanu, 1996; Walling & Duda, 1995), including the present study, underline the importance of exploring the interactive effect of task and ego orientations.
Gender

When we included gender as a factor in the analyses the results revealed that whether one is the role of high or low in ego orientation seems to play a more influential role with respect to female athletes than among male athletes. For the female athlete, a high score on the ego dimension leads to less use of active coping and planning, but more use of denial. Duda and White (1992) found that female elite athletes appear to be more task-oriented than their male counterparts. We did not find any significant differences between male and female athletes on task or ego orientation in the present study. This may be a difference in the definition of elite athletes because, in the present sample, the athletes were very elite. However, in this study, it seems that the degree of ego orientation does play a more influential role for the female athletes. This is a notable finding and at this point we can only speculate why a high ego orientation has a differential effect on female athletes than on male athletes. Ursin and Zahl-Begnum (1993) argue that for a person to be able to employ problem-solving strategies, he or she has to feel a high degree of control, and also to have a positive outcome expectation. It may be argued that an elite female athlete who is predominantly ego-oriented, and thus uses social comparative and norm-based criteria to evaluate success, lacks this feeling of control. The reason for this may be that it is still more socially acceptable for a male athlete to be focused on winning and beating others than it is for a female athlete. A female athlete who has a predominantly high ego orientation may, therefore, be more affected by external and uncontrollable factors. Thus, instead of employing problem-focused strategies, she may be more likely to use emotion-reducing strategies. This is to some extent supported by the fact that the low task/high ego group employed a high degree of denial as a coping strategy. Carver et al. (1989, p. 270) have operationalised denial to be “…refusal to believe that the stressor exists or trying to act as though the stressor is not real”.

The concept of denial is a controversial issue, which we will not elaborate on in relation to this study. Suffice to say that used over an extended period of time, denial is assumed to be a dysfunctional strategy because the person will have an inaccurate perception of reality.

Conclusion

In conclusion, the present study found that the achievement goals of the athletes had a conceptually meaningful relationship with the use of stress-coping strategies. We should be careful not to overstate the case, and be aware of the limitations of the present study. First, this was a retrospective design and, thus, the recall from the athletes may be altered by time. Data were collected immediately after the closing of the Games, but preferably the data should have been collected immediately after every athlete’s competition. This may prove to be difficult to obtain on a group level when competing in the Olympic Games. However, case studies may be one way to obtain such data. Second, the sample size limits the statistical power of the study. However, when the response rate is high this means that the study includes almost the entire sample, and thus we can report real differences instead of merely statistical differences. If we want to study athletes at this level, we have to accept smaller sample sizes than we normally would.

This avenue of research holds promise to help understand the means by which elite athletes cope with competitive stress. A predominantly task orientation is associated with more adaptive
coping strategies such as active coping, social emotional support and positive redefinition and growth. Clearly, we need additional research on this issue to be more definitive, but one more important avenue for future research would be to examine how adaptive coping on a long-term basis affects the health of high-level athletes. We should also note that a high ego orientation affected the use of problem-focused strategies among female athletes, but not among male athletes. Future research should elaborate on this finding and determine whether the female elite athlete perceives the competitive experience differently to the elite male athlete. If so, this has important implications for coaching female athletes. Future research should also expand the range of competitive stressors and investigate the impact of situational factors such as the perceived motivational climate.

References


