Stress and Coping Among Adolescents Across a Competitive Swim Season

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This study qualitatively examined the congruence between anticipated and experienced stressors and coping, and approaches to coping by elite adolescent swimmers across a competitive season. Eight swimmers were interviewed before and after 4 swim meets in a season. Data collection and analysis were guided by theories of stress and coping. Accuracy of anticipating stressors was low, and the stressors and coping strategies were variable across the season. Idiographic profiles were created for each athlete and grouped according to similar characteristics. Three groups included athletes who (a) generally perceived stressors as something to be avoided, (b) generally perceived stressors as problems to be solved, or (c) generally perceived swimming as fun and minimally stressful. These patterns appeared to be associated with anticipating stressors, highlighting the complex and dynamic nature of stress and coping among adolescent athletes.

Stress is an integral part of competitive adolescent sport. Stress is a process that occurs as the result of a transaction, or reciprocal effects, between athletes and their environment (Crocker, Kowalski, & Graham, 1998; Hoar, Kowalski, Gaudreau, & Crocker, 2006; Lazarus, 2000). Sources of stress within those transactions are called stressors. There are numerous potential stressors in sport that include performance, interpersonal, physical, organizational, and life challenges (e.g., Gould, Tuffey, Udry, & Loehr, 1996; Hoar, Crocker, Holt, & Tamminen, 2010). The ability to manage these transactions is critical to good performance and positive psychosocial functioning (see Grove & Jackson, 2010; Jordet, 2010; Nicholls & Thelwell, 2010).

A transactional approach to stress holds that researchers should consider characteristics of the athlete and the demands of the competitive setting (Lazarus, 1991, 1999). An athlete evaluates the importance of the situation in terms of personal well-being and whether it presents a threat, harm/loss, or challenge to achievement and social goals. The athlete also evaluates what can be done and the resources available to manage the demands (Lazarus, 1991, 1999). Thus, stress is influenced by evaluations of goal importance, whether the transaction

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facilitates or thwarts personal goals, goal attainment, coping potential, coping options, and perceived control in specific situations (Crocker, Mosewich, Kowalski, & Besenski, 2010; Lazarus, 1991). These elements vary within and across competitions and within and across athletes and affect stress appraisals and coping (Gaudreau & Miranda, 2010; Lazarus, 1999).

Coping is typically defined as voluntary cognitive, behavioral, and emotional efforts made to try to manage internal or external demands (Aldwin, 2007; Lazarus & Folkman, 1984). In the adolescent sport literature, these strategies include, but are not limited to, problem solving, relaxation, mental and physical disengagement, distraction, ignoring, increasing effort, wishful thinking, confrontation, humor, self-talk, positive reappraisal, and seeking social support (Hoar & Evans, 2010; Holt, Hoar, & Fraser, 2005). Coping can serve different functions such as problem-focused, emotion-focused, and avoidance coping (Kowalski & Crocker, 2001). A particular coping strategy can serve different functions in different transactions and can serve multiple functions simultaneously (Folkman & Lazarus, 1985). Researchers have tried to determine if particular coping strategies can reduce the negative impacts of stressors and facilitate performance and psychosocial functioning in sport, although such studies have yielded inconsistent findings (see Nicholls, 2010). The degree of stability across competitions and consistency within a competitive event of athletes' coping may play an important role in managing stress in sport (Gaudreau & Miranda, 2010). While research in this area is still emerging, it is possible, for example, that stable coping patterns help athletes manage stress consistently or that unstable coping is associated with flexibility and the ability to adapt.

It is not well understood how adolescent athletes cope over time before and during a competition and why they use particular coping strategies. Lazarus (1991, 1999) contended that coping is contextual and that people also have patterns of coping. Researchers are still piecing together the degree to which coping is idiosyncratic versus stable within a given sport, individual, competitive structure, period of time in the competition day, or various other features of the sport context. For example, Crocker and Isaak (1997) reported that competitive swimmers coped in a relatively consistent way in practice but were more varied in the specific strategies they used across time in competition. It has been shown that competitive golfers use different coping strategies during the pre-, during-, and postcompetition periods (Gaudreau, Lapiere, & Blondin, 2001) or even within a competition (Nicholls, 2007). Tamminen and Holt (2010) found that adolescent basketball players' coping patterns changed over the course of a season, possibly in reaction to changes in stressors. Research with adult soccer players and referees showed that some individuals are stable whereas other individuals show more variability in their coping attempts (Louvet, Gaudreau, Menaut, Genty, & Deneuve, 2007, 2009). It is not clear, however, why athletes show consistency or variability in their coping.

One factor that may cause athletes to change coping efforts within and across competitions is the occurrence of unexpected or expected stressors and the use of proactive or anticipatory coping (Aldwin, 2007; Aspinwall & Taylor, 1997; Dugdale, Eklund, & Gordon, 2002; Tamminen & Holt, 2010). For example, in a study of international athletes, Dugdale et al. found that about two thirds of stressors were unexpected, and unexpected stressors were associated with hesitating to respond more were than expected stressors. Holt, Berg, and Tamminen (2007) found that college-level volleyball players were generally not accurate at anticipating stressors and coping but that anticipating was associated with more effective coping. Aspinwall and Taylor proposed that, at least on some occasions, people can anticipate potential stressors well before they occur and engage in efforts to prevent them from occurring or minimize their negative impact. For example, if an athlete anticipates stress at a competition due to hearing their teammates talk about how much they are concerned about facing a particular opponent, the athlete could plan to bring a personal music player and a book to read to avoid hearing those comments. Anticipatory or proactive coping is typically absent in retrospective studies because a person who is effective in proactive coping efforts may be able to avoid a potential stressor altogether, leaving no stressful transaction to study (Aspinwall & Taylor, 1997). Tamminen and Holt (2010) reported that 77% of adolescent female basketball players in their sample relied on reactive coping patterns, and 23% played more proactive patterns. Anticipating stressors and coping may be possible but difficult for many athletes.

We know little about how athletes anticipate and cope with stressors across a competitive season and how consistency and stability of coping may affect each other. Furthermore, recent reviews have identified several limitations in research on stress and coping in sport (Crocker et al., 2010; Hoar et al., 2006; Nicholls & Polman, 2007), especially in adolescent sport populations (Hoar & Evans, 2010; Holt et al., 2005). Limitations include the heterogeneity in reported stressors, sports, and ages within a particular study; reliance on correlational designs; and using one-time observation or interview methods. The reviews called for using longitudinal designs, restricting the types of stressors being identified, and examining key relationships among antecedents, coping, and outcomes to address these issues. More important, research design and analysis must be driven by research questions that are informed by empirical, theoretical, and conceptual formulations (Crocker et al., 2010).

Examining the stress and coping process over time is challenging because there are numerous personal and contextual variables that can affect this complex dynamic process (Lazarus, 1999, 2000; Lidor, Crocker, & Mosewich, in press; Nicholls & Thelwell, 2010). Qualitative methods that examine athletes’ experiences with stressful competitive transactions over time may facilitate the understanding of the dynamic, multifaceted, and contextual aspects of coping (Crocker et al., 2010; Holt et al.,
n competing at the provincial (n = 6), or n swimming competitively for 5–10 years. They were n swim teams participated. The participants had been n board approval, coaches at four swim clubs were sent a n the purposeful sampling criteria. After research ethics n Procedures for participant recruitment were based on n4 females; n = 4 males and n experienced stressors and coping strategies surrounding their most n important event. Interview questions were developed n the interview guide and ensure a consistent focus across n interviews before beginning the project to practice using n of conducting numerous interviews in a constrained n period, two authors conducted interviews. Both ners had prior experience and training in qualitative interviewing techniques and conducted mock interviews before beginning the project to practice using n interview guide and ensure a consistent focus across ners. Each athlete was interviewed by the same researcher throughout the study, except in the case of Derek’s final postmeet interview, which was conducted by the other interviewer for logistical reasons.

Interview questions focused on the athletes’ n stressors and coping strategies surrounding their most n event. Interview questions were developed based on theories of stress and emotion (Lazarus, 1999) and proactive coping (Aspinwall & Taylor, 1997) and
recommendations for developing interview guides (Miles & Huberman, 1994). The second author has extensive experience as both a competitive swimmer and coach of adolescent swimmers, so her expertise in the sport also contributed to shaping the interview guide. Athletes were asked to discuss stressful and challenging situations they encountered, their emotions surrounding these events, and efforts they made to manage those encounters. Example questions are “Did you have any specific stressors at the meet that you had to deal with?” and “What did you do to try to manage those stressors on the day of the meet?” The interview guides are available from the first author. A semistructured approach was used during each interview, in which the order of questions was flexible and the interviewer was free to probe ideas raised by the participant so that the interview could follow each participant’s perspective.

Specifically, premeet interviews focused on expectations for the upcoming meet and how the athletes expected to cope with stressors throughout the competition. Postmeet interviews focused on stressors they encountered during the meet, how they coped, and how effective they perceived their coping efforts were. In addition, at the end of the last interview, a member check was conducted (Lincoln & Guba, 1985). The interviewer provided each athlete with a description of the stressors and coping strategies that had been identified through the analysis of that athlete’s interviews over the course of the season. The interviewer verbally described the findings from the analysis of the athlete’s interviews at each meet in sequence and asked athletes for their impressions of whether their experiences had been accurately interpreted, to elaborate or provide corrections as needed, and to make any additional comments. Athletes generally agreed with the interpretations made, and in a few cases provided minor clarifying comments that were incorporated into the final findings.

Data Analysis. Each interview was transcribed verbatim by a research assistant, and transcripts were verified by the interviewer. Data were analyzed in two steps. The first step involved a basic content analysis (see Maykut & Morehouse, 1994) to identify the types of stressors and coping strategies reported by the participants. For this step each interview was analyzed by the author who conducted that interview. Each transcript was read and all statements relevant to the study’s purposes were coded. Each transcript was then reread and the coded information was reviewed and grouped into higher order themes. Labels and rules of inclusion were developed for each code and higher order theme to capture the meaning expressed by the coded text. A list of themes and codes was then compiled in a table. A second transcript was then coded, using existing codes for similar concepts and expanding the table to incorporate new ideas that emerged. Throughout the coding process, emerging themes were constantly compared with the original coded material to ensure consistency.

Coding was then reviewed by other members of the research team to ensure that the analysis considered multiple perspectives (Yardley, 2008). After all transcripts had been coded by the original interviewer, the first and second authors reread all of the transcripts from the entire study to ensure consistent coding. Where discrepancies arose, both authors examined the transcript and discussed the coding, and a consensus decision was reached. The coded quotations were then assembled into a new document in random order and, similar to a procedure outlined by Lincoln and Guba (1985), were provided to the fourth and fifth authors along with the table of codes and themes. These authors, who had extensive knowledge in the field of stress and coping, used a deductive process to code the quotations based on the table of codes and themes provided. Their coding was compared with the original coding. When discrepancies arose, all authors discussed the coding and reached a consensus.

Similar to the approach used by Holt and Dunn (2004) and Tamminen and Holt (2010), and following some of the guidelines put forward by Miles and Huberman (1994), the next stage of the analysis was to create idiographic profiles of each athlete’s stress appraisals and coping before and after each of the four meets to examine patterns of stress and coping over the season. To facilitate this process, a table (or data matrix: Miles & Huberman, 1994) was constructed charting the stressors and coping expectations and experiences reported by each participant across each of the four swim meets (Miles & Huberman, 1994). Matches were made between anticipated and experienced stressors and coping and the number of meets at which a particular stressor or coping strategy were reported. Narrative summaries (cf. Lazarus, 1999) of each participant’s experiences of stress and coping were written focusing on the athlete’s ability to anticipate stressors and coping and his or her pattern of actual stressors and coping across the season. Individual athlete profiles were read several times and compared, and athletes with similar profiles were grouped together based on similarities in their stress and coping patterns examined in this study. Analysis produced three shared profiles (i.e., groups), which were given descriptive labels that reflected the shared dimensions of the athletes’ experiences. These groupings are not intended to reflect types of individuals but, rather, general similarities in the ways in which the athletes approached coping.

There were multiple authors on this study who had differing philosophical perspectives. As such, the strategy we decided to use in the study was to adopt a philosophical perspective consistent with the methodological/analytic approach selected (i.e., Miles & Huberman, 1994). Miles and Huberman suggested that social phenomena are subjective perceptions that exist in the mind of an individual, but these perceptions also relate to a social world that is underpinned by a degree of “lawfulness” and relatively stable relationships. Lawfulness arises from the commonalities that link phenomena together and create the framework of social structures. Individuals’ meanings and intentions are then created within the social structures in which they exist.

Miles and Huberman (1994) further suggested that principles of trustworthiness (Lincoln & Guba, 1985)
can be used to evaluate the credibility, transferability, dependability, and confirmability of the research. Credibility, or establishing that the results are reflective of the participants’ subjective experiences, was supported by interviewing each participant multiple times, conducting a member check, including multiple investigators in the analysis, and having an author with extensive experience with elite youth swimming (second author) involved in the study. Transferability, or the applicability of the findings to other settings, was addressed through providing extensive description, including raw-data quotations to support findings, and the inclusion of data summary tables that allow the reader to see and judge the results and supporting data. Although such depth of description does not “automatically” lead to transferability, it enables other readers to establish the extent to which the current findings may apply to other settings. Dependability refers to the replicability of the findings and was enhanced by including multiple authors in data analysis. Confirmability is the extent to which results are relatively neutral and reasonably free from unacknowledged researcher biases. Confirmability was also supported by having multiple researchers involved in data analysis, as they had opportunity to question each other’s interpretations and ensure they were grounded in the data.

**Results**

**Content Analysis of Stressors and Coping Strategies**

Swimmers identified 19 distinct stressors and 20 coping strategies (see Tables 1 and 2). Stressors were categorized into three themes relating to swimming: (a) performance, (b) interpersonal relationships, and (c) environmental and physiological conditions. Coping strategies were categorized into (a) cognitive and (b) behavioral strategies.

**Anticipating Stressors and Coping**

The stressors and coping strategies reported before and after each meet for each athlete were compiled in a table that can be obtained from the corresponding author (McDonough) on request. On average, the athletes anticipated 23% of the stressors they encountered. While the specific stressors reported varied considerably, most of the stressors that were correctly anticipated were associated with swimming performance (i.e., time, prerace preparation, qualifying for future events, comparison with opponent or teammate, pressure to perform or keep improving, and potential to excel). Participants accurately anticipated the coping strategies they would use 21% of the time.

There were various reasons why the athletes did not or could not report anticipated or actual stressors or coping strategies. Swimmers sometimes expressed that they did not have enough information about the upcoming event to formulate any expectations about the stressors they would encounter and how they might manage them. When talking about an upcoming meet, Derek explained that he had not yet had access to the list of other racers and so was unable to judge whether he would experience stress about how his performance would compare with his opponents. He said, “Um, [I don’t have any goals] that I’ve really set, um. I mean I haven’t seen [the list of racers] which is what I’d really be interested in” (before Meet 3). Alternatively, the athlete might not anticipate stressors and therefore may not perceive a need to engage in coping efforts. For example, Leah reported for all meets that she did not anticipate or experience any stressors and did not engage in any coping efforts. She indicated that she felt that swimming in meets and practices was the same, and she didn’t think about meets much so had no stressors. In actual fact, it may have been that not thinking about the upcoming meet was a proactive coping strategy that helped her avoid stressors in the first place. As Leah explained when asked why she doesn’t think about upcoming meets, “I might get nervous . . . cause then I might not do as well” (after Meet 1). While none of the other athletes were so extreme in their lack of reported stressors, there were times when other athletes reported no stressors (i.e., Katie before and after Meet 3 and Sarah after Meet 3 and after Meet 4).

Athletes sometimes expressed that the stressors they anticipated did not transpire, resulting in no report of actual stressors or coping for an event. For example, Derek reported in his premeet interview for his first key event that he may feel fatigued, pain, and fear of the event. However, in his postmeet interview, he reported some fatigue but not the fear and pain he anticipated: “I mean at the end of the day we were there for fun. Um, there was really actually in my mind nothing on the line except you know, um, well I mean, winning [laughs]” (after Meet 1). Furthermore, only 52% of the stressors reported occurred at more than one meet for the same athlete. While all athletes except Leah had at least one recurring stressor, the considerable variability in stressors encountered may have made anticipating them difficult.

**Stressor and Coping Profiles**

On examining the 8 participants’ narrative summaries and the table of stressors and coping strategies reported by each athlete across all meets, we identified three groups that described the athletes’ general approaches to stressors and coping. The three profiles were labeled as athletes who (a) generally perceived stressors as something to be avoided, (b) generally perceived stressors as problems to be solved, and (c) generally perceived swimming as fun and minimally stressful. **Generally Perceived Stressors as Something to Be Avoided.** The first profile was characterized by attempting to avoid stressors by not thinking about the event or potential stressors and by using avoidant and distracting coping strategies when stressors arose. Sarah, Toby, and Derek exhibited this profile. All 3 of these swimmers had had a lot of success in the past, but Sarah was concerned about a recent plateau in time. All had high expectations of themselves, and uncertainty about their ability to achieve those goals was a stressor. For both Toby
Table 1 Stressors

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<thead>
<tr>
<th>Stressor</th>
<th>Example Quotation</th>
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<tr>
<td><strong>Stressors Associated With Swimming Performance</strong></td>
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<tr>
<td>Comparison with opponent or teammate</td>
<td>I think I’m going to be, I think I’m going to be pretty nervous actually, because, um, because I want to beat [teammate]. (Rachelle, before Meet 3)</td>
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<tr>
<td>Fear of event (specific stroke or distance)</td>
<td>I’ve gone into meets where I’ve been dreading the 1,500 with everything that it’s worth. . . . We’re heavy into training and . . . I’d really rather not sit there for 17 minutes and kind of not go, not going to be a best time. (Derek, before Meet 1)</td>
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<tr>
<td>Following race strategy</td>
<td>I was sort of nervous because I didn’t really have a strategy for it. (Katie, after Meet 1)</td>
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<tr>
<td>Repeating poor performance history</td>
<td>I did really bad in the last meet so I just want to go faster. (Sarah, before Meet 3)</td>
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<tr>
<td>Potential to excel</td>
<td>[I felt] more excited, and I guess more comfortable with the fact that, obviously if you go fast in the morning you should be able to go faster at night. Like the energy and preparation and just mentally you should be able to. (Shawn, after Meet 2)</td>
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<tr>
<td>Poor prerace preparation</td>
<td>The meet doesn’t start till Thursday, we’ll have a few practices in there. And if in the practices I don’t do too well on it, it might, usually I don’t think about it too much, but um, I might, you know, think, start thinking, you know, unhealthy thoughts I guess. (Toby, before Meet 1)</td>
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<td>Pressure to keep improving</td>
<td>I just kinda been trying for the past year, so to get that time with college coming up I wanna get it done before, . . . Like, there’s more, like, whether, if I’m going to keep [swimming] I gotta keep getting better and, I can’t just settle for what I’m doing. (Shawn, before Meet 1)</td>
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<td>Pressure to perform</td>
<td>The day of the 200 breaststroke I was a little more anxious. 'Cause there’s definitely more pressure for the 200 breaststroke for me. (Simon, after Meet 3)</td>
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<tr>
<td>Qualifying for future event</td>
<td>I was ranked higher in the 200 breaststroke so there was more pressure to make finals. (Simon, after Meet 3)</td>
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<tr>
<td>Technique</td>
<td>Sometimes [focusing on technique] adds more pressure ’cause when I glide longer, it takes longer for me to do it. I don’t know why but it does. (Katie, before Meet 4)</td>
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<tr>
<td>Time</td>
<td>I was just really scared. I thought I was going to go really slow. (Sarah, after Meet 4)</td>
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<tr>
<td>Uncertainty about race outcome</td>
<td>Going in I was, I was a little bit nervous. ’Cause I didn’t know exactly how I was going to go. (Toby, after Meet 2)</td>
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<tr>
<td><strong>Stressors Associated With Interpersonal Relationships</strong></td>
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<tr>
<td>Coach</td>
<td>I’d be so afraid to go back to talk to [my coach]. He’d be like, “What was that?” ’Cause I figure it’s better to do exactly what he says and swim badly than to not do what he says and do okay. (Rachelle, before Meet 3)</td>
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<tr>
<td>Friends and teammates</td>
<td>We were talking about the race and how we couldn’t go slow. [It made me feel] more nervous. (Sarah, after Meet 4)</td>
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<td>Parents</td>
<td>I talked to my mom after and I didn’t feel too good after that talk. So, ’cause she told me like, “Oh, you need to do this and this for your backstroke, that’s why.” I’m like, “Mom! I can’t fix this. . . . Do you need to tell me this right now?” (Rachelle, after Meet 2)</td>
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<tr>
<td><strong>Stressors Related to Environmental and Physiological Conditions</strong></td>
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<tr>
<td>Fatigue</td>
<td>There’s always a concern that you might pass out, so to speak. Well, you might not be able to lift your arms in a thousand [meters] if you start going for it now. Um, sometimes those concerns are real. (Derek, after Meet 3)</td>
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<tr>
<td>Injury or illness</td>
<td>The day before the 200 breast stroke my knee was hurting a bit. (Simon, after Meet 3)</td>
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<tr>
<td>Pain</td>
<td>I think [I felt unprepared] ’cause I was tired and sore and it just didn’t feel right. (Sarah, after Meet 4)</td>
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<tr>
<td>Unfamiliar conditions</td>
<td>There’s like 1,000 people at this meet so it’s going to be even harder [to warm up] so I’m probably not going to feel too strong about it and going up behind the blocks I’ll probably feel even worse. (Toby, before Meet 3)</td>
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and Derek, winning major events was a primary goal: “I would like to place higher than I did last time at nationals. . . . I’d like to improve that ranking” (Derek, before Race 4), and “According to the rankings I’m first. . . . I’d like to continue to be first” (Toby, before Race 4). All were keenly aware of the need to make time standards. They tended to experience stressors related to those goals such as time, repeating poor performance history, pressure to perform, and pressure to keep improving. In Toby’s case, he described anticipating stressors surrounding feelings of pressure to perform because it was closely aligned with his goals:

I think it’s really important because I do want to make my national standard by the end of the year ’cause I don’t want to have to be trying to get it next year ’cause I’ll be trying to work towards different things, so it’s, I think it’s pretty important. (before Meet 3)

### Table 2  Coping Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Example Quotation</th>
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<tr>
<td>Behavioral Strategies</td>
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<tr>
<td>Information seeking</td>
<td>I was just trying to ask [teammate] for his strategy and see if it would work. (Katie, after Meet 1)</td>
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<tr>
<td>Warm up/down</td>
<td>In warm-up I kinda calm down and just start swimming. . . . Just getting into the rhythm of swimming calms me down. (Simon, before Meet 1)</td>
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<td>Friends’ support</td>
<td>I talked to [teammate] and I was like, “Do you feel okay?” And I was like, “How do you feel?” And she’s like, “Yeah, I don’t know, I don’t really feel that good.” And I was like “Yeah, me neither.” (Rachelle, after Meet 3)</td>
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<td>Parents’ support</td>
<td>Sometimes I still think about it. And then I talk out loud about it. And my parents are going to be like, “Don’t worry about it, it’s not for like another day or so, 2 days.” (Katie, before Meet 1)</td>
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<tr>
<td>Behavioral avoidance</td>
<td>I just kind of walked off further away from our bench and stood around, talked to somebody. (Derek, after Meet 1)</td>
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<tr>
<td>Friends—distraction</td>
<td>[My teammates and I] just do other stuff then, it just makes you relax. Like focus on, or you don’t really focus. Go out and joke around, laugh. (Shawn, before Meet 1)</td>
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<tr>
<td>Distraction</td>
<td>I just keep going on Google and looking for things. (Katie, before Meet 2)</td>
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<tr>
<td>Coach support</td>
<td>I usually go up there and [my coach and I] joke a bit and just get the pressure off. We don’t really talk about that I have to win, or that I have to get this place. We just joke a bit and get the pressure off. (Simon before Meet 1)</td>
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<tr>
<td>Increasing effort</td>
<td>I just told myself to keep going. (Sarah, after Meet 2)</td>
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<tr>
<td>Relaxation</td>
<td>But this time I’m going to have to relax myself, just the fact that it’s the big meet, and I have to perform. (Shawn, before Meet 2)</td>
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<tr>
<td>Music</td>
<td>I like forgot about it and put on my headphones and ignored everyone. (Shawn, after Meet 2)</td>
</tr>
<tr>
<td>Cognitive Strategies</td>
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<tr>
<td>Cognitive avoidance</td>
<td>I know that if I let it get to me then it’ll only get worse. So I’m trying to find the good things and push the rest out of my mind so that, hopefully I can get better. (Toby, after Meet 1)</td>
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<tr>
<td>Focusing on strategy</td>
<td>I tried to stick to my strategy and swim my own race. (Simon, after Meet 3)</td>
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<tr>
<td>Focusing on technique</td>
<td>I think when I swim I’m just going to like focus on my stroke more and work on what I think I need to do. (Rachelle, before Meet 4)</td>
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<tr>
<td>Focusing on opponent</td>
<td>There was someone who I normally race who usually beats me, who I could see who was like in Lane 4 and I was in Lane 1. So I could just kind of see him. So I kind of made it my goal to try to beat him, and I almost did. (Toby after Meet 1)</td>
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<tr>
<td>Focusing on finishing</td>
<td>I just told myself to keep going. ’Cause I was getting really close to the end and it was my last race of the day, and I just wanted to finish it and go. (Sarah, after Meet 1)</td>
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<tr>
<td>Positive focus</td>
<td>I keep telling myself, “I know what I want to do, and I do it.” (Simon, before Meet 1)</td>
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<tr>
<td>Reappraisal</td>
<td>I’m trying to ignore the fact that there are teams on the line. Um, I desperately try and lower every meet down to what I found [an easier meet earlier that season] was. (Derek, before Meet 4)</td>
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<tr>
<td>Refocusing on next event</td>
<td>I think I could have done a lot better, but I didn’t want to draw on it ’cause it was still the first day and I knew there were more races I could do better at. (Toby, after Meet 4)</td>
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<tr>
<td>Acceptance</td>
<td>I could see the guy in Lane 8 way out in front. . . . It was more or less that he was gone. I was still in third at that point. And third was, I was quite happy with third. . . . It was a bit discouraging you know. But yeah, you just have to keep going. (Derek, after Meet 2)</td>
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He then described experiencing a great deal of self-imposed pressure to perform to reach those goals:

I was pretty nervous 'cause I didn’t know it was going to go very well and I thought that was the only one I was going to have the chance to make the [time standard]. . . . [I want to get my age group nationals standard] as soon as possible 'cause like the steps, the way I’m taking off time, the sooner I get there the sooner I’ll take off more. So then by club nationals I’ll have my chance to get my [senior] national standard. (after Meet 3)

For Derek, avoidance appeared to start with an unwillingness to anticipate performance-related stressors or anything that could indicate self-doubt, even though he consistently experienced performance-related stressors at the meets:

I try to ignore [team selection at the upcoming meet]. I don’t think it really helped me last year when I was concerned about it. . . . Which is exactly why I told you that I’m trying to ignore the fact that there are teams on the line, um. I desperately try and lower every meet down to what [a recent easy race] was at the end. . . . I, I have a tendency to have trouble if I find there is pressure on the meet . . . and so I tend to try to ignore it. (before Meet 4)

Sarah also did not anticipate stressors accurately. In her case, she readily acknowledged feeling negative emotions associated with stress, but she was typically unsure of what stressors to expect and anticipated many stressors that never transpired. For example, before Meet 2, she thought she would experience fear of the event: “I think the first day, the Friday, I’m going to be pretty scared when I wake up. It’s just like, waking up and it’s like, there. Like you want to go, but you don’t.” However, when the meet finally arrived, she experienced stress about feeling fatigued and how she would compare with others but none of the fear of doing the event that she had anticipated: “I was kinda nervous, but I was just like, we’ll see what I can do.” Before Meet 4, she did not anticipate experiencing any stressors, but in the postmeet interview she reported stressors surrounding comparison with opponents/teammates, repeating poor performance history, poor prerace preparation, technique, friends/teammates, fatigue, and pain.

The main feature of this profile was avoidant coping or attempts to cast the athletes’ swimming positively for the purpose of avoiding feeling bad. Athletes with this profile used both cognitive and behavioral avoidance coping strategies and tended to use equal cognitive and behavioral coping strategies or rely more on cognitive strategies (Sarah = 50%, Toby = 85%, Derek = 80% cognitive strategies). Derek repeatedly used reappraisal strategies to see himself in a positive light. In Meet 2, for example, he was passed by another swimmer and made no effort to keep up with him, which he acknowledged as a mistake but then reframed it as out of his control and acceptable:

[Then] I realized that he was passing people in two lanes. There’s quite a high from passing someone, um, which can let you hold on to that lead for quite a while, um. It was more or less that he was gone, um. I was still in third at that point, and third was, I was quite happy with third, um, so yeah. (after Meet 2)

Toby, in contrast, did make some coping efforts that involved focusing on the race and problem solving such as focusing on technique, strategy, or his opponent. But when things went poorly, he tended to avoid thinking about it and use cognitive avoidance or distraction strategies. For example, in coping with his poor performance at his last and most important meet, he said,

I was a little upset about it 'cause it is my best event, uh, I think I could have done a lot better. But I didn’t want to dwell on it ’cause it was still the first day and I knew there were more races I could do better at. . . . I don’t want to think about it too much about the disappointing stuff because it’s another year until I come back so I’m just trying to, I’m pretty happy with it. (after Meet 4)

Generally Perceived Stressors as Problems to Be Solved. This profile included Shawn and Rachelle. Both of these swimmers had had great success in the past but had plateaued and were frustrated with their lack of progress toward time standards. They were the oldest swimmers in their training groups. Both were relatively accurate at anticipating stressors (41%), predicted their coping strategy use 24% of the time, and identified many stressors and coping strategies repeatedly over the course of the season. For example, Rachelle anticipated and reported experiencing stress regarding her poor prerace preparation in three separate meets. Shawn was good at anticipating stressors that were related to his goals of improving his time and achieving time standards. He felt pressure to keep improving to legitimize his continued involvement in swimming, and the constant pressure may have made stressors about time and pressure easy for him to anticipate:

I’ve been trying to get my National time. . . . I just kinda been trying for the past year, so to get that time with college coming up I wanna get it done before. . . . Like there’s more like, whether if I’m going to keep doing it I gotta keep getting better and, I can’t just settle for what I’m doing. (before Meet 1)

Similarly, Rachelle anticipated at least one stressor for each meet that centered on not feeling prepared to race, comparing poorly to opponents, or interpersonal conflict. For example, before the third meet she anticipated experiencing stress due to poor prerace preparation. She said, “It’s kinda close, like it’s a few days away and like we just started tapering this week and then, plus like it’s so fast I just really don’t think I’m going to [make the finals].” That stress ultimately transpired, as she reported in the postmeet interview: “The two practices before I, like, was all tight and sore . . . and I don’t think my warm-up was that good.”
Both Shawn and Rachelle attempted to manage their stressors by implementing multiple strategies. Like the previous profile, they relied more on cognitive than behavioral coping strategies (Rachelle = 71%, Shawn = 64% cognitive strategies). Rachelle in particular had many coping strategies that she tried to implement across multiple meets. Her most common strategies included emotion-focused and avoidance strategies such as cognitive avoidance and reappraisal, but she also employed seeking support and advice from her coach, increasing effort, and focusing on an opponent, strategy, or technique that may improve the situation. Shawn was similarly intent on figuring out what was going wrong with his swimming and solving it to improve his performance. His coping in the first meet was more characteristic of those in the "generally perceived stressors as something to be avoided" profile, but after the first meet he discussed having learned that it was important to manage his thoughts so that stress did not negatively affect his performance and to engage in more problem-solving strategies:

"I get a bit nervous during, when I am going to the meet, but in warm-up I kinda calm down and just start swimming. . . . I just, just, tell myself why I want to achieve my goal. . . . I know what I want to do, and I do it. (before Meet 2)"

He followed up on this by engaging in a much wider variety of coping strategies that, like Rachelle, addressed both emotional control and problem-focused coping strategies. For example, before his consolation final in Meet 2, Shawn was trying to prepare to race well and improve his time despite the disappointment of missing the final by only one position. He employed a variety of strategies including reappraisal, increasing effort, positive focus, and focusing on technique:

"I took it as a normal final and I was like okay, let’s go do this fast and, I was pretty happy. Like relaxed, like not too much in my mind. Like ready. I was standing behind the blocks and just like thinking what [coach] was telling me. Like swim relaxed, swim through. Don’t worry about what everyone else is doing. Just like swim through. (after Meet 2)"

Unfortunately, Shawn suffered an injury between the second and third meets that ended his season, so it is not possible to examine his profile further.

**Generally Perceived Swimming as Fun and Minimally Stressful.** Simon, Katie, and Leah exhibited profiles characterized by the view that swimming was minimally stressful. These views led these swimmers to either have nothing to report in response to questions about stressors and coping throughout the study (i.e., Leah) or at some time points (i.e., Katie, who did not anticipate any stressors before Meet 2 or report any stressors after Meet 3), or to primarily discussing dealing with positive feelings of challenge and excitement, which were appraised as enjoyable, not as stressors (i.e., Simon, who reported potential to excel on several occasions). For example, Katie’s major stressors in swimming were the pain and fatigue of long races, but those were not relevant for her focal event because it was a short distance. She identified other stressors, but they were not very intense compared with her fear of swimming longer events. For example, she was able to reappraise stress related to her focal event by comparing it to a longer event: “100 breaststroke, I usually just think that it’s a shorter distance. It’s not going to be as hard as 200 breast” (before Meet 1). Simon got very excited for racing, and while he experienced stressors, most were easily managed:

"I get a bit nervous during, when I am going to the meet, but in warm-up I kinda calm down and just start swimming. . . . I just, just, tell myself why I want to achieve my goal. . . . I know what I want to do, and I do it. (before Meet 2)"

These 3 swimmers were among those with the fewest anticipated-actual stressor matches. This does not necessarily imply that they were not able to cope with stressors when they arose, however. Simon, for example, exhibited a very consistent pattern of coping involving seeking support from his coach, listening to music, and focusing on strategy and technique and frequent anticipation of strategies he used to cope, even though he did not predict the stressors. Notably, both Leah and Simon were performing well all year, meeting their goals and shaving off time in most meets. Under those circumstances, they may have felt more certain about their competitive outcomes and had fewer concerns about how they would perform. Furthermore, when athletes in this profile did cope with stressors, they tended to use more behavioral than cognitive coping strategies (Katie = 60%, Simon = 63% behavioral strategies).

**Discussion**

This study investigated the congruence between anticipated and experienced stressors and coping, and patterns of stress and coping in key events across a swim season. While there was intraindividual variability in stressors encountered and coping strategies employed across the season, it was possible to identify three general patterns of appraisals and coping: swimmers who generally perceived stressors as something to be avoided, those who generally perceived stressors as problems to be solved, and those who generally appraised competitions as fun and minimally stressful. To some extent these profiles help explain some of the interindividual differences in stressors and coping because different athletes “approached” swimming competition (and its associated stressors and coping) in distinct ways. These profiles provide new insight into how stressors and coping are interrelated and linked with anticipating stressors and planning for coping. Athletes were generally poor at
predicting stressors in upcoming meets, which itself could be a source of uncertainty and stress. The coping-approach profiles were linked with the anticipation of stress, highlighting the complex and dynamic nature of stress and coping.

As we have noted, there was variability in how athletes appraised stressors and coped, but they tended to have a general characteristic approach to coping, as exhibited in the three profiles. This finding is consistent with previous research showing that athletes only exhibit moderate stability in coping (e.g., Crocker & Isaak, 1997; Gaudreau et al., 2001) and that some adolescent athletes have stable coping patterns while others are more variable (Louvet et al., 2007). The current study extends this idea of individual profiles of change and proposes that to understand these coping patterns, we need to consider integrated information about goals, stressors, and multiple coping strategies. For example, the athletes in the "generally perceived stressors as something to be avoided" group were more focused on winning races and therefore tended to experience stressors related to comparisons to others. We might expect these stressors to be predictable, as they are linked to a consistent goal for these athletes. But anticipation of stressors was poor in this group, as they also tended to use avoidance or distraction coping strategies. This suggests that athletes who choose not to think about stressors may not be able to anticipate them, even if they have a consistent, predictable stressor. Coping has been shown to influence future stress appraisals among young adult female soccer players (Holt & Dunn, 2004), supporting Lazarus's (1999) theory that stress is a recursive process. The current data provide preliminary evidence extending this finding to adolescents. Together, these findings suggest that to understand why athletes cope the way they do, we need to explore stress and coping using within-person designs over time that also account for the interactive and recursive effects of goals, stressors, and coping.

The presence of both stability and change in coping may also indicate that the athletes are learning. Individuals may have a tendency to approach coping in a particular way, but because they are continually encountering new experiences they add to their ability to recognize stressors and cope, developing a larger pool of available coping strategies. In this sense, athletes may “learn to cope” with the stressors they encounter through accumulated experience and engaging in reflective practice regarding past stressors and coping efforts (Tamminen & Holt, 2012). This was suggested in the “generally perceived stressors as problems to be solved” profile when Shawn showed some evidence of shifting from a more avoidant profile to the more problem-solving profile as he gained insight into the value of thinking about and addressing the problems he encountered. This conclusion is tentative, however, due to the limited data available from Shawn. Future research examining athletes’ patterns of coping and cognitions surrounding their coping strategy selection over many sequential competitions is warranted.

The finding that these adolescent athletes were sometimes able to anticipate what stressors they would encounter at upcoming meets but did so infrequently is consistent with previous sport research and theory suggesting that not all stressors are predictable (e.g., Dugdale et al., 2002; Holt et al., 2007; Lazarus, 1999; Tamminen & Holt, 2010). Anticipating stressors and coping responses may be influenced by the idiosyncratic nature of stressful transactions and cognitive and social development (Aldwin, 2007; Hoar & Evans, 2010). An inability to anticipate stressors that are potentially predictable may have important consequences, as unexpected stressors are generally perceived as more threatening and are associated with hesitation before taking action (Dugdale et al., 2002). Indeed, uncertainty is a defining feature of anxiety (Lazarus, 1991). Athletes are also unable to develop the necessary resources to manage unexpected stressors and engage in preliminary coping efforts to avoid or minimize the impact of the stressors (Aspinwall & Taylor, 1997; Auerbach, 1992; Tamminen & Holt, 2010). However, there is little research exploring what proportion of stressors are realistically predictable and to what degree it is possible to teach athletes to predict and prepare for stressors in competitive sport. Athletes in the current study predicted 21% of their coping-strategy use, but it is difficult to evaluate this proportion beyond the observation that it is similar to a study of collegiate volleyball players where 22% of coping strategies anticipated were actually used (Holt et al., 2007). Because the stress and coping process is dynamic and transactional (Lazarus, 1999) and coping-strategy use is highly variable across competitions (Crocker & Isaak, 1997), it is not surprising that stressors and coping are difficult to predict accurately, even with the narrow focus on the same swimming event within a single season at competitions with similar importance for the athlete. To further knowledge of anticipatory coping in sport, research is needed to explore what the realistic parameters are for anticipating stress and predicting coping efforts in specific sport environments. Such findings would set the stage for research examining whether predicting stressors improves coping and outcomes in sport and whether training athletes to anticipate stressors and cope anticipatorily yields positive outcomes.

The three coping profiles can be understood in light of several integrated ideas in the coping literature. The “generally perceived stressors as something to be avoided” and “generally perceived stressors as problems to be solved” profiles bore similarities to the concepts of withdrawn and engaged coping. Skinner and Wellborn (1994) suggest that in contexts where one’s needs for relatedness, autonomy, and competence are fulfilled, coping will tend to be engaged (i.e., effortful or active) rather than withdrawn (i.e., passive or avoidant). Indeed, there is evidence that in the sport context, self-determined motivation—which is also fostered by the fulfillment of the three needs—is associated with more task-oriented (similar to engaged) rather than disengagement and
distraction-oriented coping (Amiot & Gaudreau, 2010). Furthermore, Amiot and Gaudreau found that using more task-oriented coping in turn predicted goal attainment. While we did not ask athletes about psychological need fulfillment, athletes in the “generally perceived stressors as something to be avoided” profile tended to be more focused on winning (and therefore, perhaps, more ego-involved) than the other athletes, suggesting that they may feel less control or autonomy over achieving their goals. Moreover, athletes in that group relied more on cognitive strategies that included avoidance coping. Athletes in the “generally perceived stressors as problems to be solved” profile were more similar to the concept of engaged coping. While they clearly experienced stressors and setbacks, their greater engagement in finding solutions to solve the problem may have been reflective of a perception of greater need fulfillment, self-determination, and control over solving the problem (Kowalski, Crocker, Hoar, & Niefer, 2005). The existence of the “generally perceived stressors as fun and minimally stressful” profile may seem surprising at first, given that these were competitive swimmers engaging in regular competition. However, it is consistent with empirical research documenting that even high-level adult athletes do not always appraise competition as stressful (Dugdale et al., 2002). Furthermore, there is a growing literature suggesting that when athletes have higher self-determined motivation, they are more likely to appraise the situation as challenging rather than threatening (Amiot & Gaudreau, 2010).

The findings contribute to our understanding of how athletes anticipate stressors and coping by providing insight into how general patterns of coping may contribute to athletes’ anticipation of stressors and how athletes may learn to cope over time. From an applied perspective, these results emphasize the need for professionals to work with athletes on identifying possible stressors, because athletes may have difficulty anticipating the stressors they encounter. Furthermore, it may be important for practitioners to understand an athlete’s general approach to stressors and coping to tailor how coping skills are taught. Given the variability in coping, low anticipation of stressors and coping, and links between coping approaches, anticipation, and coping, research on interventions that help young athletes anticipate stressors and plan to manage competitive demands may prove fruitful. Developing an array of coping resources may help athletes manage dynamic and unpredictable stressors. It is also important for applied professionals to be aware that some adolescent athletes may not always perceive competitions as stressful. For athletes who perceive stressors as something to be avoided, it is important to consider that this perspective may translate into both avoidant coping strategies during the stressful encounter and avoiding thinking about potential stressors, affecting opportunities to engage in proactive coping behavior. For athletes who perceive stressors as problems to be solved, practitioners should consider that this approach may lead to frustration when athletes are coping with intractable stressors and plateaus in performance. Given the low rates of stressor anticipation and recurrence of stressors across the season, professionals need to be aware that this is a challenging task for young athletes and that having multiple coping options may help prepare them for unpredicted challenges.

These findings provide insight into patterns of coping among adolescent athletes and how coping patterns are connected to anticipating stressors and coping in sport. But they also raise questions about our understanding of stress and coping in sport. While examining components of the stress and coping process has yielded a great deal of knowledge, it is imperative that our field move toward integrated investigations of stress and coping within persons over time. Such studies would allow us to gain a better understanding of patterns of stress and coping and how individual, contextual, and developmental factors influence the process.

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References


