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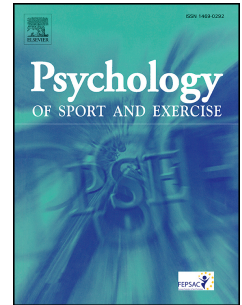
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A Longitudinal Examination of Stressors, Appraisals, and Coping in Youth Swimming

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experience stress. However, the extent to which experiences of stress are shared within the athletic triad is unknown. The purpose of this study was to examine the individual and shared stress experiences among youth swimmers, their mothers, and coach within the context of training, tapering, and competition.

Design: Multi-case study design.

Method: Four female swimmers, their mother, and one coach completed daily diaries for six weeks and up to three semi-structured interviews. Data were analyzed through within- and cross-case thematic analysis.

Results: The study showed evidence of shared stress experiences between all three members of the athletic triad. Participants predominately encountered organizational stressors, which they appraised in relation to movements between squad, interpersonal relationships, and overall progress towards performance goals/outcomes. Numerous coping strategies were employed by participants, with varying degrees of effectiveness, such as seeking social support, distancing, and lift sharing. The coping strategies used by coaches, swimmers, and parents were often interrelated with participants frequently seeking emotional support from one another. The majority of stressors and appraisals cited by parents and swimmers were shared, with both heavily relying on social support to help each other cope with the stressors encountered.

Conclusion: Athletes, parents, and coaches have the capacity to influence one another's stress experiences and as such their experiences should be considered simultaneously to maximize the impact of interventions.

Key Words: Youth Sport, Swimming, Athletic Triad, Stress, Case-study

37 Hennings, & Clough, 2016). If individuals are unable to effectively cope with these stressors,
38 it can result in negative outcomes both individually and in terms of the relationships that exist
39 within the athlete triad (athletes, parents, and coaches; Fredricks & Eccles, 2004; Tamminen &
40 Holt, 2010). Given such consequences, substantial attention has been given to examining stress
41 experiences in sport (see Nicholls, 2016, for review¹).

42 Contemporary approaches to understanding stress and coping experiences utilize a
43 transactional approach (Lazarus & Folkman, 1984; Lazarus, 1999). Here stress is viewed as a
44 process of an ongoing transaction between an individual and their environment, mediated by
45 that person's cognitive appraisal of the environmental demand or stressor they encounter. The
46 term stressor is used to denote "environmental demands encountered by individuals" (Fletcher,
47 Hanton, & Mellalieu et al., 2006, p. 329). Lazarus and Folkman postulated that strain arises
48 from a perceived imbalance between environmental demands (stressors) and an individual's
49 coping resources.

50 According to Lazarus (1999) there are two types of appraisals: primary and secondary.
51 Primary appraisal is concerned with how an individual evaluates the personal significance of
52 the situation in relation to his or her own beliefs, values, and goals. Secondary appraisal is an
53 individual's cognitive evaluative process that focuses on what can be done to manage the
54 stressful situation and whether the individual feels they possess the ability to cope (Lazarus,
55 1999). Having appraised the demand, the extent to which individuals may experience strain is
56 dependent upon their implementation of effective coping strategies (Lazarus, 1999). When a
57 person appraises a given encounter they may employ specific coping strategies to deal with the

¹A full synthesis of this literature is beyond the scope of this manuscript. Readers are referred to Crocker, Tamminen and Gaudreau (2015); Nicholls, Taylor, Carroll and Perry (2016) and Fletcher and Arnold (2016) for some of the latest reviews in the area.

In applying the transactional model within the sporting context, a plethora of research examining stressors and coping in athletes (often, but not exclusively, adult athletes), coaches, and increasingly parents has emerged (e.g., Frey, 2007; Hanton, Fletcher, & Coughlan, 2005; Harwood & Knight, 2009a; Mellalieu, Neil, Hanton, & Fletcher, 2009; Thelwell, Weston, Greenlees, & Hutchings, 2008). Some research has focused on examining changes in stressors and coping over very short time periods, for example during a single competition (Gadreau, Blondin, & Lapierre 2002), while other research has been prospective and longitudinal in nature (Levy, Nicholls, Marchant, & Polman, 2009; Nicholls, Levy, Grice, & Polman, 2009; Nicholls, Jones, Polman, & Borkoles, 2009; Thelwell et al., 2008). In line with the transactional model the key findings in the literature suggest that stressors fluctuate over time and differ depending upon whether demands are encountered in training or competition. Linked to this, there is substantial evidence that athletes and coaches experience stressors from competitive, organizational and personal sources (Thelwell et al., 2008; Woodman & Hardy, 2001) and for parents, competitive, organizational, and developmental sources (Harwood & Knight, 2009a, 2009b).

With regards to coping strategies, research indicates that coping is dynamic in nature and athletes employ multiple coping strategies to manage a single stressor at any given time point (Nicholls & Polman, 2007; Nicholls, Levy, et al., 2009; Tamminen & Holt, 2010a). Athletes appear to utilize problem-focused coping strategies when stressors are perceived as controllable, whereas stressors with low levels of perceived control are associated with emotion-focused strategies (Nicholls & Polman, 2007). Moreover, it appears that athletes employ different coping strategies on training days compared to competition day and that

employed a variety of coping strategies, often simultaneously, to manage the demands

encountered in the world-class sporting context. The coaches' predominately used problem-focused strategies such as structuring and planning, and time management, as well as engaging in professional development opportunities. Burgess, Knight and Harwood (2016) meanwhile identified that reappraisal, problem-, and emotion-focused coping strategies were required for parents to manage the demands they encounter in youth sport.

Fewer studies have been conducted examining the specific appraisals reported, in comparison to that of stressors encountered or coping deployed (Nicholls, Perry, & Calmeiro, 2014). Those studies that have examined appraisals (e.g., Hanton, Wagstaff, & Fletcher, 2012; Nicholls et al., 2010; Tamminen & Holt, 2010a) have typically focused upon athletes. Findings have indicated that: contextual factors likely influence stressor appraisals (e.g., Tamminen & Holt, 2010b); appraisals are often in the form of harm or threat (Hanton et al., 2012); appraisals are dynamic and change over time (e.g., Nicholls et al., 2005; Tamminen & Holt, 2010a). Given such findings, expanding our understanding of stressor appraisals across athletes, coaches, and parents is warranted in order to enhance the effectiveness of subsequent stress intervention programs delivered with these populations.

Despite the continued commitment to research in this area, there are numerous aspects that warrant further examination. Although there are some notable exceptions (e.g., Nicholls, Hemmings, & Clough, 2010; Tamminen & Holt, 2010a, 2012), research examining the overall stress process has generally focused upon adult rather than youth athletes. Given that children and adolescents often have more limited coping abilities than adults (Fletcher et al., 2006; Tamminen & Holt, 2012), and as such might be at greater risk of experiencing strain, ensuring

increasingly parents' experiences of stress in sport, these studies have generally considered individuals in isolation or dyads (see for e.g., Hanton et al., 2005; Harwood & Knight, 2009a; Olusoga, Butt, Maynard, & Hays, 2010) resulting in limited attention being given to how the stress experiences of individuals across the athletic triad are related (Burgess, Knight, & Mellalieu, 2016). This lack of research is surprising considering that parents, coaches, and athletes have a substantial capacity to influence one another's behaviors and experiences (Dorsch, Smith, & McDonough, 2009; Tamminen & Holt, 2010b) and spend considerable time interacting during childhood and adolescence (Harwood & Knight, 2016).

Parents have been shown not only to be a source of strain for children (Reeves, Nicholls, & McKenna, 2009) but also influence children's coping strategies (Lafferty & Dorrell, 2006; Tamminen & Holt, 2012). Indeed, given young athletes' limited coping capabilities, they are typically reliant on social support from parents and coaches (Fletcher et al., 2006). Similarly, children can influence their parents' behaviors through their responses and requirements (Dorsch et al., 2009), and their performances and behaviors during competitions themselves can be a source of stress for parents (Harwood & Knight, 2009a, 2009b). Parents and coaches also influence each other within youth sport contexts (Knight & Gould, 2016). For instance, it is not uncommon for coaches to frequently interact with parents, and, in turn, for parents to be a large source of strain for coaches (Knight & Harwood, 2009). According to Knight and Harwood (2009), tennis coaches cited a variety of parental behaviors as stressors. The prominent stressors were categorized into stressors related directly to coach-parent contact and indirectly via parent-child interactions. Similarly, coach-parent interactions can cause parents strain (Harwood & Knight, 2009a, 2009b) and coaches have the potential to

134 taken together, the literature gives a clear indication that members of the athletic triad
135 can all influence each other's stress experiences. However, the exact ways in which one
136 parties' stressors, appraisals, or coping strategies are experienced by, and potentially influence
137 the stress experience of others, is unknown. Given that parents and coaches both play a large
138 role in the lives of adolescent athletes (Côté, 1999) there is a particular need to examine the
139 complex interactions within the athletic triad during this time (Burgess et al., 2016). To this
140 end, the purpose of this study was to explore the individual and shared stress experiences of
141 adolescent swimmers, their parents, and their coach across three phases of swimming (training,
142 tapering, and competition). The study sought to answer four key research questions: 1) What
143 demands do youth swimmers, their parents, and their coach face during training, tapering, and
144 competition, and how are these shared within the triad? 2) How do youth swimmers, parents,
145 and coaches appraise these demands? 3) How do youth swimmers, parents, and coaches' cope
146 with these demands? And, 4) How effective are the coping strategies swimmers, parents, and
147 coaches use?

148 **Method**

149 **Methodological and philosophical underpinning**

150 A case study methodology was adopted for this study. This approach was considered
151 the most appropriate methodology because a case study allows for a holistic, in-depth
152 exploration of events or experiences of individuals over time (Yin, 2003), which aligned with
153 the longitudinal, idiographic aim of this study. The case study approach allows for interactions
154 and causal links within and between cases to be examined (Yin, 2003). Thus, a case study
155 methodology was deemed particularly pertinent because it enabled the stress process to be
156 explored among individuals, as well as across cases or 'triads' (i.e., parents, athletes, and

participant within the complex human world, while recognizing that through our interactions with the participants we would be co-creating knowledge. As such, this project was founded in an interpretive paradigm, which influenced our data collection and analysis procedures, as well as the steps to enhance methodological rigor.

Participants

Four cases were selected for this study, which aligns with studies of a similar nature (e.g., Nicholls et al., 2009) and was deemed appropriate to gain a detailed understanding of the phenomena. Each case included one female swimmer, one mother, and one female coach. Only female swimmers were selected as limited research attention has been given to female populations (e.g., Tamminen & Holt, 2010a), despite evidence suggesting gender can influence athletes' appraisals and coping strategy usage (cf. Ptacek, Smith, & Zanes, 1992), as well as perceptions of parental involvement (e.g., Knight, Berrow, & Harwood, in press). Mothers were selected because: 1) The mothers indicated that they took on the majority of roles and responsibilities with regards to their daughter's swimming training and competition, and 2) Mothers are particularly influential in the sporting lives of their daughters.

The same coach was included in each of the cases. She had 19 years of experience coaching, working with swimmers ranging from regional to international standard. The swimmers were all 14-15 years old ($M=14.2$ years) and regularly engaged in national and/or international competition for approximately 5-6 years. Selection of participants was designed to align with the specializing stage of swimming, which is when adolescent athletes are highly involved in the sport and parents and coaches are both critical (Côté, 1999). The mean age of the mothers was 45.25 years ($SD= 3.86$ years) with between six and 13 years of experience of parenting children in swimming.

184 contacted coaches at local swimming clubs in the UK to enquire into the possibility of

185 conducting research with the swimmers, coaches, and parents at the club. A meeting with the
186 swimmers and parents was arranged via the coaches. At this meeting information sheets and
187 informed consent and assent forms were distributed and anyone interested in participating was
188 asked to contact the research team via email to arrange their involvement.

189 **Data collection.** The current study was longitudinal in nature, with data collection
190 taking place over a 6-week period leading up to a major competition to provide an opportunity
191 to examine the dynamic and temporal stress process (Nicholls et al., 2005). In line with
192 previous longitudinal studies of stress, appraisals, and coping (e.g., Nicholls et al., 2005, 2006)
193 data collection occurred through daily diaries and interviews. Daily diaries were selected
194 because they are useful in capturing information as it occurred and reduces risk of participant
195 forgetfulness (cf. Nicholls et al., 2005), while interviews were selected to provide opportunities
196 to obtain in-depth, detailed information pertaining to participants' experiences at different
197 phases of the study (Smith & Sparkes, 2016). Three pilot interviews and a pilot of the diaries
198 were conducted before the study commenced. Pilot work was completed to ensure the format
199 of the diaries was comprehensible and interview questions were appropriate. Once informed
200 consent and assent was obtained for all participants, data collection commenced via daily diary
201 entries and individual semi-structured interviews.

202 *Daily diaries.* Based on previous studies using diaries (e.g., Nicholls et al., 2005, 2006),
203 participants were given an information package containing diary sheets for a week, along with
204 instructions, a completed diary example, and a definition of stress and coping. Participants
205 were provided with a new pack at the start of every week for the 6-week duration of the study
206 (See Appendix A). Participants were asked to complete the diaries on a daily basis as soon as

210 mother who only completed two interviews); one in the training phase, one in the tapering
211 phase, and one in the competition phase. All interviews took place in a semi-private location at
212 the participants' swimming pool and were audio-recorded. The purpose of these interviews was
213 to supplement the information obtained from diary entries and allow participants to explain
214 their experiences in more detail. The interview guides were constructed based on previous
215 studies in this area (e.g., Nicholls et al., 2009). On average the interviews lasted 56.50 min
216 (SD=20.30 min) during the training phase, 31.32 min (SD=12.45 min) during tapering, and
217 25.03 min (SD=10.54 min) during the competition itself (see Appendix B).

218 **Data analysis.** An idiographic approach was used to examine each case (triad) before
219 cross-case analysis was conducted. Interview data were transcribed verbatim and participants
220 were allocated pseudonyms. The interview and diary data for each participant in each triad
221 were analyzed using the qualitative data analysis procedures recommended by Miles and
222 Huberman (1994). Data reduction took place through three stages of coding. Initially,
223 descriptive codes were allocated to the data to identify the raw data themes. Next interpretive
224 codes were generated which grouped descriptive codes into abstract concepts. Finally, pattern
225 codes were identified which illustrated the relationships between the interpretive codes.

226 Once data reduction had occurred, case ordered data matrices were created to allow for
227 a systematic review of the data within and between triads. The approach to case study analysis
228 followed the procedures proposed by Yin (2003). A multiple case analysis was conducted by
229 firstly providing a detailed description of each case (through the process of coding and
230 reviewing the codes from each triad). Second, within case analysis of the separate components
231 within the stress process was performed. This data was then grouped to form a chronological

In line with suggestions from Sparkes and Smith (2009), the evaluation of the methodological rigor of this study is proposed against the aims of a case study. Throughout this study, we were guided by Cresswell's (2007) criteria for evaluating a good case study and a number of steps were taken to fulfill these. The research team spent considerable time selecting the cases and ensuring that appropriate individuals were participating in the study based on the research aims. Data collection occurred over an extended period of time, using multiple methods, to ensure a thorough understanding of the cases. Pilot interviews were also conducted prior to data collection, which allowed the lead researcher to check the coherency of the interview questions and ensure the questions would fully address the purpose of the study and provide a detailed understanding of the cases that are then explored in the results section. The depth of description and understanding of the cases was also facilitated by the same interviewer (lead researcher) conducting all interviews, ensuring consistency in the delivery of interview questions. The lead researcher conducting the research had previous competitive swimming experience, which helped in establishing rapport with study participants. Such rapport was important to increase the potential for participants to share information and provide open responses to the research questions.

Within and cross-case analysis were conducted by the lead researcher, but data was also subjected to a prolonged and rigorous peer review whereby the lead researcher engaged in extended discussions with a research colleague during the data analysis process. Through this process, the development of themes was facilitated and ensured that the experiences of all individuals were accounted for. Additionally, throughout this process the lead researcher maintained a reflexive journal in which she recalled not only her immediate responses to

was important because the lead researcher was also fully immersed in the swimming training and competition environment, which helped to boost contextual understanding of the participants' experiences but also influenced her interpretations of the data.

Results

Within-case overview of stressors, appraisals, and coping strategies

The participants recounted numerous stressors, appraisals, and coping strategies throughout the training, tapering, and competition phases. An overview of the stressors, appraisals, and coping strategies are provided in Table 1. Tables 2, 3, and 4 respectively illustrate the shared stressors, appraisals, and coping strategies for each case across the three phases of training, tapering, and competition. Further explanations of these ideas are presented in the cross-case analysis of the stress experiences.

*****Table 1*****

Stressors. Participants recalled organizational, competitive, and personal stressors. The majority of stressors were related to organizational demands, particularly during training and tapering. During competition more competitive stressors were recalled but organizational stressors were still present. Overall, more stressors were recalled during training, with fewer stressors recalled during the competition phase.

Appraisals. Stressors were often appraised in relation to the potential consequences on swimmers' performance, relationships and comparisons to other swimmers, and potential negative reactions of others. Appraisals were more varied during training and tapering phases than during the competition phase. During competition, parents and swimmers often appraised stressors similarly, while the coach's appraisals were more limited at this time. Appraisals

strategies in their attempts to manage their stressors and recalled these as varying in effectiveness. All participants used emotion-focused strategies, particularly during the training and tapering phase. Similarly, all participants employed problem-focused strategies, although a greater variety were implemented by parents than swimmers or coaches. In contrast, swimmers were more likely to utilize avoidant coping strategies.

*****Table 2*****

*****Table 3*****

*****Table 4*****

Cross-case Examination of Stress Experiences

In conducting the individual and cross-case analysis of the data, it was apparent that there were many similarities in the experiences across the cases. In the following sections, the stressors and appraisals recalled across all triad members are explored, with a particular focus upon the interpersonal influences in the stressors and appraisal. It is important to note that, although the stressors below are described as individual themes, there was substantial integration between the ideas.

Factors Influencing Training Progress and Performance. Through the training and tapering phrase, parents, swimmers, and the coach all described a number of stressors and appraisals associated with swimmers' engagement and training progress and performance. Particularly, stressors associated with session attendance and punctuality, logistics and travel demands, injury and illness, academia, and other swimmer behavior were consistently identified across the cases.

the mothers, and the coach. In describing this stressor, it became apparent that the participants

experiences of this were largely influenced by perceptions and expectations of others. For instance, the coach found it particularly demanding when swimmers did not attend the morning session after the non-tapered meet, as she explained, “we try and teach the swimmers that that the day after competition is equally important ... they need to do it so I then find it frustrating when only four turn up.” However, Jenny (the coach) acknowledged that swimmers were not entirely to blame for non-attendance, as she explained, “it’s possibly the parent who spent all weekend at [name of meet] sat there and doesn’t want to take their child ‘cause they’re tired or they think maybe their child’s tired.”

This stressor was shared with two swimmers and all mothers. For instance, Amy shared the following stressor in one interview, “You’ve got to do at least 30,000km a week and by missing that [session] I would have missed quite a few sessions”, while her mother stated, “she [Amy] didn’t want to go training on the Friday night ‘cause she wanted to do her homework but I said ‘you’re gonna have to go ‘cause sessions have been missed.’” Other examples from the mothers included Hazel writing, “my daughter wasn’t keen to go tonight, doesn’t like set on Sundays” and Katherine listing, “late for land training again” as stressors.

In addition to this stressor being shared within and across the triads, the appraisals of this stressor also appeared to be related. For example, the coach explained that she appraised this stressor in relation to swimmers’ performance expectations for upcoming meets. As Jenny explained, she thought, “well they [swimmers] turn to me and ask why they haven’t swum as well as they wanted to at the [competition]. I have it on my register that when they were and weren’t there.” Additionally, Jenny indicated that she became concerned her swimmers would not progress, resulting in frustration. As she explained, “water time is so precious, so to be late

stressor against potential coach reactions. As Amy said, "I was worried she [my coach] would shout at me because I got out early," and Sian explained, "I was quite worried just in case she [Jenny] thought I was purposefully missing it [swimming session]." This appraisal of coach reaction was also shared by mothers, as Hazel explained, "I didn't want her to get in a row either over something that wasn't her fault you know but she's [coach] usually pretty good." Consequently, the mothers also indicated appraising this stressor in relation to their child's own reaction, as one mother said, "my daughter gets tense ... she really gets on the defensive ... she'll get in the car and start shouting at me 'oh god come on were gonna be late again.'"

Coping strategies were also intertwined between the participants. For instance, the coach attempted to cope with this demand by speaking to swimmers that were consistently arriving late to sessions. Jenny said, "sometimes you actually need to say 'well is there a reason behind this, is there a reason why you are constantly turning up late, what is going on?' and you can sometimes find out a little bit more." Jenny rated this strategy as effective (4/5). The swimmers, meanwhile, turned to their mothers to cope. For example, Amy explained, "I spoke to my mum about it and worked out what to do to catch up on my mileage." Amy perceived this coping strategy to be effective (4/5). Susan also found talking to her daughter (Amy) helped her to cope with this stressor, as she said, "[I] informed my child [Amy] on what they will say if coach asks why the session was not attended." Susan rated this as an effective (5/5) strategy because it prevented her worrying about her daughter.

However, Amy and Sian, and their mothers, also used avoidance coping strategies when they missed sessions. For instance, a few mothers mentioned that when their children were late it was "easier not to speak to her [the daughter]."

357 simply said, "I get stressed purely with the lifts and running around... I always feel stressed on

358 Tuesday as time is very limited from work to pick-up and drop off again," while another
359 (Hazel) explained, "I felt stressed having to get both children to their activities at the same
360 time," and Janet frequently wrote in her diary that a demand was, "Rushing to get to training
361 on time." The primary appraisals for this stressor were varied, but for all mothers there was a
362 link made to session attendance and punctuality. For instance, Katherine (Alice's mother)
363 wrote a stressor was the fact she had to "rush again and was almost late for training," and then
364 went on to explain that she appraised this stressor as threatening because she was worried
365 about the coach's reaction and her daughter's reaction [to her coach] if they were late for
366 training. Katherine said, "I was still worried something would be said to Alice about her being
367 late and [I] didn't want her to get upset." Additionally, appraisals of this stressor were
368 associated with the potential impact upon parents' work schedule, as Hazel explained, "I was
369 really stressed after work and worried she would be late for training."

370 The mothers used both problem- and emotion-focused strategies in their attempts to cope
371 with this stressor. For instance, all of the parents shared lifts with other parents or among
372 family members to enable them to appropriately transport their children to training. Susan said,
373 "I had to ask a friend if they could pick up from swimming as I was at another pool with other
374 child." Generally, parents rated this strategy as moderately (3/5) or very (5/5) effective.
375 However, this could become an additional stressor for parents if they felt guilty depending
376 upon others to help, as Hazel said, "I didn't like the fact I had to rely on him [Hazel's dad]
377 because I didn't have a car and it was really difficult." Additionally parents used time
378 management strategies (e.g., packing bags, preparing food in advance) and emotion-focused
379 strategies, such as Susan indicating, "I tried to calm myself down by taking deep breaths."

382 stressor, "My child [Amy] has been complaining of a sore shoulder during the tapering phase.

383 Amy similarly stated, "everyone else is getting on with it [training] and I couldn't really do
384 much because my shoulder was hurting." Across the cases, the stressor of injury and illness
385 appeared to be exacerbated by a perceived lack of support or information from the coach.
386 Susan explained, "It does frustrate me a bit because... I do think there should be numbers
387 given to you straight away... I'd text and then I hear nothing back."

388 For Hazel it was actually her own illness that she found demanding during the tapering
389 phase. As she wrote in her diary, she was, "stressed, frustrated and unable to drive daughter to
390 training." Hazel perceived that she was relying on social support (her coping strategy) too
391 much, which she described in her diary as, "ineffective - me not driving caused a lot of stress
392 on the family as they are busy with activities and extra stress on my husband. Feel like I'm
393 letting him down." Hazel summarized this stressor stating, "I haven't been able to drive... my
394 husband's been bringing her.... I didn't take her... I was gutted."

395 Similar appraisals were made by swimmers and parents in relation to injury and illness.
396 Particularly, appraisals were made in relation to training progress and performance
397 expectations. For instance, Susan said, "she'd [Amy] missed four sessions, which isn't a huge
398 amount but I know they were doing sprint sets... but you do worry because I thought, you
399 know, she's coming up to the [major competition] and I was hoping she'd be in a good place
400 for it." The swimmers additionally expressed appraisals regarding their progress relative to
401 others. For instance, Amy said, "[I'm] just worried when I go back that all the others will be
402 ahead of me and I wouldn't be able to do the same times as I was doing the week before."

403 The participants reported using numerous coping strategies, with varying effectiveness.
404 For instance, Amy used positive reframing to cope with this stressor as she explained, "Better

problem-focused by adapting her training sessions. The coping effectiveness of telling coach,

initially was perceived as ineffective (2/5) as Amy did not think the coach cared. Amy explained it was “not that effective because nothing was done about it so I felt upset.” Similarly, Alice wrote that one coping strategy she used was, “I told my coach so she knew why I was swimming bad.” However, again, this was not perceived as effective (1/5) because Alice was still in pain and telling her coach did not eliminate the problem.

For mothers however, the coping strategies appeared less effective, for instance, Susan (Amy’s mother) cited that she did not have many coping strategies and could not cope very well with Amy’s injury because she thought the stressor was out of her control, as she said, “I can’t do anything... just gotta sit back and let it all go over my head.” While Hazel evaluated her strategies to cope with her own illness as ineffective. As she explained, “no I don’t think I coped very well. no I was shouting at [husband]... I was absolutely horrendous.”

Swimmer behavior. During training, and particularly the tapering phase, participants indicated a range of issues associated with the behavior of other swimmers during sessions. In fact, swimmers and their mothers recalled the stressor of swimmer behavior across all cases. For instance, Amy explained, “it was like really annoying... they [new swimmers] weren’t listening they were just pushing off and sprinting it all.” Similarly, Alice said a stressor during training was, “people going off the wrong times” and, “having to swim with the older squad, and nobody wanted to talk to me, not even the people near my age.” This was reiterated by her mother (Katherine) who stated a stressor was, “some of the newer members of the squad were racing the set and not listening to the coach.”

Swimmers and mothers’ primary appraisals for this stressor were associated with training progress and coach reaction. Amy explained, “I couldn’t swim properly and they

432 mother's perspective, Katherine explained that other swimmers hampering her daughter's
433 progress was concerning. She explained, "I was getting more and more worked up about it
434 because they [other swimmers] were stopping her and she was just hanging back because they
435 wouldn't let her overtake." Katherine indicated that she did not cope very well with this
436 stressor (1/5), writing, "I carried on watching and let the frustration build." Katherine did
437 reappraise this stressor and said, "well I mean I did sort of think they're new to the squad
438 they're trying to impress the coach... I can understand why they were doing it ..."

439 Sian and her mother (Hazel) also shared a stressor regarding swimmer behavior,
440 specifically Sian being bullied and distracted. As Sian explained during tapering, "a girl I've
441 been having problems with turned up to a training session and was trying to race me." Her
442 mother also explained, "I know she's had a problem with that girl again... she was swimming
443 on everybody's feet again... and she tried it Monday night again... it's just I've had enough of
444 it." For Sian and Hazel, the primary appraisals of this stressor were associated with training
445 progress. Sian said she felt, "annoyed and upset at the time because I knew she was doing it to
446 get to me purposefully no one else, she wanted to distract me." Hazel additionally expressed
447 concerns about her child's emotional wellbeing. Hazel did not perceive that she coped with this
448 stressor (0/5), but she did attempt to ignore it by "letting it [other swimmers behavior] go over
449 my head 'cause I know if I approach them is gonna get nasty."

450 *Academia*. Lastly, academia, and its balance with swimming, was another stressor
451 regularly cited by swimmers and mothers during the training and tapering phase. Particularly,
452 participants raised concerns pertaining to fitting in schoolwork and exam revision. For
453 instance, Sian wrote, "I have a lot of pressure from my schoolwork," and Amy listed stressors
454 such as, "I have a Science test, no time to revise" and, "I know I'm not gonna be an Olympian

as she seems under so much pressure with school and nationals are coming up.

Swimmers and mothers' described many appraisals associated with academia. For the mothers, the primary appraisal was associated with their daughter's health. As Hazel stated, "She [Sian] said, 'I wanna get into the distance squad' but she's got her GCSE's coming up and she's under a lot of pressure... we are worried somewhere along the line something's gotta give.'" In contrast, swimmers mostly appraised academia relative to maintaining a good academic standard. As Amy explained, "because I'm in the top set I want to stay there... if I don't do well there's a chance I could be moved down." On one occasion Amy did reappraise the stressor of academia as less threatening and that training may be beneficial. Amy wrote in her diary, "the test was easy so there was no need to worry about it, sometimes it's good to swim to get revision off your mind." Kate, meanwhile, appraised the stressor relative to her coach's reaction, explaining, "I would rather get out like say half an hour earlier [to revise] but I don't think the coach likes that so I kinda gotta cope with trying not to revise." While Sian, on similar lines, appraised academia in relation to the potential impact on training progress, as she explained, "I was quite worried because I had morning training as well the next day... I thought I needed to do as much as I can and then not go to bed too late before morning training otherwise I'll be like really slow."

Swimmers and mothers attempted to utilize a range of strategies to manage the stressor of academic. Problem-focused strategies were generally associated with time management. For instance, Sian said, "I try and do it [homework/revision] in between [races] and I like do some in the car if it's revision I revise in the car before like training it helps me gives more time." Hazel supported Sian with these strategies, which subsequently eased her own anxiety and

swimmers, and one mother cited stressors regarding training performance. Jenny simply wrote a stressor is “swimmers struggled with main set.” The primary appraisal for this was associated with swimmer reaction as Jenny explained, “if their heads go down and they’re like ‘oh miles off my time I can’t do it’ there’s not a lot you can do.” Further, this was also prevalent in relation to training effort, as she explained a stressor for her was, “swimmers not swimming at the intensity required.” To cope, Jenny used problem-focused strategies, specifically, “I did speak to them and go ‘it’s up to you to put the effort in, I can’t get in there and swim it for you so if you don’t put that effort in then you’re not going to get the results.’”

The swimmers also frequently cited the stressor of training performance during the training and tapering phase. For example, after one session Amy reported, “I could have swum faster but my body was just not going anywhere.” Kate described stressors arising from feeling tired in a session and not making target times for sets, while Alice shared the following stressor, “I felt tired, the pool was very warm which tired me out more, I swam like a 5-year-old.” Seemingly aware of the potential response from the coach, the swimmers indicated appraisals related to their coach’s reaction. Amy explained, “I was worried they [the coaches] might say you know move down a lane or something,” while Kate shared, “Jenny wants to see how well we are doing and I think I was the only one not doing well.”

For Alice, the primary appraisals underpinning training performance were also associated with her mother’s reaction, particularly her mother responding negatively to her struggling in training. Alice said, “sometimes when I have quite bad sessions or if I’m behind or something my mum will get annoyed with me.” Interestingly, it was only Alice’s mother who recalled a stressor associated with training performance, often writing, “still concerned

focused. For instance, Amy sought social support from her mum and her coach and perceived this to be effective (4/5) because she found it useful to use people as a sounding board to voice her concerns. She stated “I just try to talk to as many people as I can so I can get it out of my system.” Katherine (Alice’s mother) also sought social support from her daughter, explaining, “I said to her today it’s only 3 and a half weeks, start pulling your finger out you know you’ve got to start keeping up.” Katherine cited that this was only partially effective as a coping strategy (3/5) because she believed it helped her but not Alice and that Alice did not really listen to her. Additional coping strategies used to manage stressors of training performance were distraction techniques (e.g., watching TV) and positive reframing, as Kate said, “I just thought well it’s gonna happen sometimes [training poorly] or its hitting me today maybe it will hit someone else in a couple of days time.”

Competition-related demands. Beyond factors influencing training and subsequent training performance a number of specific competition-related stressors were recalled during the tapering and competition phase. These stressors are focused upon perceptions of swimmer’s preparation, parents and swimmers’ expectations, and performance expectations and outcomes.

Swimmer preparation. During competition, coaches, mothers, and swimmers highlighted stressors regarding the quality of swimmer’s preparation to perform in competition. For Jenny, it was swimmers’ physical preparation that she found demanding. She wrote in her diary, “swimmers not preparing enough (swim downs).” This was reiterated by swimmers and parents, for instance Alice explained that a stressor was, “the warm up mostly because sometime I feel like I haven’t done enough” and this was shared by her mother who stated, a

531 impact upon performance, was also cited as a stressor. As Stan explained, "I didn't really have
532 time to recover... didn't know the races were so close together. I thought I had more time I was
533 quite worried I would struggle in the race."

534 The primary appraisal of this stressor was also similar for all participants, with concerns
535 raised regarding the potential impact upon race performance and outcomes. For instance, Jenny
536 explained she felt, "Cross, putting their swims in jeopardy" and Alice explained this stressor
537 was threatening because, "I haven't trained much in the stroke and then I think I haven't done
538 it in the warm up." For Katherine, the stressor was also appraised in relation to the coach's and
539 her daughter's reaction. As she explained, "I felt worked up and on edge. I blamed myself for
540 not getting the both of us organized and I felt angry that my daughter was worried and the
541 coach would not be happy if she found out."

542 To cope with this demand, all parties turned to others for support. For example, Jenny
543 sought social support from other coaches, writing, "I sounded out to [another coach]" and rated
544 this as partially effective (3/5) because she had not addressed the problem. Katherine, however,
545 talked to Alice to try and reassure her, she wrote, "I talked to Alice to try and calm her down
546 and told her to apologise to the coaches and concentrate on her warm-up and races." Katherine
547 did not perceive this to be very effective (2/5) as it did help her (Katherine) calm down. She
548 also sought social support from Alice by attempting to speak to her in the car journey to the
549 competition, she explained, "I think she worked herself up too much and didn't prepare
550 mentally properly that's why I tried to speak to her in the car." However, this was rated as an
551 ineffective coping strategy (0/5) because she did not perceive Alice to listen to her.

552 *Parent and swimmer expectations.* The main stressor Jenny encountered across the
553 phases were parent expectations. As Jenny explained, "they [parents] always ask for them to

550 as, just like having little arguments with them [parents] because of swimming... like if I in
557 not training well yeah she [mother] just gets annoyed, my mum gets annoyed I wasn't
558 swimming well." Jenny's primary appraisal for parent expectations was associated with her
559 coaching ability. Jenny was concerned that parents were questioning her coaching ability, as
560 she explained, "the parents need to learn... I wouldn't have created the swimmer that I've
561 created if I didn't know what I was doing."

562 To cope with parental expectations Jenny used problem-focused coping, asking the
563 swimmers to talk to their parents. Jenny said, "I try and prep the swimmers... I just reiterate all
564 the time because we were coming up to [meet] and it was 'right you know we are not, this is a
565 see how we are meet, you know? Don't want your parents getting too worked up about it, it's
566 nothing major you know you've gotta stay calm.'" Jenny also spoke to the parents directly
567 regarding expectations for the meet. Jenny wrote in her diary, "spoke to parents, explained that
568 we are training through this meet and PB's are not expected."

569 Another stressor Jenny experienced during training was swimmer expectations,
570 particularly with regards to their performance at a non-tapered meet. Jenny said, "Going into
571 [name of meet] when they didn't swim well there were some sad faces and it doesn't matter
572 how much you tell them that that [getting a PB] isn't going to happen, it doesn't make any
573 difference." The primary appraisal for this stressor was associated with swimmer reaction,
574 particularly the potential for swimmers to have a negative experience if they did not swim as
575 well as they thought they should. Jenny said, "It's not nice when they do get upset and they're
576 trying and they [swimmers] don't understand why and I do find that stressful you, don't like to
577 see them upset." To cope Jenny used problem-focused strategies by speaking to her swimmers

during competition was performance expectations and race outcome, as Jenny explained, “erm the girls [name of event] was a little bit stressful because both girls didn’t swim well in it they didn’t PB... so that was a little bit stressful because we had put such an emphasis on this meet.” This stressor was shared with the swimmers and mothers. For instance, Amy wrote a stressor was, “First event back since hard training,” while her mum wrote, “[Amy] she hasn’t PB’d in this event for over a year now... I just keep thinking in my head that maybe it’s gonna be the next one now, I keep expecting her to take a chunk of time off.” Sian similarly explained, “I was worrying about the [name of event] and getting a good time for it.” While her mum wrote, “I just get really nervous before she races, really nervous.”

The appraisals of this stressor were varied but for the coach were generally associated with the impact that poor performances might have future performances. As she explained, “I was a little bit worried that them not swimming well in that it would then affect them for the rest of the meet.” Kate meanwhile appraised this stressor relative to obtaining qualifying times for certain competitions, especially in her main event, as she said, “erm I think it was my 200 free final on Friday where I didn’t get the trials time in the morning” and also for her finals performance as she said “in the final I got more and more stressed because I didn’t get the time in the morning.”

Both parents and swimmers also appraised performance outcomes relative to others’ reactions, namely the reaction of the coach or each other. As Kate explained:

When we did a cold swim a couple of weeks ago I did a faster time and Jenny was like “oh you can do that in the race” and then leading up to the race I didn’t do it, so it kinda like worried me a bit thinking like “I can do it in training but I can’t do it here.”

reactions and parents were worried about swimmers' perceptions. For instance, Katherine

described, "I don't want her to be upset, she's put the work in and she's done a terrible race."

Participants used a variety of strategies to cope with the stressor of performance expectations and outcomes, a number of which were inter-related. For instance, Jenny said, "as soon as they got out [of the pool] I sent them for the swim down and then when they came back to me I sat and had a chat to them..." Jenny perceived that this was a partially effective coping strategy (3/5) because, "it reduced mine [stress] because it did look like they were listening but the stress wasn't totally alleviated until they'd raced their next race." Kate explained that these coach briefings were a useful coping strategy for her, saying she coped by "just focusing on the coach and try to like get her view of it."

Amy sought support from her mum and her coach before and after races. Amy felt she benefitted from these talks because, as she said, "If I know what I'm doing it's easier too, whereas if she [coach] said go and swim I wouldn't know how I was supposed to swim it." Social support was rated as an effective coping strategy (4/5) because Amy felt positive about her races. Participants also recalled using numerous avoidant coping strategies, for instance Kate said she "kinda talk[s] with the other girls just about different things and just tries to make like conversation and tries to just like laugh and just not think about the race," while Hazel said, "just talking to the other mothers and chilling out."

Discussion

This study aimed to explore the individual stress experiences of youth swimmers, parents, and coaches, while also identifying the common or shared stress experiences of these individuals. Specifically, we sought to identify the inter-relation between stressors, appraisals, and coping strategies within the athletic triad. Overall, findings indicate that participants had a

reactions of others. The types of stressors and appraisals observed in the study appeared to

change across time. Particularly, there was a shift from experiencing organizational stressors during the training and tapering phases of the study towards encountering competitive stressors and subsequent appraisals with a greater performance and outcome focus during the competition phase. Numerous coping strategies were employed by participants to manage the demands they encountered, with varying degrees of perceived effectiveness reported.

Perhaps one of the most pertinent findings of this study was the extent to which parents and children's stress experiences were mutually shared. The stressors and appraisals experienced, as well as the coping strategies employed by swimmers and parents, were closely interrelated, demonstrating the complexity of the parent-child relationship. Such a finding reinforces previous literature indicating that adolescent athletes are reliant upon parents to manage demands (Fletcher et al., 2006; Tamminen & Holt, 2010a), while also extending our understanding of parents' reliance on their children to help parents themselves manage the stressors they experience in sport (e.g., Burgess et al., 2016). Interestingly, although social support is frequently reported as an effective strategy to manage stressors (cf. Crocker, Tamminen, & Gaudreau, 2015), in this study parents' heavy reliance upon social support appeared to exacerbate the stressors both they and their children experienced. Parents often perceived that seeking social support from their child was ineffective because the child did not react positively and/or the problem was not dealt with. Tamminen and Holt (2010a) similarly identified that social support can be detrimental if athletes perceived parents' social support as a stressor rather than a support mechanism. As such, it may be beneficial for parents to receive guidance on how to proactively access other social resources, as well as draw on more problem-focused coping strategies, rather than having to rely on their children.

child relationship, with specific parenting styles influencing children's behaviors and children
influencing their parent's behaviors (Dorsch et al., 2009; Grolnick, 2003; Holt et al., 2009).
Congruent with the findings of Holt et al. (2009) the current study supported the notion of
emotional contagion effect (George, 1990), with children's negative emotional responses to
stressors being transferred to parents, subsequently leading the parent to take action to reduce
or buffer their child's negative emotions (Dorsch et al., 2009). Such a finding provides further
evidence of the social nature of emotions, and the critical need to ensure that assessments of
stress and coping appropriately account for intra- and interpersonal influences (Smith, Bundon,
& Best, 2016; Tamminen & Bennett, 2016).

Our study also found that children influenced their parents' stress experiences,
consistently seeking social support from their parents to manage the stressors they experienced.
In seeking such emotional and social support, swimmers may actually increase the demands
placed upon their parents as parents indicate that they struggle to know what to say and how to
respond to their children, while also attempting to manage their own emotions (Knight & Holt,
2013). One instance in the current study in which parental guidance appeared particularly
beneficial or desirable for the swimmers, but was also reported as a large demand for parents,
was when swimmers were anticipating a negative reaction from their coaches.

Unfortunately, because coaches often find parental involvement to be demanding and
recall parents "interfering" in training and competitions as a stressor (Knight & Harwood,
2009), many organizations and coaches are attempting to limit parents' engagement with
children at training and competition (cf. Holt & Knight, 2014). In doing this, coaches may
actually be exacerbating the stressors that children are experiencing, some of which may be
stemming from the coaches' own behavior, by removing access to one of their most important

own behaviors and reactions that may negatively influence children's experiences.

The swimmers also appeared to influence their parents' (and coaches) stress experiences by displaying negative externalizing behaviors in response to specific stressors, which influenced the subsequent stressors and appraisals that parents experienced (cf. Harwood & Knight, 2009a, 2009b). Given the close associations between parents and children's stress experiences, the findings of the current study provide clear evidence that, even during adolescence, parents continue to play a critical role in young athletes' sporting experiences. This finding is important because, although it is accepted that parents are important in young athletes' lives, the focus during later adolescence has often shifted towards the role of coaches and peers as athletes seek to gain emotional independence (Côté, 1999). Consequently, it is often (mistakenly) perceived that parents play a more limited role in the lives of adolescent athletes than they actually do (cf. Holt & Knight, 2014).

There was also evidence of shared stress experiences between all three triad members (i.e., parents, children, and coach), particularly in relation to session attendance and movement between squads. Most notably, it appeared that all participants were concerned with how the others would react in certain situations, which subsequently influenced their own reactions. These reactions, in turn, fulfilled the concerns the others held about these reactions and as such, the participants seemed to be trapped in a cycle of encountering demands and subsequent appraisals stemming from the reactions of each other, which were continually being reinforced. Both mothers and coaches indicated that one of their main coping strategies when appraising concerns regarding each other's reactions was to avoid the other party. Such avoidance is consistent with previous literature on coaching stress (Knight & Harwood, 2009), despite an awareness of the importance of parents and coaches communicating to enhance opportunities

behaviors may have on all members of the athletic triad, and provide further evidence of the

need to educate parents and coaches regarding open and honest communication.

Limitations and future directions

There are several limitations to our study that should be taken into account when conducting future research in this area. Firstly, one limitation is the lack of detail provided by participants in the diaries. Previous longitudinal studies have identified high non-completion rates, particularly when a single booklet was administered (Nicholls et al., 2005, 2006). To resolve this issue, we administered diaries on a weekly basis and reported relatively high completion rates throughout. However, the quality of information provided in the diaries was sometimes lacking, although this was followed up in the interviews. Further, although participants were encouraged to complete diaries on a daily basis, we did not track this and consequently participants may have forgotten to record all pertinent information. Thus, future research could consider different methods or approaches to data collection, for example, think aloud protocols or the use of interval contingent diaries.

Another possible limitation of this study was participant's interpretation of subject-specific terminology (e.g., stressors, coping effectiveness). In an attempt to rectify this and accommodate the young age of some study participants (adolescent athletes), stress themes in the diaries were altered and definitions and examples were given at the onset of the study to clarify the meaning of questions. Despite these definitions it was clear that participants still had problems interpreting the diary questions. For example, several participants confused appraisals with demands. However, follow-up semi-structured interviews with participants were used to clarify meaning and the inconsistencies evident in the diaries.

the temporal nature of stress encounters. Similar research that explores the entire stress process within team sports such as soccer or hockey may be salient, especially as there are likely to be more social interactions within a team sport context and consequently there is potential for greater overlap in stress experiences. Another interesting research pursuit would be to examine the influence of other social agents, including fathers, other siblings, and peers, to fully understand the social processes operating in the youth sport environment. Finally, developmental changes warrant further investigation given that athletes' perceptions of stressors and use of coping strategies change with development (Reeves, Nicholls, & McKenna, 2009), as does the involvement of parents and coaches (Côté, 1999).

Conclusion

Our study has provided further support for the transactional perspective of stress, showing the dynamic and recursive nature of the stress process among individuals. It has also provided novel insight into the shared stress experiences operating within the athletic triad (parents, coaches, and athletes) and highlighted the need for further research to fully comprehend the complexity of stress experiences in youth sport. Overall, the findings indicate a clear need for governing bodies, clubs, and practitioners involved in youth sport programs to promote understanding among all individuals within the athletic triad, as well as an appreciation of how their behaviors may influence upon each other's stress experiences. Our study illustrates that education and interventions aimed at reducing negative stress experiences in sport should be expanded beyond a focus on individual experiences to include an understanding of the interpersonal influence on athletes', parents', and coaches' stressors, appraisals, and coping strategies.

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Appendix A**Daily Diary- Swimmer (EXAMPLE SHEET)****Participant number: S1**

What demand/stressor have you experienced in relation to swimming today?	How did you feel about this demand/stressor?	How did you cope with this demand/stressor?	How effective was your coping?
Being late for training	This made me feel stressed because I was worried I would get miss an important set and that I would get shouted at by my coach for being late.	I tried to distract myself by chatting to my mum about my day in the car journey to the pool.	1
There were too many people in the warm up lanes at the competition and not enough time to warm up properly.	At first I felt a little anxious and upset because it meant I could not stick to my pre- race routine. But then I thought about it and realised I could always do a land warm up.	I warmed up as well as I could in the lane space available. I then got out of the pool and did some skipping and stretches' on poolside to keep me warm before my race.	4

Introductory questions:

- How do you feel swimming training is going this year?
- What are your favourite/main events?
- Have you got any competitions coming up or had any recently?

Transition questions:

- What are your recent experiences of swimming training or racing?
 - Are these positive /negative experiences?
- What would you say are the main demands or stressors you have experienced over the past 2 weeks?
- What stress has your coach experienced over the past 2 weeks?- how has she/he been behaving?
 - What particular behaviours has your coach displayed over the past 2 weeks that are a sources of stress to you?
- What stress have your parents experienced over the past 2 weeks that you are aware of? how have they been behaving?
 - What particular behaviours have your parents displayed over the past 2 weeks that are a sources of stress to you?

Main questions:

Now we will refer to specific demand/stressors and coping strategies in your diary transcripts that you have filled out over the past 2 weeks. In relation to (use specific example of a demand/stressor) **during training/tapering/competition** that you mentioned in your diary...

- What is it about this experience that you find particularly stressful?
 - How frequently would you say you experience this particular demand/stressor?
- How do you view this stressor? (Probe for primary/Secondary appraisals)
 - What were your immediate thoughts and emotions surrounding that stressor?
 - Did you feel you had the ability to cope with the stressor initially?
 - Probe (controllability) –did you feel you had control over the stressor?
 - Do you feel differently now you have time to reflect/ do you still perceive it as a demand/stressor?
- What did you do to cope with this demand/stressor?–probe for simultaneous coping
 - What actions did you take?
 - How did your body react?
 - What were your immediate thoughts?
 - What particular emotions were you experiencing at the time?
- How effective do you think you coped with this stressor you have mentioned?
 - probe for the reasons of effectiveness- what is the reason you think it was effective/ineffective?
 - If unsuccessful what would you do differently to cope better next time you experience this stressor?

Repeat these questions picking out key stressors noted down in the participant's diary from **tapering/competition**

Summary questions:

- In **training/tapering/competition** what would you say are the three main demands or stressors that you experience?
- How do you view these demands or stressors?
- What are the key strategies you adopt to cope with each of these stressors?
- How effective do you think each of these coping strategies are?

Thanks for chatting. That's all my questions for now. Is there anything else you'd like to tell me?

Table 1. Overview of stressors, appraisals, and coping strategies

Stressors	Appraisals	Coping Strategies
Session attendance and punctuality Academia Other swimmer behaviour Injury and illness Logistical and Travel Squad movements Training performance Swimmer expectations Parent expectations Individualised tapering/session delivery Child behaviour Coach favouritism Non-tapered meet performance Parent communication Swimmer training effort Parent reactions Performance expectations and race outcomes Competition organisation Race preparation Child's physical and mental preparation	Within-squad rivalry Child/swimmer reaction Coach reaction Race outcome Performance expectations Squad position Child's physical and emotional health Academic standard Training progress Social support reliance Work commitments Physical growth & development Coaching ability Socializing opportunities Family commitments Long term sport participation Social exclusivity Financial constraints Sibling comparisons Other coach reaction Performance feedback Rivalry Disqualification Tactical proficiency	

Table 4. Shared competition stress experiences

	Competition shared stress experience
Triad 1: <i>Jenny (Coach), Susan (Mother), Amy (Swimmer)</i>	The main stressor all three triad members shared was performance expectations and race outcome. The coach's reactions as she perceived that Amy and Susan had high expectations for the meet, while Amy and Susan approached necessary qualification times for another competition. The triad attempted to cope with this demand by talking to Jenny and Jenny actively avoid Susan as she perceived that her coaching ability was being questioned.
Triad 2: <i>Jenny (Coach), Janet (Mother), Kate (Swimmer)</i>	The main stressor shared by all three members of the triad was performance expectations and race outcome appraisal associated with Kate achieving qualifying times. One of the appraisals linked to this stressor was that the swimmer shared. Jenny, the coach, found this particularly demanding as Kate ignored her tactical advice and
Triad 3: <i>Jenny (Coach), Katherine (Mother), Alice (Swimmer)</i>	Alice and Katherine shared the stressors of performance expectations and race outcome, and preparation. Both appraisals for the demand of performance expectation and race outcome such as coach reaction. Alice got upset at races. Consequently, Katherine appraised the coach's reaction and child's subsequent reaction to coach as the main stressor. Another shared appraisal was rivalry. Katherine researched competitors that she wanted Alice to beat or star times as a coping mechanism. However, Alice's appraisals linked to rivalry were more to do with competing within squad rivalry). Katherine cited that Alice not being interested in external rivals was a demand. Katherine mentally prepared for the competition. Alice found Katherine's behavior of discussing external rivals to be
Triad 4: <i>Jenny (Coach), Hazel (Mother), Sian (Swimmer)</i>	All three shared the key stressor of performance expectations and race outcome. When Sian did not perform expectations were a demand for her, which was true of Sian and Hazel who had high expectations for the race. coach reaction and the coach did indeed have high expectations for Sian, a shared appraisal that the child and

Table 3. Shared triad experiences during the taper

	Tapering shared stress experience
Triad 1: <i>Jenny (Coach), Susan (Mother), Amy (Swimmer)</i>	<p>One of the stressors cited by Jenny was individualized tapering and session delivery. Jenny was concerned that this stressor would affect swimmers' performance at the upcoming national meet. Therefore to cope with this stressor Jenny advised Susan to order to rest and taper effectively for the meet. However, this exacerbated the stressor of session attendance as it meant Amy was missing a session when she had already had time off due to injury and illness prior to the taper.</p> <p>Another stressor shared by all triad members was Amy's injury and illness. Susan and Amy shared similar appraisals of progress and having to miss sessions. These linked directly to their appraisals associated with performance expectations. Amy were concerned that being injured and ill would affect Amy's performance at upcoming competition. Jenny's performance expectations regarding Amy's injury and illness. Jenny coped by giving advice to Susan and Amy. Susan found Jenny's reaction to her daughter's injury a particular demand because she was unresponsive to her concerns.</p>
Triad 2: <i>Jenny, Janet (Mother), Kate (Swimmer)</i>	<p>Training performance was a stressor shared between Kate and Janet. Jenny was aware of this stressor and the impact Kate's lack of progress in training would have on her mental preparation for the competition. Jenny used the use of emotion-focused strategies, discussing how Kate was feeling and letting her have some rest. Jenny's training would influence her performance in competition, particularly the upcoming national meet. Jenny also shared Janet's appraisal of performance expectations for the competition, as shown by her mum researching training and as well as questioning the coach on her daughter's performance and progress in training. Despite Jenny's daughter qualifying she still shared the performance expectations held by Kate and Janet. Jenny also appraised the parental expectations.</p>
Triad 3: <i>Jenny, Katherine (Mother), Alice (Swimmer)</i>	<p>Training performance was a continuing stressor, associated with an appraisal of skill acquisition and session delivery. Appraisals for this stressor by Alice and Katherine were associated with training progress and session delivery.</p>
Triad 4: <i>Jenny, Hazel (Mother), Sian (Swimmer)</i>	<p>Jenny reported that individualized tapering and session delivery was a stressor, which was also shared by Hazel. Similar appraisals linked to performance expectations. The individualized tapering delivered by the coach for the competition, as Sian did not swim well. This reinforced the appraisals made earlier on during the taper.</p>

Table 2. Training shared stress experiences

	Training shared stress experiences
Triad 1: <i>Jenny (Coach), Susan (Mother), Amy (Swimmer)</i>	<p>The main stressor that was shared between Susan and Amy was session attendance and punctuality. Both shared stressors such as coach reaction, squad position, within squad rivalry, and performance expectations. To cope, Susan actively sought this support from her mum because it helped Amy by reducing her worries related to her coach. The stressor of session attendance and sometimes attempted to cope by shouting (emotion-focused) at the swim sessions. This reinforced the Susan and Amy's appraisals of coach reaction.</p> <p>In addition, the appraisal of squad position underpinning session attendance and punctuality cited by Susan and Amy was cited by the coach which was squad movements. Jenny appraised squad movement in relation to parents reaction. They were concerned that Amy not attending sessions could result in her dismissal from the squad.</p> <p>The stressor of session attendance was exacerbated by the fact that Amy was experiencing the demand of academic pressure to get out of sessions early to revise for school exams combined with the fact that Susan had work to do and was late to sessions late. Thus coach, swimmer, and parent all expressed concerns about squad movements and when they were specifically with regard to squad position as well as how one another will react if changes are made.</p>
Triad 2: <i>Jenny (Coach), Janet (Mother), Kate (Swimmer)</i>	<p>Janet and Kate shared a stressor of session attendance and lateness. Janet wanted her daughter to go to training sessions in itself. To cope with this demand Janet ignored Kate and made her go to training. Jenny, also cited session attendance. Jenny did not find this a stressor with Kate as she rarely missed sessions.</p> <p>Another stressor encountered by Kate was training performance because she was struggling to keep up or achieve goals in relation to training progress and performance expectations. Jenny shared this stressor and also appraised training performance expectations. However, Jenny primarily appraised this related to swimmer reaction because she was becoming despondent and demotivated by her lack of progress. Both Jenny and Kate predominantly utilized coping strategies seeking social support from each other to deal with the various demands they experienced during training.</p> <p>Non-tapered meet performance was a stressor shared by all three triad members. The coach Jenny cited that this was a stressor, an example being Janet questioning her about Kate's lack of progress. The appraisals for this stressor were linked to qualifying times. However, they all shared the reappraisal that it was the start of the season and they were not yet in peak form.</p>
Triad 3: <i>Jenny (Coach), Katherine (Mother), Amy (Swimmer)</i>	<p>Alice and Katherine shared a stressor of long-term progress. This stressor was closely linked to the acute stressor of session attendance. Amy and Katherine including training performance, session attendance and lateness, other swimmer behavior. Katherine also shared similar appraisals linked to performance expectations and race outcomes such as personal bests.</p>

<i>Alice (Swimmer)</i>	within squad rivalry, and rivalry (rankings). To cope with the stressors Katherine attempted to speak to Alice. Alice's reaction to Katherine became a further stressor and Alice perceived Katherine talking to her as a stressor. Alice perceived that Alice was not listening to her so Katherine attempted to switch to avoidance coping. However, shouting between Katherine and Alice.
Triad 4: <i>Jenny (Coach), Hazel (Mother), Sian (Swimmer)</i>	<p>The main stressor Hazel and Sian shared was the ongoing stressor of other swimmer behavior, with swimmers in the same squad bullying Sian. This stressor is closely associated with other demands such as session attendance. These stressors were shared by Hazel and Sian, because these stressors were appraised as ultimately affecting Sian's training. The appraisal for Hazel and Sian was not linked to squad position.</p> <p>Academia was another stressor cited by Hazel and Sian throughout training and tapering.</p> <p>Session attendance and lateness was a stressor shared by all three triad members. Sian did not like being late. Due to a possible reaction from Jenny to her being late, performance expectations and others in the squad gaining an appraisal of the stressor session attendance and lateness was associated with Sian's reaction to being late. Hazel's reaction to being late out of work and getting her child to training on time due to her child's anxiousness around lateness was ineffective, emotion-focused coping in the form of shouting or arguing took place between parent and child.</p>

- A case study approach was adopted
- Parents and swimmers shared many stressors and often relied on each other to cope
- Coaches, parents, and swimmers appraisals and coping strategies were intricately related
- Stress interventions would benefit from fully considering the interpersonal influences on stress experiences