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Swimmers' Experiences of Organizational Stress: Exploring the Role of Cognitive Appraisal and Coping Strategies

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This study investigated sport performers' coping strategies in response to organizational stressors, examined the utility of Skinner, Edge, Altman, and Sherwood's (2003) categorization of coping within a sport context, determined the short-term perceived effectiveness of the coping strategies used, and explored appraisal-coping associations. Thirteen national standard swimmers completed semistructured, interval-contingent diaries every day for 28 days. Results revealed 78 coping strategies, which supported 10 of Skinner et al.'s (2003) families of coping. Twenty-four different combinations of coping families were identified. The perceived most effective coping family used in isolation was self-reliance and in combination was escape and negotiation. Stressful appraisals were associated with varied coping strategies. The results highlight the complexity of coping and point to the importance of appraisal-coping associations. Skinner et al.'s (2003) categorization of coping provides a promising conceptual framework for the development of coping research in sport.

Keywords: cognitions, coping effectiveness, diaries, sport, swimming

The organizational stress experiences of competitive athletes has been a popular area of research for sport psychologists over the past decade (Fletcher, Hanton, & Mellalieu, 2006; Fletcher & Wagstaff, 2009). The most recent studies in this area have examined sport performers' experiences of organizational stressors (Arnold & Fletcher, 2012), their appraisals of (Didymus & Fletcher, 2012; Hanton, Wagstaff, & Fletcher, 2012) and responses to these demands (Fletcher, Hanton, & Wagstaff, 2012), the strategies they use to cope with these stressors and their responses (Kristiansen, Murphy, & Roberts, 2012), and the link between demands and athlete burnout (Tabei, Fletcher, & Goodger, 2012). Collectively, this body of work indicates that organizational stress has the potential to impinge on athletes' preparation for and performance in competition, together with their mental health and well-being.

To enhance understanding of sport performers' experiences of organizational stress, Fletcher et al. (2006) advocated a transactional conceptualization of stress (cf. Lazarus & Launier, 1978). This perspective emphasizes the importance of an individual's cognitive evaluation—or appraisal—of the environment (cf. Lazarus & Folkman, 1984). According to Lazarus and Folkman (1984), there are five potential transactional alternatives that may be experienced during the appraisal process: *harm/loss*, *threat*, *challenge*, *irrelevant*, and *benign-positive*. Within the sport context, Neil, Hanton, Mellalieu, and Fletcher (2011) indicated that athletes generally respond negatively to organizational stressors, although they do have the potential to interpret these responses as facilitative for their performance. Hanton et al. (2012) partially supported these findings by demonstrating that organizational stressors are largely appraised as threatening or harmful, with few coping resources available to sport performers. These findings were extended by Didymus and Fletcher (2012) who found that the appraisal (i.e., threat, challenge, harm/loss) experienced was influenced by the situational properties (e.g., imminence, novelty, duration) of the stressors encountered.

Coping is closely linked to appraisal and is defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Industrial and occupational psychology researchers have pioneered the organizational stress-coping literature to date. Seminal work by Dewe (e.g., 2003) and colleagues (e.g., Dewe, Cox, & Ferguson, 1993; Trenberth & Dewe, 2006) has examined individuals' ways of coping, with the different roles that coping strategies play emerging as an important theme. Turning to the organizational stress research in sport, Weston, Thelwell, Bond, and Hutchings (2009) investigated stressor-coping relationships and revealed that sport performers employ some coping strategies in response to multiple stressors, whereas other coping strategies were unique to a particular stressor. In another study, Kristiansen and Roberts (2010) highlighted athletes' reliance on social support

and cognitive strategies to cope with organizational stressors. More recently, Kristiansen et al. (2012) found that social support, avoidance, and problem-focused coping were used by athletes to manage the organizational-related demands (e.g., contracts, league and team structure, travel) encountered.

The most widely used coping distinctions are problem-, emotion-, appraisal-focused, avoidance, and approach coping, which classify strategies using broad, structural distinctions and are based on the intention and function of coping efforts (Lazarus & Folkman, 1984). Although these distinctions have been commonly employed, there is debate about the classification of coping within the literature (cf. Skinner, Edge, Altman, & Sherwood, 2003). As Skinner et al. observed, the aforementioned distinctions do not represent the scope and richness of coping strategies, and they are not mutually exclusive, conceptually clear, comprehensive or exhaustive, functionally homogenous or distinct, generative, or flexible in terms of their applicability to different contexts. In an attempt to address these criticisms and based on a comprehensive review of the coping research, Skinner et al. proposed 12 multidimensional and multifunctional families of coping (see Table 1). Support has been found for the use of these families in the general psychology literature (e.g., Taylor & Stanton, 2007; Van Damme, Crombez & Eccleston, 2008) but they have only been applied in one meta-study in sport psychology (Tamminen & Holt, 2010). This meta-study highlighted the contextual and dynamic nature of adolescent sport performers' coping and indicated that Skinner et al.'s (2003) families of coping are useful when exploring athletes' coping at both episodic and macro levels.

In addition to studying the coping strategies used by sport performers, examining coping effectiveness is important if the aim is to understand whether the strategies employed are successful in alleviating negative responses to stressors (Lazarus, 1999). However, exactly what determines the effectiveness of a coping response remains unclear. Several suggestions have been proposed to explain coping effectiveness including: the effectiveness of coping according to a predetermined outcome (Folkman, 1984); the fit between the objective situation, the appraisal of the situation, and coping (Folkman, 1991); the automaticity of coping responses (Gould, Eklund, & Jackson, 1993); and the selection of coping responses according to different contexts (Bolger & Zuckerman, 1995). Most of the sport literature that examines coping effectiveness suggests that problem-focused rather than emotion-focused strategies are more effective (e.g., Nicholls, 2010). However, organizational stress researchers are yet to examine coping effectiveness in sport performers.

The majority of organizational research in sport has focused on examining discrete components (e.g., stressors, appraisals, responses, coping strategies) of stress transactions. However, following recommendations of Fletcher et al. (2006), recent studies have begun to explore the relationships between these different components (Didymus & Fletcher, 2012; Tabei et al., 2012; Weston et al., 2009). This shift in focus is important from a transactional stress perspective, since it is the nature of these relationships that determine the outcome of potentially stressful encounters (Lazarus & Folkman, 1984). Indeed, Weston et al. (2009) specifically recommended that organizational stress researchers examine in more detail the stressor-coping link in sport performers. However, solely examining stressor-coping associations bypasses an individual's cognitive appraisal mechanisms, which form a pivotal component in stressful transactions (cf. Didymus & Fletcher, 2012). As Dewe, O'Driscoll, and Cooper (2010) pointed out, to overlook the way that an individual appraises a stressful encounter is to ignore the foundation on which coping decisions are made and the context within which coping occurs. The purpose of this study was to address these gaps in the organizational stress literature in sport. Specifically, we investigated sport performers' coping strategies in response to organizational stressors, examined the utility of Skinner et al.'s (2003) categorization of coping within a sport context, determined the short-term perceived effectiveness of the coping strategies used, and explored appraisal-coping associations.

Method

Participants

Seven female and eight male (M_{age} = 20.20, SD = 3.43 years) high standard swimmers ($M_{experience}$ = 8.70, SD = 3.09 years) volunteered to take part in this study[1]. The swimmers were members of a team based at a university in the United Kingdom. Purposeful sampling was used to seek "information rich" participants (Patton, 2002) who met the inclusion criteria of having qualified for national championships in the past year or having competed in at least one international competition (cf. Thatcher & Day, 2008). These criteria were deemed appropriate because individuals competing at this level have been shown to encounter a variety of organizational-related demands (see Mellalieu, Neil, Hanton, & Fletcher, 2009). An ethical clearance checklist was approved by the authors' institution, and written informed consent was obtained from all participants before the commencement of data collection.

Materials

A diary booklet (see Didymus & Fletcher, 2012) was adapted for this study from Hanton et al.'s (2012) Stress Appraisal Log (SAL), which is a method of monitoring sport performers' appraisals of organizational stressors. The booklet contained instructions, examples of organizational stressors and coping strategies, a written informed consent form, a participant demographic form, diary prompts, a completed diary example, and two blank diary sheets. In addition to the information collected by Didymus and Fletcher (2012), the participants in this study were also required to identify the coping strategies they used, and rate their perceived effectiveness of these strategies on a five-point Likert-type scale. The diary sheets consisted of a landscape table with structured headings requesting participants to "write down all the organizational demands you encountered today," "write down how you evaluated the demands

Table 1: A Hierarchal System of Coping Families and their Functions in Adaptive Processes (adapted from Skinner et al., 2003).

Family of Coping	Examples of Lower-order Coping Behaviors	Coping Family Function in Adaptive Process	Adaptive Process
Problem-solving	Strategizing Instrumental action Planning	Adjust actions to be effective	Coordinate actions and contingencies in the environment
Information seeking	Reading Observation Asking others	Find additional contingencies	
Helplessness	Confusion Cognitive interference Cognitive exhaustion	Find limits of actions	
Escape	Cognitive avoidance Behavioral avoidance Denial	Escape noncontingent environment	
Self-reliance	Emotion regulation Behavior regulation Emotional expression	Protect available social resources	Coordinate reliance and social resources available
Support seeking	Contact seeking Comfort seeking Instrumental aid	Use available social resources	
Delegation	Maladaptive help-seeking Complaining Self-pity	Find limits of resources	
Isolation	Social withdrawal Concealment Avoiding others	Withdraw from unsupportive context	
Accommodation	Cognitive restructuring Minimization Acceptance	Flexibly adjust preferences to options	Coordinate preferences and available options
Negotiation	Bargaining Persuasion Priority setting	Find new options	
Submission	Rumination Rigid perseverance Intrusive thoughts	Give up preferences	
Opposition	Other-blame Projection Aggression	Remove constraints	

you wrote in the previous column," "write down what you did to try to cope with each demand that you encountered today," and "rate the effectiveness of your coping on a scale of one to five, where one is extremely ineffective and five is extremely effective." Beneath each heading was a blank column that allowed flexibility for participants to express their personal experiences of relevant events (Travers, 2011).

Pilot Study

The diary was piloted with two national standard swimmers (see Didymus & Fletcher, 2012). The objectives were to

ensure that the diary contained an appropriate level of detail capable of obtaining information that addressed the research question and to provide an opportunity for the researchers to receive feedback on the diary content. Following the pilot study, necessary amendments to the diary were made. Specifically, this involved providing examples of coping strategies with supporting definitions to better direct the participants toward the issues being explored.

The Data Collection Period

Data were collected on 28 consecutive days, which represented an intense phase of training, competition, and recovery. The participants completed an average of 12 hours training per week, which involved five pool-based sessions and two land-based sessions, and competed in various regional and national standard competitions dependent on their rankings and individual competitive schedules. These competitions were qualification meets for participation in the national championships at the end of the 2009–2010 swimming season.

Procedure

After approaching the director of a swimming team, the nature of the study was explained and the researchers were given permission to contact the coaches and swimmers. During this initial contact, the purpose of the study was described to the team's swimmers and their coaches. Each athlete who volunteered for the study was provided with a diary booklet and the remaining (26) diary sheets were distributed at subsequent pool-based training sessions. The researchers discussed the interval-contingent registration of diaries with each swimmer to encourage diary completion at regular, predetermined intervals (Reis & Wheeler, 1991). A completion time of 18:00 every evening was agreed between the researchers and the participants to reduce retrospection and disruption to personal activities (cf. Day & Thatcher, 2009).

The first author attended every training session during the data collection period to offer support to the swimmers, maintain adherence, reduce data manipulation, collect completed diary sheets, and issue new diary sheets. Sustaining researcher visibility was deemed to be important since previous research adopting a diary method has argued that the level of support offered will impact on the quality of the data (Day & Thatcher, 2009). The completed diary sheets were read on a daily basis, and each swimmer was provided with personal feedback regarding his or her diary entries. The feedback typically involved thanking the participants for completing the diary sheets and encouraging them, where necessary, to write in more detail about their organizational stress experiences. The length of feedback provided to the swimmers was standardized in an attempt to provide each swimmer with a similar level of support. A short message service (SMS) was sent to every participant at 18:00 each day to prompt diary completion. Once the data collection period was completed, the participants engaged in a written social validation procedure, which involved answering the following three questions: 1) How did you find the diary completion process? 2) Did you feel supported throughout the 28-day period? 3) Do you feel that the diary method allowed you to write about your organizational stress experiences in a way that was meaningful and relevant to you? The participants reported that they found the diary completion process onerous but valuable, felt supported throughout the 28-day period, and wrote about their organizational stress experiences in a way that was meaningful to them.

Data Analyses

The diaries were read and reread to ensure data familiarity (Maykut & Morehouse, 1994) and written stress, appraisal, and coping responses were transcribed verbatim into a Microsoft Excel® document (cf. Meyer & Avery, 2009). The data were studied for conceptual similarity, which resulted in the formation of manageable *meaning units* (Côté, Salmela, Baria, & Russell, 1993) representing the stressors encountered, the appraisals made, and the coping strategies used. Inductive and deductive content analyses were then employed to analyze the diary entries (Côté et al., 1993; Krippendorff, 2004). Stressors were inductively grouped into lower-order themes, subsequently into higher-order themes, and deductively categorized under general dimensions (cf. Arnold & Fletcher, 2012). Due to the substantial conceptual and empirical evidence that supports the transactional alternatives proposed by Lazarus and Folkman (1984), appraisal meaning units were deductively classified as harm/loss, threat, or challenge. In line with Lazarus and Folkman's (1984) definition of coping, the stressors appraised as nonstressful (i.e., irrelevant or benign-positive) were removed from the data analysis procedures because they could not be deemed to be taxing or exceeding the participants' resources. Deductive procedures were used to categorize coping meaning units in accordance with Skinner et al.'s (2003) category system for classifying ways of coping. Mean coping effectiveness scores were calculated for each coping strategy. A perceived coping effectiveness score of one was deemed to be extremely ineffective, a score of two was deemed to be moderately ineffective, a score of three was deemed to be neither ineffective nor effective, a score of four was deemed to be moderately effective, and a score of five was deemed to be extremely effective.

The stages of analyses described thus far were conducted by the first author. The second author verified the analytical decisions by independently crosschecking the categorization of each meaning unit with the definitions of stressors, appraisals, and coping strategies. Early consensus between the researchers was 92% for the data referring to stressors, 96% for the data concerned with appraisals, and 89% for the data relating to coping strategies. Both researchers then returned to the discrepant data and discussed the classifications until consensus was achieved. At this point, it was agreed that the analytical decisions were accurate, in accordance with contemporary definitions of the main constructs, and representative of the participants' lived experiences.

Results

Two of the 15 participants withdrew from the study due to other commitments; thus, the total data set contained 364 diary sheets from 13 participants (M_{age} = 20.31, SD = 3.68 years; $M_{experience}$ = 8.73, SD = 3.33 years). Training days comprised 251 days, rest days comprised 97 days, and competition days comprised 16 days of the data collection period. In total, 773 meaning units emerged from the analyses pertaining to the stressor encountered, the appraisal experienced, and the coping strategies employed. The data relating to stressors collapsed into the following four general dimensions: logistical and environmental issues (e.g., unsociable training hours), performance and personal issues (e.g., lack of structure regarding injury rehabilitation), cultural and team issues (e.g., tension between teammates), and leadership and personnel issues (e.g., absence of the coach at training and competitions). The meaning units describing coping strategies were abstracted into 78 lower-order themes, 33 higher-order themes, and 10 families of coping (see Figures 1–6). No support was found for the opposition and isolation families of coping. The appraisal-coping associations exhibited by the swimmers are presented in Table 2. The data are presented as diary extracts to portray some of the idiosyncrasies in the swimmers' experiences. In addition, in an attempt to provide an overview of the main findings, hierarchal figures of the data from each of the 13 participants are provided (see Figures 1–6).

Coping Families Used in Isolation

The participants appeared to use five of the 10 reported coping families in isolation to manage the organizational stressors they encountered.

Problem-solving.

Twelve participants used problem-solving-related strategies in isolation to manage the stressors they encountered. The total number of coping strategies implying situations where participants adjusted their thoughts and/or actions to be effective was 56 (see Figure 1). Concentration was the most frequently reported higher-order theme in this family. One swimmer described how she increased her concentration in an attempt to cope with a lack of organization at training: "The session was disorganized so I didn't know who should be doing what. I increased my concentration to overcome the disorganization . . . I concentrated on the training session ahead." Another swimmer described using increased effort to cope with a lack of communication between herself and her coach: "We don't talk much and I feel like an outsider because [coach] doesn't seem to want to talk to me. I decided to make more of an effort so that this communication issue does not continue to affect my performance."

Escape.

Six participants used escape-related coping strategies in isolation to manage the stressors they encountered. The total number of coping strategies relating to situations where participants escaped the noncontingent environment was 15 (see Figure 2). Efforts to disengage were the most frequently reported higher-order theme in this family. This quote demonstrates how one swimmer mentally disengaged from negative repartee between teammates: "The lads were teasing the girls about being slower than them. It causes [a] bad atmosphere but I just switched off from it–I separated it out in my mind and switched off." The next quote illustrates how one swimmer avoided a competition because he had not had sufficient time to recover from an injury: "The coach wants me to swim in a competition at the weekend because it will help the team. But . . . I have not recovered fully from my injury so I have withdrawn myself from the race."

Self-reliance.

Ten participants used self-reliance-related coping strategies in isolation to manage the stressors they encountered. The total number of coping strategies pertaining to situations where participants protected their available social resources and or attended to their goals was 37 (see Figure 3). Relaxation was the most frequently reported higher-order theme in this family. One swimmer recalled his use of relaxation in an attempt to cope with inadequate swimming facilities at a competition: "I couldn't prepare as normal because the warm-up pool and prep[aration] areas were packed. I took some time to relax to help me deal with feeling so stressed about there not being adequate facilities to accommodate us." Another swimmer discussed her use of self-encouragement to cope with negative comments from her coach: "I thought the comments were unnecessarily harsh but I coped by encouraging myself."

Support seeking.

Three participants used support seeking-related coping strategies in isolation to manage the stressors they encountered. The total number of coping strategies concerned with situations where participants made use of available social resources was five (see Figure 4). Emotion-focused support and instrumental aid were the most frequently reported higher-order themes in this family. This diary extract illustrates how one participant sought emotion-focused support to cope with insufficient guidance on how to perform: "Today was an important session but my coach was absent and I got stressed about not getting any specific guidance. I spoke to another coach to get help to calm down." The next diary extract demonstrates one swimmer's use of instrumental aid to cope with boredom and isolation at training: "I felt bored so wouldn't have trained as well compared to when I'm with the team. I used a previous session plan written by my coaches to cope with being isolated and bored."

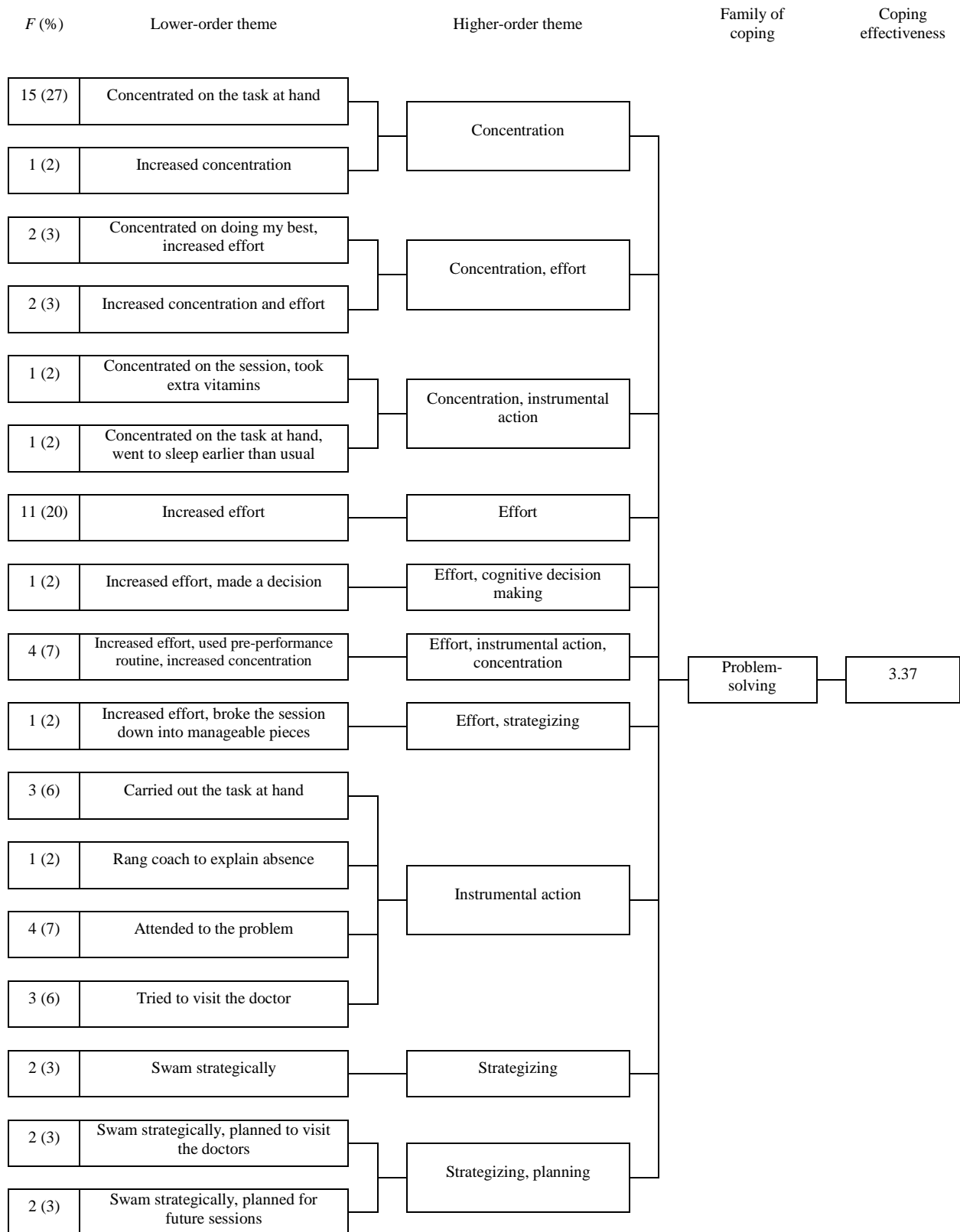| F (%)	Lower-order theme	Higher-order theme	Family of coping	Coping effectiveness
15 (27)	Concentrated on the task at hand			
1 (2)	Increased concentration	Concentration		
2 (3)	Concentrated on doing my best, increased effort			
2 (3)	Increased concentration and effort	Concentration, effort		
1 (2)	Concentrated on the session, took extra vitamins			
1 (2)	Concentrated on the task at hand, went to sleep earlier than usual	Concentration, instrumental action		
11 (20)	Increased effort	Effort		
1 (2)	Increased effort, made a decision	Effort, cognitive decision making		
4 (7)	Increased effort, used pre-performance routine, increased concentration	Effort, instrumental action, concentration	Problem-solving	3.37
1 (2)	Increased effort, broke the session down into manageable pieces	Effort, strategizing		
3 (6)	Carried out the task at hand			
1 (2)	Rang coach to explain absence			
4 (7)	Attended to the problem	Instrumental action		
3 (6)	Tried to visit the doctor			
2 (3)	Swam strategically	Strategizing		
2 (3)	Swam strategically, planned to visit the doctors			
2 (3)	Swam strategically, planned for future sessions	Strategizing, planning		

Figure 1 – Problem-solving family of coping: Swimmers' coping behaviors and mean perceived coping effectiveness (the frequency is provided in the first column to illustrate the number of times each coping behavior was mentioned).

F (%)	Lower-order theme	Higher-order theme	Family of coping	Coping effectiveness
3 (20)	Avoided the situation	Behavioral avoidance		
3 (20)	Quit during training	Efforts to disengage		
5 (33)	Tried to disengage from the stressor		Escape	2.20
3 (20)	Withdrew from mental confusion	Mental withdrawal		
1 (7)	Tried not to think about it	Thought stopping		

Figure 2 – Escape family of coping: Swimmers' coping behaviors and mean perceived coping effectiveness (the frequency is provided in the first column to illustrate the number of times each coping behavior was mentioned).
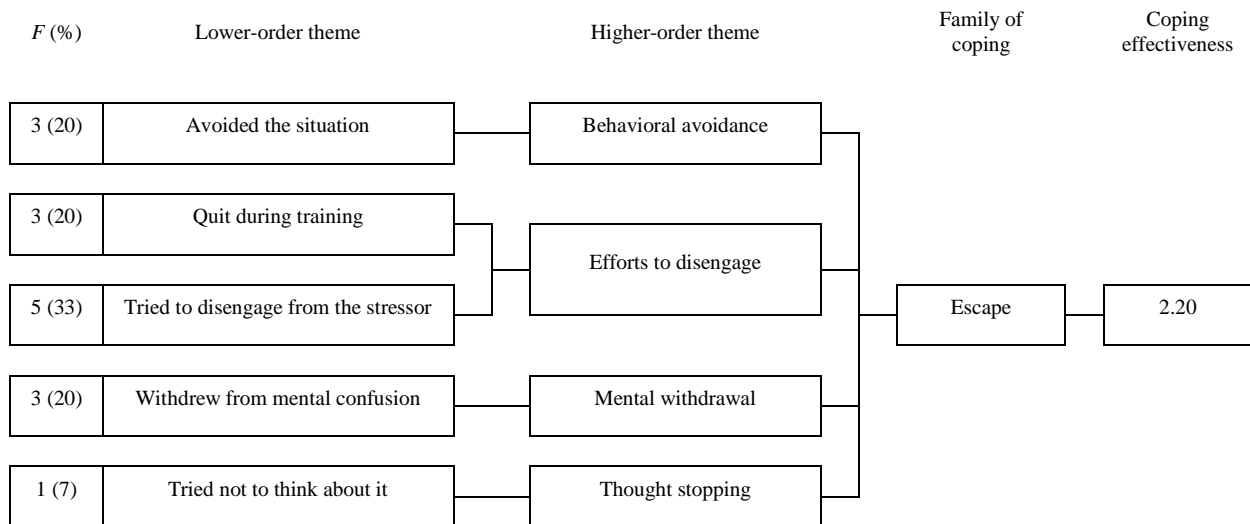
F (%)	Lower-order theme	Higher-order theme	Family of coping	Coping effectiveness
3 (8)	Changed behavior(s)	Behavior regulation		
1 (3)	Controlled nerves, positive self-talk	Emotion control, self-comforting		
2 (5)	Changed emotional responses, positive self-talk, relaxed	Emotion regulation, self-comforting, relaxation		
5 (14)	Changed emotional responses	Emotion regulation		
10 (27)	Relaxed	Relaxation	Self-reliance	3.66
1 (3)	Relaxed, used self-belief to comfort	Relaxation, self-comforting		
2 (5)	Relaxed, positive self-talk			
4 (11)	Positive self-talk	Self-comforting		
9 (24)	Self-encouraged	Self-encouragement		

Figure 3 – Self-reliance family of coping: Swimmers' coping behaviors and mean perceived coping effectiveness (the frequency is provided in the first column to illustrate the number of times each coping behavior was mentioned).
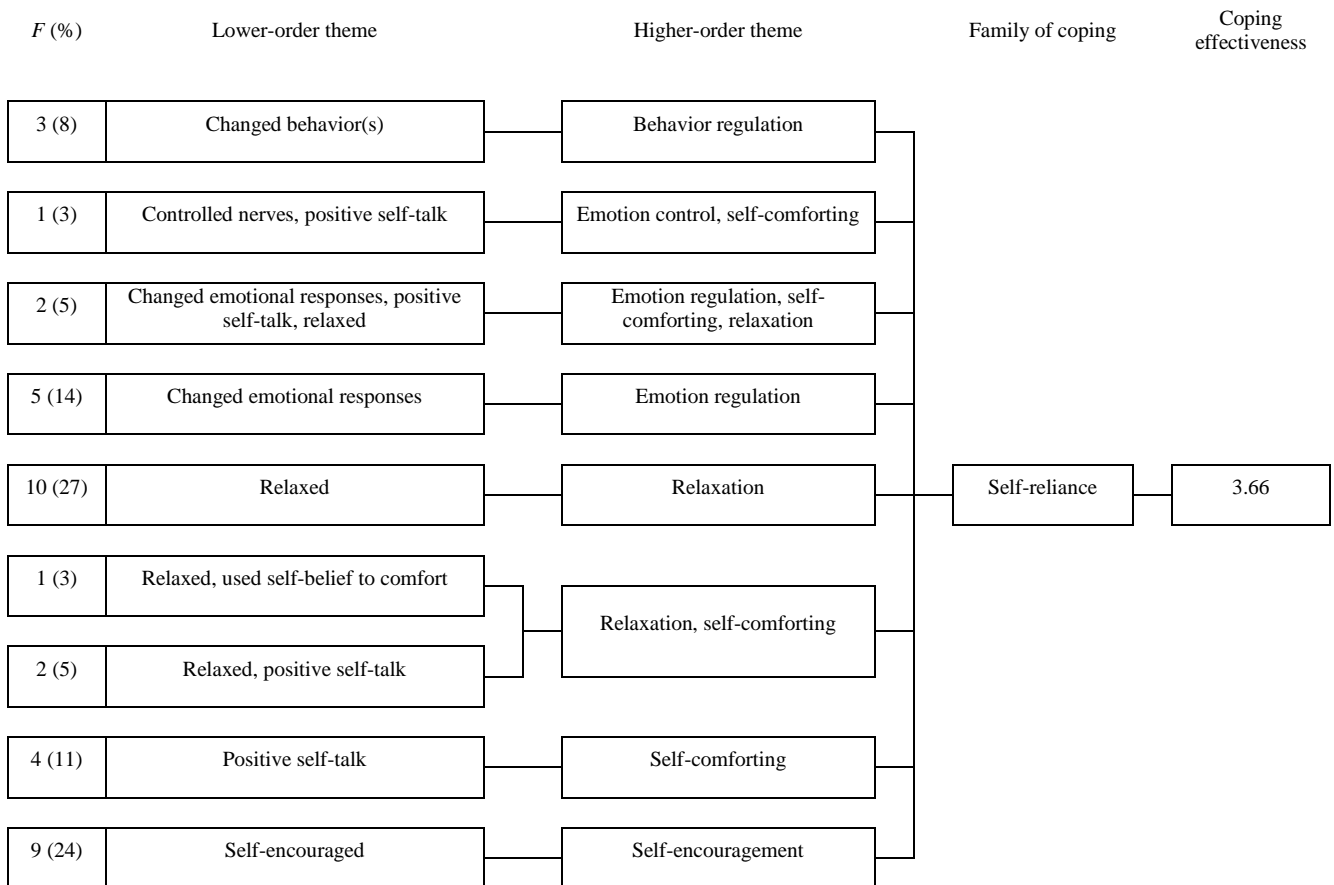
Accommodation.

Five participants used accommodation-related coping strategies in isolation to manage the stressors they encountered. The total number of coping strategies referring to situations where participants flexibly adjusted their preferences or goals to the available options was 11 (see Figure 5). Minimization was the most frequently reported higher-order theme in this family. One participant described how he used minimization to manage a change in the sport's rules regarding competition attire: "Now that we can't wear [performance enhancing] race suits it's harder to make the

qualification times. To cope with this I tried to pretend it was a smaller competition than it actually was–I played it down." Another participant illustrated his use of cognitive restructuring to cope with physical pain during an unnecessarily hard training session: "I wouldn't mind but we shouldn't be training this hard at this stage in the cycle. I tried to convince myself that the pain is normal by changing the way that I was thinking about it."

Coping Families Used in Combination

The participants appeared to use the ten families of coping in 24 different combinations to manage the organizational stressors they encountered (see Figure 6). Problem-solving was used in 13 different combinations of coping families. The following quote demonstrates a participant's use of coping strategies relating to instrumental action (problem-solving) and self-encouragement (self-reliance) to cope with a new situation at a competition: "The political c*** meant I didn't do well . . . now there's a whole new level of pressure to perform. I told myself I could do it and focused on the race." The next diary extract illustrates a participant's use of concentration (problem solving) and self-pity (delegation) to cope with unattainable goals that had been set by her coach: "At first I was happy to cope by feeling sorry for myself. Then I concentrated on going fast and going for it on the quick bits of the session. That helped me get closer to the goals I'd been set."

Information seeking was used in two different combinations of coping families. For example, one participant described how coping strategies pertaining to asking others (information seeking) and concentrating (problem-solving) helped her to manage the demands associated with an unclear competition schedule: "I didn't know when I would be racing, which was stressful. I asked people to confirm the details and then got my head down and concentrated on racing." Another participant wrote about asking others (information seeking) and using instrumental action (problem solving) and relaxation (self-reliance) to cope with disruptions during his final preparations for a major competition: "I did a few things–I asked questions, increased my intake of water, and relaxed. I did what I could but I am still annoyed with my first swim and having my preparations disrupted."

Escape was used in eight different combinations of coping families. This diary extract illustrates how one participant used coping strategies referring to thought stopping (escape) and relaxation (self-reliance) to cope with poor facilities while preparing for a competition: "I had to forget about the awful facilities and just prepare. I coped by stopping the negative thoughts and relaxing." The next diary extract demonstrates how another participant used mental withdrawal (escape) and deal-making (negotiation) to cope with high intensity of a training session: "I forgot about the pain by taking myself away mentally. I also made a deal with myself–I can have a treat if I get through the session!"

Self-reliance was used in 12 different combinations of coping families. For example, one participant recalled how she used coping strategies relating to self-encouragement (self-reliance) and mental withdrawal (escape) to manage the demands linked to diet and dehydration: "We don't get any info[rmation] on diet, so it's hard to stay at the best weight for swimming. I told myself that my weight issue will be okay. I also took myself away mentally to forget it." Another participant recalled how he used acceptance (accommodation) and self-comforting (self-reliance) to cope with swimming against Olympic standard swimmers: "It's stressful because I knew I would be much slower than them. I tried to just accept that I am slower and comforted myself."

Support seeking was used in six different combinations of coping. The following diary extract illustrates how one swimmer used coping strategies pertaining to emotion-focused support (support seeking) and concentration (problem-solving) to cope with a strenuous training load: "I was stressing before the session because I knew it was a heart-rate session and we've been made to swim hard all week. I improved my concentration and my coach helped me to calm down." Another swimmer recalled using instrumental aid (support seeking) and self-encouragement (self-reliance) to cope with being deselected: "I asked a friend to help me get my head around being dropped. I also encouraged myself by saying that it might not be a permanent decision and that I am a good swimmer."

Delegation was used in two different combinations of coping families. For example, one swimmer coped with the pressure of competition training by using coping strategies that refer to self-pity (delegation) and concentration (problem-solving): "At first I was happy to feel sorry for myself for being under such pressure to perform. Then I concentrated on my swim to manage the pressure." Another swimmer coped with illness from overtraining by using self-pity (delegation), by avoiding training (escape), and by being pessimistic (helplessness): "I'm constantly ill because I've been training too hard for too long. I did not try to change the situation; I just felt sorry for myself. I avoided training and kept thinking negatively about it."

Accommodation was used in ten different combinations of coping families. For example, one participant described their use of coping strategies relating to cognitive restructuring (accommodation) and instrumental action (problem-solving) to cope with coach absence at a training session: "I told myself that I should make the most of the session anyway–I changed the way I was thinking about it to stop feeling stressed. Then I got on with some gym work as best as I could." Another participant recalled using acceptance (accommodation) and rumination (submission) to cope with a disagreement between himself and his coach: "I replayed the situation over and over in my head. Eventually I had to accept what had happened."
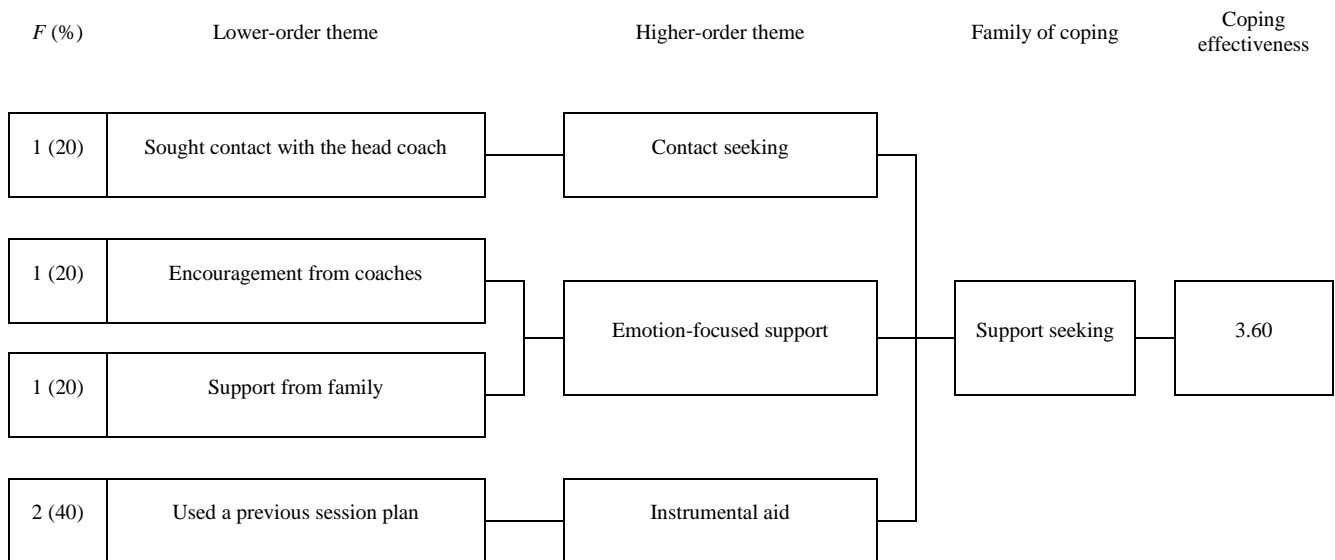
F (%)	Lower-order theme	Higher-order theme	Family of coping	Coping effectiveness
1 (20)	Sought contact with the head coach	Contact seeking		
1 (20)	Encouragement from coaches	Emotion-focused support	Support seeking	3.60
1 (20)	Support from family			
2 (40)	Used a previous session plan	Instrumental aid		

Figure 4 – Support seeking family of coping: Swimmers' coping behaviors and mean perceived coping effectiveness (the frequency is provided in the first column to illustrate the number of times each coping behavior was mentioned).

F (%)	Lower-order theme	Higher-order theme	Family of coping	Coping effectiveness
2 (18)	Accepted the illness	Acceptance		
3 (27)	Convinced myself that the pain is normal	Cognitive restructuring	Accommodation	3.36
1 (10)	Efforts to change one's perception of the event			
2 (18)	Lowered the importance of the competition	Minimization		
3 (27)	Tried not to give the situation too much special attention			

Figure 5 – Accommodation family of coping: Swimmers' coping behaviors and mean perceived coping effectiveness (the frequency is provided in the first column to illustrate the number of times each coping behavior was mentioned).
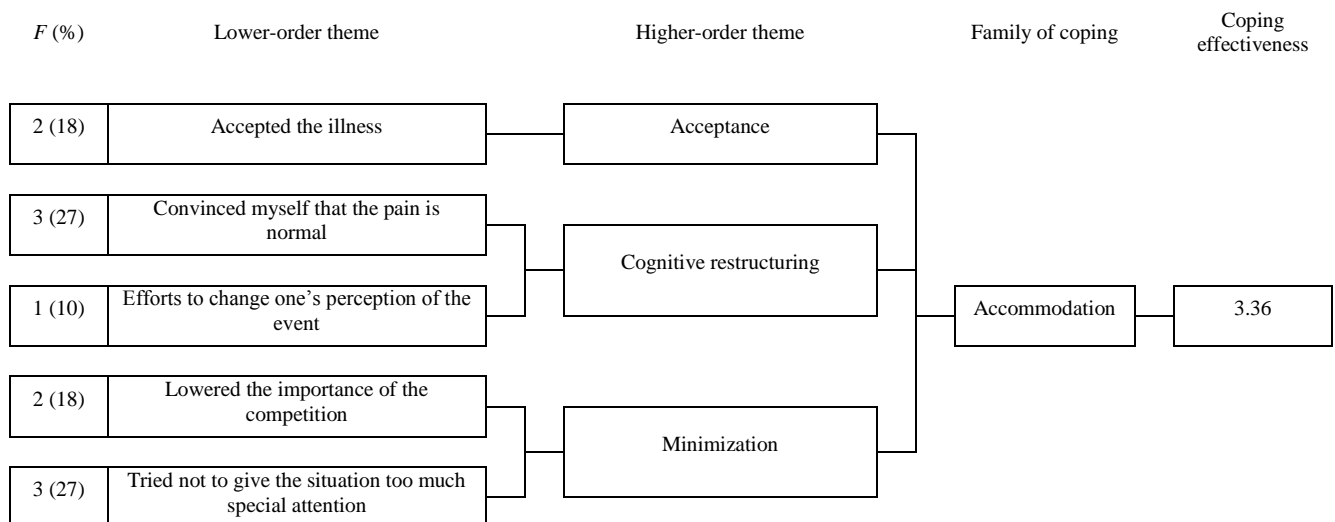
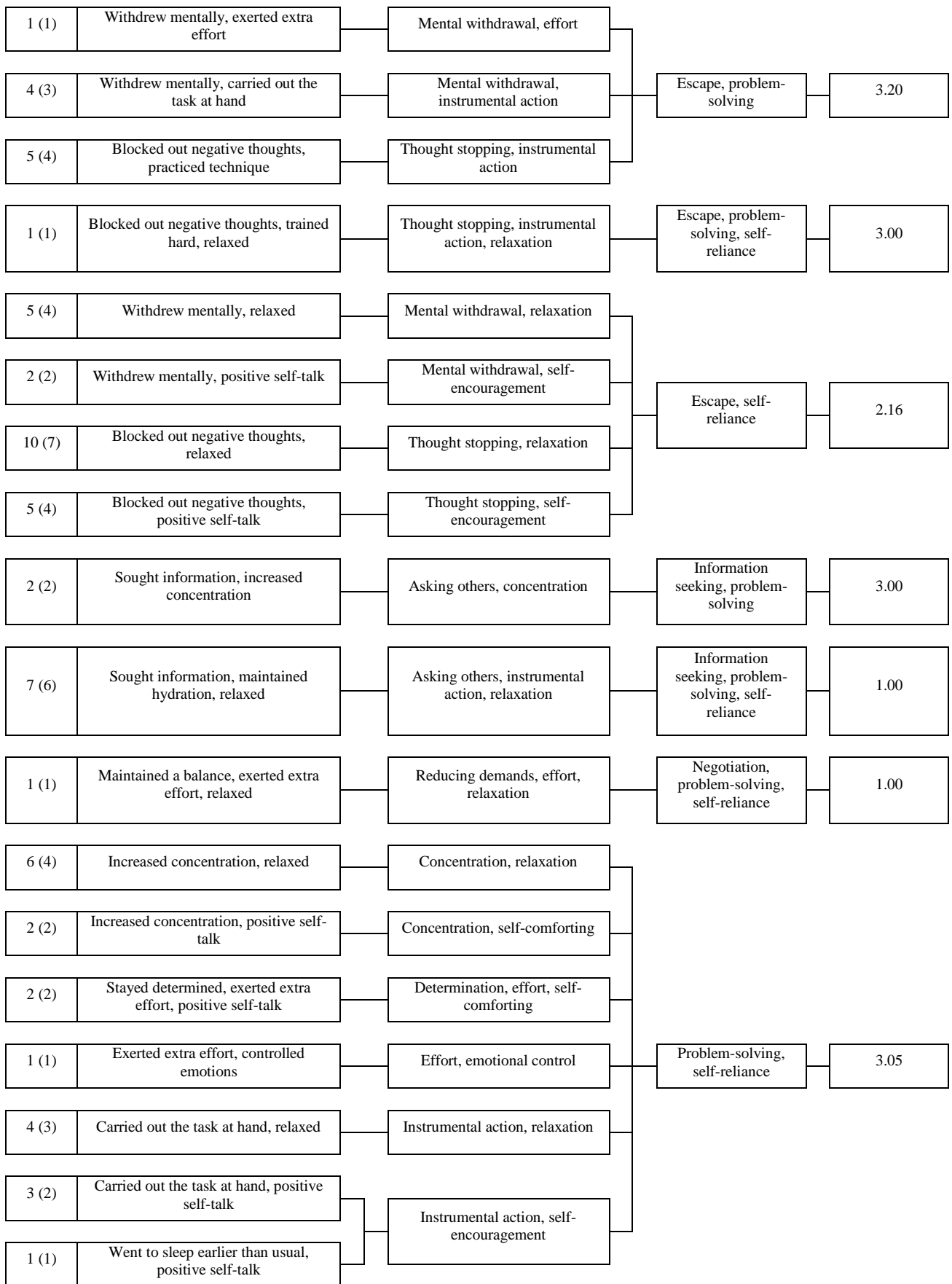## Perceived Coping Effectiveness

The perceived effectiveness of the coping strategies is presented in Figures 1–6. Overall, employing one coping family in isolation was perceived to be more effective (3.42) than employing a combination of coping families (2.83). Self-reliance (3.66) was perceived as the most effective coping family that was used in isolation, and escape and negotiation (5.00) was perceived as the most effective combination of coping families. The following diary extract illustrates how one swimmer effectively used mental withdrawal (escape) and deal-making (negotiation) in combination to manage a change to his training program: "I now do my entire main sets breaststroke; it's really repetitive. I took myself mentally away and made a deal with myself that if I manage the whole set then I can have a treat tonight! It worked really well!"

Appraisal-Coping Associations

The appraisal-coping associations exhibited by the swimmers are presented in Table 2. When the participants appraised organizational stressors as stressful (i.e., as a threat, as a challenge, or with a sense of harm/loss), numerous coping strategies were employed (see Table 2). For example, threat and harm/loss appraisals were associated with coping strategies within each of the ten families of coping, and challenge appraisals were associated with seven different coping families; the exceptions being delegation, helplessness, and submission. In this diary extract, one

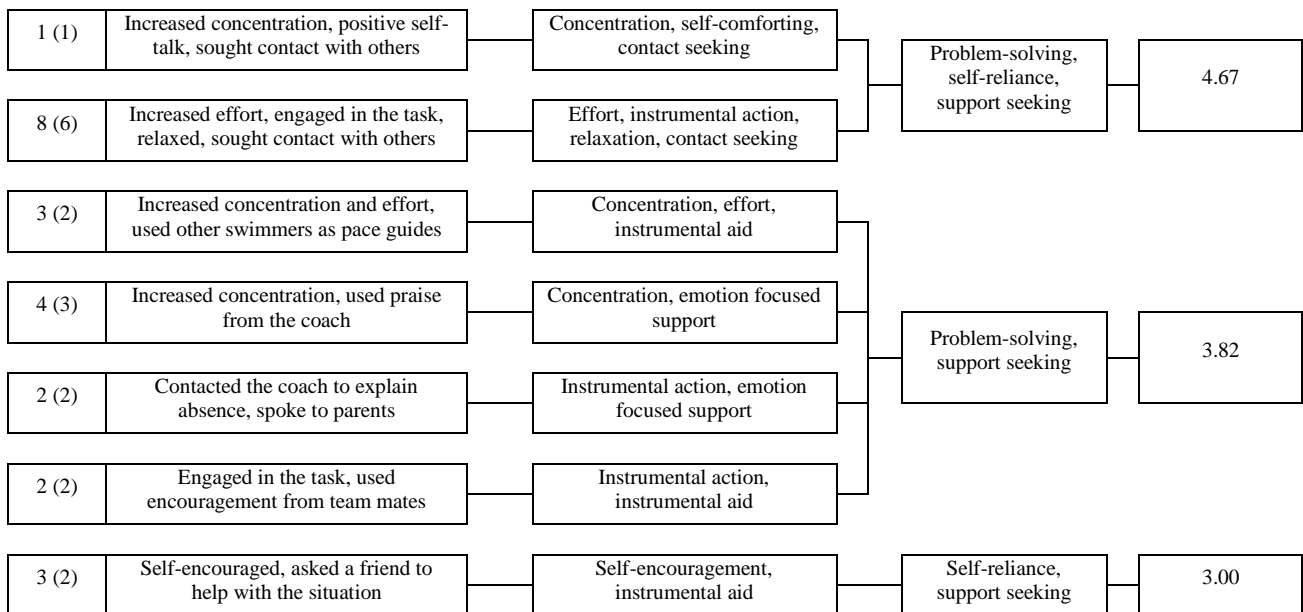| F (%)	Lower-order theme	Higher-order theme	Family of coping	Coping effectiveness
3 (2)	Attempted to do University work instead, tried to block things out, stayed negative, relaxed	Distraction, mental withdrawal, pessimism, relaxation	Accommodation, escape, helplessness, self-reliance	1.00
2 (2)	Accepted the situation, blocked out negative thoughts, increased concentration	Acceptance, thought stopping, concentration	Accommodation, escape, problem-solving	2.00
1 (1)	Played it down, thought about relaxing afterwards if successful	Minimization, bargaining	Accommodation, negotiation	3.00
1 (1)	Rationalized the situation, tried one's best	Cognitive restructuring, instrumental action	Accommodation, problem-solving	3.00
3 (2)	Rationalized the situation, tried one's best, positive self-talk	Cognitive restructuring, instrumental action, self-encouragement	Accommodation, problem-solving, self-reliance	3.00
1 (1)	Lowered expectations, went to sleep earlier than usual, relaxed	Minimization, instrumental action, relaxation		
5 (4)	Carried on training to distract from the situation, went for a run, talked to other swimmers	Distraction, instrumental action, emotion-focused support	Accommodation, problem-solving, support seeking	1.00
4 (3)	Accepted the situation, positive self-talk	Acceptance, self-comforting	Accommodation, self-reliance	3.00
4 (3)	Rationalized the situation, relaxed	Cognitive restructuring, relaxation		
1 (1)	Accepted the situation, relaxed, sought encouragement from others	Acceptance, relaxation, emotion-focused support	Accommodation, self-reliance, support seeking	3.00
3 (2)	Accepted the situation, replayed the situation mentally	Acceptance, rumination	Accommodation, submission	3.50
1 (1)	Rationalized the situation, talked to other swimmers	Cognitive restructuring, emotion-focused support	Accommodation, support seeking	2.50
5 (4)	Felt sorry for oneself, behavioral avoidance, negativity	Self-pity, avoid situation, pessimism	Delegation, escape, helplessness	2.00
2 (2)	Felt sorry for oneself, increased concentration	Self-pity, concentration	Delegation, problem-solving	4.00
1 (1)	Took oneself away mentally, made a deal with oneself	Mental withdrawal, deal-making	Escape, negotiation	5.00
1 (1)	Ignored the repartee, thought about having a treat if successful, relaxed	Mental withdrawal, bargaining, emotion regulation	Escape, negotiation, self-reliance	4.00

Count	Raw theme	First-order theme	Higher-order theme	Value
1 (1)	Withdrew mentally, exerted extra effort	Mental withdrawal, effort		
4 (3)	Withdrew mentally, carried out the task at hand	Mental withdrawal, instrumental action	Escape, problem-solving	3.20
5 (4)	Blocked out negative thoughts, practiced technique	Thought stopping, instrumental action		
1 (1)	Blocked out negative thoughts, trained hard, relaxed	Thought stopping, instrumental action, relaxation	Escape, problem-solving, self-reliance	3.00
5 (4)	Withdrew mentally, relaxed	Mental withdrawal, relaxation		
2 (2)	Withdrew mentally, positive self-talk	Mental withdrawal, self-encouragement		
10 (7)	Blocked out negative thoughts, relaxed	Thought stopping, relaxation	Escape, self-reliance	2.16
5 (4)	Blocked out negative thoughts, positive self-talk	Thought stopping, self-encouragement		
2 (2)	Sought information, increased concentration	Asking others, concentration	Information seeking, problem-solving	3.00
7 (6)	Sought information, maintained hydration, relaxed	Asking others, instrumental action, relaxation	Information seeking, problem-solving, self-reliance	1.00
1 (1)	Maintained a balance, exerted extra effort, relaxed	Reducing demands, effort, relaxation	Negotiation, problem-solving, self-reliance	1.00
6 (4)	Increased concentration, relaxed	Concentration, relaxation		
2 (2)	Increased concentration, positive self-talk	Concentration, self-comforting		
2 (2)	Stayed determined, exerted extra effort, positive self-talk	Determination, effort, self-comforting		
1 (1)	Exerted extra effort, controlled emotions	Effort, emotional control	Problem-solving, self-reliance	3.05
4 (3)	Carried out the task at hand, relaxed	Instrumental action, relaxation		
3 (2)	Carried out the task at hand, positive self-talk	Instrumental action, self-encouragement		
1 (1)	Went to sleep earlier than usual, positive self-talk			

1 (1)	Increased concentration, positive self-talk, sought contact with others	Concentration, self-comforting, contact seeking	Problem-solving, self-reliance, support seeking
8 (6)	Increased effort, engaged in the task, relaxed, sought contact with others	Effort, instrumental action, relaxation, contact seeking	4.67
3 (2)	Increased concentration and effort, used other swimmers as pace guides	Concentration, effort, instrumental aid	
4 (3)	Increased concentration, used praise from the coach	Concentration, emotion focused support	Problem-solving, support seeking
2 (2)	Contacted the coach to explain absence, spoke to parents	Instrumental action, emotion focused support	3.82
2 (2)	Engaged in the task, used encouragement from team mates	Instrumental action, instrumental aid	
3 (2)	Self-encouraged, asked a friend to help with the situation	Self-encouragement, instrumental aid	Self-reliance, support seeking — 3.00

Figure 6 – Swimmers' combinations of coping behaviors and mean perceived coping effectiveness (the frequency is provided in the first column to illustrate the number of times each combination of coping behaviors was mentioned).

Table 2: Appraisal-Coping Associations Exhibited by the Swimmers.

Family of Coping	Appraisals					
	Threat		Challenge		Harm/loss	
	f	%	f	%	f	%
Accommodation	15	37	3	8	22	55
Delegation	4	57	0	0	3	43
Escape	28	46	12	20	21	34
Helplessness	2	25	0	0	6	75
Information seeking	7	70	1	10	1	10
Negotiation	2	29	1	14	1	14
Problem-solving	70	51	24	18	39	28
Self-reliance	67	53	15	12	37	29
Submission	1	33	0	0	2	67
Support seeking	15	44	8	24	11	32

swimmer describes his illness due to overtraining, which he appraised with a sense of harm/loss, and his acceptance (accommodation) coping strategy: "I now have a bad cough due to overtraining. I've lost out because it's affecting my training and everything. The training load has actually f***** up my health already. I'm trying hard to accept it." Another swimmer wrote about a decision that her swimming coach had made, which she appraised as a threat, and attempted to cope with using increased effort (problem-solving): "The decision was made to make me enjoy swimming again but I think it will have a detrimental effect on my performance. I am trying to cope by increasing my effort levels in training." The following diary extract illustrates one swimmer's challenge appraisal of insufficient recovery time between training sessions and his use of increased concentration (self-reliance) to cope with the situation: "I'm feeling exhausted from two hard sessions yesterday but I saw this stressor as a challenge . . . I coped by increasing my concentration for each small part of the training session."

Discussion

Using daily diaries, this study investigated sport performers' coping strategies in response to organizational stressors, the utility of Skinner et al.'s (2003) categorization of coping within a sport context, the short-term perceived effectiveness of the coping strategies used, and appraisal-coping associations. Previous research in this area has identified the salience of appraisals (e.g., Didymus & Fletcher, 2012) and coping (e.g., Kristiansen et al., 2012) in the organizational stress process in sport. This study builds on this work by providing relevant and novel insight into the link between appraisal and coping, the importance of more sensitive categorizations of coping, and the effectiveness of coping strategies in organizational contexts in sport. Specifically, the results demonstrate that swimmers cope with organizational stressors using a variety of coping strategies, used both in isolation and in combination. Further, appraisal mechanisms and coping effectiveness appear to be linked to the coping families employed.

The coping strategies employed by the swimmers were grouped into ten families of coping, some of which support those previously reported by sport performers. For example, problem-solving has been widely discussed as an adaptive coping strategy (see, for a review, Nicholls & Polman, 2007) and support seeking, or social support, has consistently been reported as a strategy used to cope with organizational stressors (Kristiansen et al., 2012; Kristiansen & Roberts, 2010; Weston et al., 2009). However, acceptance, contact seeking, instrumental aid, and self-comforting were isolated strategies that have not previously been reported by sport performers. In addition to coping strategies being used in isolation, another novel aspect of this study is the detailed exploration of coping combinations. This finding makes an important contribution to sport psychology knowledge because it highlights the complexity of coping (cf. Skinner et al., 2003) in sport performers. Three theoretical possibilities may help to explain why coping strategies were used in combination. First, it is possible that one coping strategy (e.g., problem-solving) may *mutually facilitate* (Snyder, 1999) or enable the use of another strategy (e.g., self-reliance). Second, it may be that the relationship between coping strategies is *mutually correcting* (Dewe, 2003) whereby one coping strategy (e.g., negotiation) requires or is dependent on another strategy (e.g., escape). Third, the coping combinations could be examples of *fallback* (Rothbaum, Weisz, & Snyder, 1982) where a certain coping strategy (e.g., support seeking) is all that is left after attempting to use other strategies (e.g., accommodation) (cf. Dewe, 2003).

Turning to the utility of Skinner et al.'s (2003) categorization of coping within a sport context, it appears that this approach advances the most widely used coping distinctions in the sport psychology literature of problem-, emotion-, appraisal-focused, avoidance, and approach coping. More specifically, it enables a more accurate and fine-grained representation of the intention, function, and effectiveness of coping strategies, together with more detailed information about relationships with other components of the stress process, such as cognitive appraisal. Another important advancement of this approach is that it enables researchers to examine better the use of coping strategies in isolation and in combination. This is an important consideration for coping researchers because, as Skinner et al. (2003) pointed out, simplistic frameworks of coping typically relate coping to a single adaptational function and are unable to capture the functional complexity and multidimensionality of coping. Interestingly, this suggestion is somewhat in contrast to the clinical psychology literature, which is progressing toward a more simplified understanding of core transdiagnostic processes (e.g., Bird, Mansell, Dickens, & Tai, 2013) such as coping. However, the variety of coping strategies reported in the sport psychology literature makes it difficult to aggregate findings that are relevant to the same stressor and domain. If researchers adopt Skinner et al.'s (2003) categorization of coping within a sport context we believe that it will lead to a more comprehensive, albeit more complex, understanding of how athletes cope with adversity.

With reference to perceived coping effectiveness, the results of this study indicate that effectiveness is linked to the family of coping employed. Although coping family combinations were, on average, perceived to be less effective than isolated coping strategies, some combinations countered this trend and were perceived to be highly effective. To explain this finding, it may be that some of the coping families identified in this study serve more than one function. Some families of coping (e.g., support seeking and self-reliance) have been shown to serve complementary functions (see Skinner & Zimmer-Gembeck, 2007) and it is not unreasonable to suggest that others (e.g., accommodation, problem-solving, and support seeking) may serve contradictory functions. Thus, perceived coping effectiveness appears to be more complicated than a question of whether to use coping strategies in isolation or in combination. Rather, it is likely that, where possible, sport performers need to select and initiate ways of coping with complementary functions to realize effective coping processes and outcomes.

The appraisal-coping associations presented provide novel insights into the organizational stress process in sport. The findings indicate that harm/loss appraisals were typically associated with the accommodation, helplessness, and submission families of coping whereas threat appraisals were typically associated with the delegation, escape, information seeking, negotiation, problem-solving, self-reliance, and support seeking families of coping. These results partially support Skinner et al. (2003) who suggested that challenge appraisals trigger coping strategies within the problem-solving, information seeking, self-reliance, support seeking, accommodation, and negotiation families, whereas threat appraisals prompt ways of coping within the helplessness, escape, delegation, social isolation, submission, and opposition families. While the findings of the current study lend support to some of Skinner et al.'s (2003) suggestions, they also illustrate that the associations between sport performers' appraisals and coping strategies may be more ambiguous and idiosyncratic than Skinner and colleagues suggested. Our findings partially question the majority of sport coping literature which, to date, has demonstrated that challenge appraisals typically lead to problem-focused and approach coping and that threat appraisals often lead to emotion-focused and avoidance coping (see, for a review, Hoar, Kowalski, Gaudreau, & Crocker, 2006). In contrast to these findings, our results support

Calmeiro, Tenenbaum, and Eccles (2010) who suggested that a variety of coping strategies were used following each type of appraisal.

The findings of this study suggest that applied practitioners should encourage sport performers to develop a range of coping strategies that serve different functions in adaptive processes to enable them to cope in a variety of ways in response to organizational-related demands. In addition, the findings suggest that consultants should educate performers about effective coping strategies and encourage them to reflect on the strategies that, following appraisals of threat, challenge, and harm/loss, work best for them. This will help athletes to recognize their appraisal-coping associations and, thus, to understand the most appropriate coping strategies to employ following each type of appraisal. Further, the findings of this study suggest that applied practitioners may benefit from using a simplified version of Skinner et al.'s (2003) framework as a basis to develop athletes' understanding of families of coping. This may aid a comprehension of the coping options that are available and, thus, contribute to effective coping and optimal sport performance.

When conducting diary research, it is important to consider the strengths and limitations of the methods employed. With regard to strengths, the diary method allowed a large amount of data to be collected while minimizing retrospection. In addition, the diaries were particularly beneficial for those participants who were unfamiliar with psychological assessment since this approach is similar to the training logs that high performance swimmers typically use to record their training-related information. Notwithstanding these strengths, the findings should be considered in light of some potential limitations. Long-term data gathering can lead to data manipulation via participants consciously or subconsciously altering the phenomenology of the events discussed (Bolger, Davis, & Rafaeli, 2003). Another potential limitation is that the coping effectiveness ratings were based on self-reports. This method creates subjective ratings of coping effectiveness and it is, therefore, difficult to speculate about the criteria used by the swimmers to judge the effectiveness of their coping.

This study has enhanced our understanding of how swimmers appraise and cope with organizational stressors. However, further research is required to explore the different ways in which coping strategies combine and whether individuals use one coping strategy to serve multiple functions or whether distinct coping strategies are used to each serve a different function. In addition, future researchers should explore sport performers' goals in coping processes to determine the underlying aims of coping. To develop effective stress management interventions, researchers should endeavor to answer meaningful questions regarding the effectiveness of coping strategies. For example, what criteria do sport performers use to judge the effectiveness of their coping strategies? Do athletes hold trait-like beliefs about what are the most effective ways to cope or do these judgments evolve during stressful transactions? The appraisal-coping associations explored in this study require idiosyncratic investigation and research that attempts to examine the relationships between different components of the stress process (e.g., the situational properties and dimensions of the stressors experienced, the appraisals made, the coping strategies exhibited, and the related performance outcomes) is warranted. Particularly important is the examination of moderators of the organizational stress process in sport performers, such as personality, gender, and culture, which to date has received little empirical attention.

In closing, our findings highlight the idiographic nature of coping strategies in sport organizational contexts and suggest that careful consideration should be given to appraisal-coping associations and to the effectiveness of coping strategies. Specifically, the results demonstrate the complexity of coping and support the notion that there may not be a 'one size fits all' answer to the question of which coping strategies are most effective in managing organizational stressors. Nevertheless, this should not deter researchers from striving to develop knowledge in this area; rather, they should be sensitive to the importance of the individual, what she or he brings to a situation in terms of individual differences, and how she or he copes most effectively with stressful encounters.

Notes

[1] The data reported in this paper were collected at the same time as the data reported in Didymus and Fletcher (2012); hence the identical samples.

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