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11	Lifetime stressor exposure, health, and well-being in sport performers:
12	Exploring the underlying properties of stressors
13	Ella McLoughlin ¹ , Faye F. Didymus ² , Rachel Arnold ³ , and Lee J. Moore ³
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15	¹ School of Science and Technology, Nottingham Trent University
16	² Carnegie School of Sport, Leeds Beckett University
17	³ Department for Health, University of Bath
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19	
20	
21	
22	Author Note
23	Correspondence concerning this article should be addressed to Dr. Ella McLoughlin,
24	Department of Sport Science, School of Science and Technology, Nottingham Trent

University, Clifton Campus, Clifton Lane, Nottingham, NG11 8NS, United Kingdom. E-mail:
 <u>ella.mcloughlin@ntu.ac.uk</u>

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Abstract

5 Lifetime stressor exposure can influence health and well-being through various 6 pathways, including stress appraisal processes and sympathetic nervous system activation. 7 Although important, research provides information relating to how lifetime stressor exposure 8 influences health and well-being. One unanswered question relates to why lifetime stressor 9 exposure may be harmful, particularly for sport performers. According to theory, it is 10 proposed that this could be due to underlying properties of stressors (e.g., novelty). While 11 researchers have started to examine such properties, the majority of research has focused on their influence on appraising rather than their implications for outcomes and has been limited 12 13 to acutely stressful situations. The aim of this study was to explore the situational properties of lifetime stressors that are influential for sport performers' health and well-being. Nine 14 sport performers (7 female, 2 male; $M_{age} = 23.7$ years, SD = 4.4) completed a timeline of their 15 16 life story, followed by a semi-structured interview ($M_{duration} = 92.44$ minutes; SD = 26.52). 17 We analysed data using reflexive thematic analysis and developed four themes: (1) the timing 18 of stressors in quick succession creates a domino effect; (2) limited past experience enhances 19 vulnerability to novel situations; (3) lack of clarity surrounding stressful events impacted 20 health and well-being; and (4) prolonged and long-lasting stressors drain the tank until there 21 is nothing left. This study shows that lifetime stressor exposure may lead to detriments in 22 health and well-being when the stressors experienced by sport performers coincide with other 23 life events, are novel and/or ambiguous in nature, and long-lasting.

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25 *Keywords:* adversity; athletes; cumulative lifetime stress; mental health; trauma



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Lifetime stressor exposure, health, and well-being in sport performers:

Exploring the underlying properties of stressors

3 Stress is a ubiquitous aspect of everyday life, whereby individuals experience 4 different situations or life events that can influence health and well-being (Fletcher, 2019). 5 This is particularly true for sport performers, who are exposed to various stressors that can be 6 related to their competitive performance (e.g., underperformance), the sporting organisation 7 (e.g., excessive external pressure to perform), and personal life events (e.g., bereavement; 8 Arnold & Fletcher, 2021). Although these different stressors have typically been examined as 9 separate and distinct constructs, it is important that research focuses on the combined and 10 cumulative effect of stressors over an individual's lifetime (Slavich & Shields, 2018). 11 Lifetime stressor exposure refers to the "joint or combined effects of stressors occurring 12 throughout life, including both acute negative life events (e.g., job loss) and persistent 13 chronic difficulties (e.g., ongoing financial problems)" (Mayer et al., 2019, p. 211). This is 14 because repeated exposure to stressors can affect sport performers' responses to stressful life 15 events (Howells & Fletcher, 2015). Recently, researchers have reported that exposure to 16 greater lifetime stressors (non-sport and sport-specific) is related to more mental (e.g., 17 depressive symptoms) and physical (e.g., respiratory infections) health complaints (e.g., McLoughlin et al., 2022a). Furthermore, lifetime stressor exposure can have a negative 18 19 impact on health, especially when stressors are long-lasting, have occurred in adulthood (vs. 20 in childhood; McLoughlin et al., 2021), or are more severe (vs. more frequently encountered; 21 Shields et al., 2022). Indeed, assessing stressor exposure from a more holistic and 22 multidimensional perspective has led to a more comprehensive understanding of sport 23 performers' experiences.

This body of research highlights that stressors are a prominent aspect of sport
performers' lives that may have detrimental consequences for their mental health and well-

1 being (Arnold & Fletcher, 2021; McLoughlin et al., 2022). In the present study, well-being is 2 defined as "a complex, multi-faceted construct" (Pollard & Lee, 2003, p. 60) with two 3 distinct perspectives: hedonia and eudaimonia (Lundqvist, 2021). To further elaborate, the 4 hedonic perspective emphasises the subjective experience of happiness and overall life satisfaction, while the eudaimonic perspective centres on psychological functioning and the 5 6 pursuit of self-realisation (Ryan & Deci, 2001). The World Health Organisation (WHO) 7 identified mental health as a fundamental aspect of well-being and defined mental health as 8 "a state of well-being in which the individual realises his or her own abilities, can cope with 9 the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2004, p. 12). In the present study, we 10 11 conceptualise mental health in relation to the two-continuum model proposed by Keyes' 12 (2002), whereby mental health is viewed as a complete state emphasising that mental health 13 encompasses more than just the absence of mental illness. According to this model, it is 14 suggested that mental health and mental illness are distinct vet interrelated dimensions that 15 exist on separate continua. The first continuum relates to the absence and presence of mental illness, while the second relates to the absence or presence of mental health. This framework 16 17 offers a conceptual structure that captures the entire spectrum of experiences, ranging from distress to flourishing (Kuettel & Larsen, 2020). 18

In recent years, researchers have begun to study the stressor-health relationship from a mechanistic perspective (e.g., Lam et al., 2019). For example, research has indicated that sport performers who faced more severe stressors throughout their lives, whether sportspecific or non-sport specific to sport, tend to habitually appraise stressors as a threat as opposed to a challenge (McLoughlin et al., 2022a). This tendency has been linked to deleterious health outcomes, such as increased depressive symptomology (McLoughlin et al., 2022a). When examining possible biological mechanisms, researchers have reported that

1 exposure to a moderate number of lifetime (non-sport and sport-specific) stressors was 2 associated with adaptive cardiovascular reactivity (e.g., a temporary increase in heart rate), 3 whereas very low or very high stressor exposure was related to maladaptive reactivity (e.g., a 4 blunted response in heart rate; McLoughlin et al., 2022b). Further, higher lifetime stressor 5 exposure has been linked with dampened cortisol and elevated dehydroepiandrosterone 6 (DHEA) reactivity to an acutely stressful situation (e.g., public speech task; Lam et al., 2019). 7 Recently, McLoughlin et al. (2023) used qualitative methods to provide an in-depth 8 understanding of how lifetime stressors affect health. Results revealed some of the 9 psychological (e.g., dysfunctional emotional regulation strategies), social (e.g., barriers to building and maintaining relationships), and behavioural (e.g., engagement in risky 10 11 behaviours) factors that explain how lifetime stressor exposure influences health and well-12 being. While this work helps us better understand the mechanisms underlying the stressor-13 health relationship, it only provides information on how (i.e., the way in which) lifetime 14 stressor exposure influences health. An unanswered question relates to why (i.e., the reason) 15 lifetime stressors can be particularly harmful for sport performers. One theory that has gained much attention, and is the underpinning framework for the 16 17 present study, is transactional stress theory (Lazarus & Folkman, 1984). Transactional 18 definitions of stress are concerned with the psychological mechanisms (e.g., situational 19 properties of stressors, cognitive appraising, coping efforts) that underpin a potentially 20 stressful encounter (Lazarus & Launier, 1978) and have important implications for health and well-being (Lazarus, 2000). As an example, if coping efforts are successful in managing the 21 22 negative outcomes of stress, cognitive reappraisal typically occurs, whereby the situation is 23 reappraised from stressful to irrelevant or benign-positive (Lazarus & Folkman, 1984);

24 ultimately resulting in improved well-being (Fletcher et al., 2006). In contrast, inadequate or

25 inappropriate coping efforts can result in sub-optimal well-being (Nicholls et al., 2016). From

1 this perspective, stress is viewed as an on-going process whereby an individual transacts with 2 their environment, appraises stressful encounters, experiences positively or negatively 3 valanced emotions, and attempts to cope (Cooper et al., 2001). One component of stress 4 transactions that has received a dearth of attention are the situational properties of stressors 5 (Didymus & Jones, 2021). This is an important component to research considering that 6 Lazarus and Folkman (1984) proposed that it is not the stressor itself that affects appraisal, 7 but rather the situational properties that underlie it. Indeed, Lazarus and Folkman (1984) 8 suggested that for any event to be appraised as stressful, it must include at least one of seven¹ 9 underlying properties. These are: (1) novelty, which refers to the effect of an individual's 10 prior knowledge; (2) event uncertainty, which pertains to the probability of a stressor 11 occurring; (3) imminence, which refers to the amount of time before a stressor occurs; (4) 12 duration, which relates to how long a stressor persists; (5) temporal uncertainty, which is 13 relevant when individuals are unconfident of the timings of a stressor; (6) ambiguity, which 14 links to stressors where the required information is unavailable or insufficient; and (7) timing 15 in relation to life cycle, which is concerned with the contextual properties that define the 16 timing of a stressor. As such, a more comprehensive understanding of situational properties 17 may help us develop a greater, and more nuanced, understanding of why stressors can be harmful for health (Didymus, 2017). 18

To date, limited research has explored the situational properties of stressors in sport (e.g., Baldock et al., 2021). One exception is Thatcher and Day (2008), who investigated whether Lazarus and Folkman's (1984) underlying properties were relevant to the experiences of trampolinists. The results revealed that participants encountered all properties, as well as the development of two new sport-specific properties: (1) self and other

¹ Lazarus and Folkman (1984) discussed eight situational properties of stressors: those listed here and "predictability." They highlighted that predictability refers to animal (i.e., non-human) models of stress and proposed that "event uncertainty" should be used instead when working with humans.

1 comparison, which refers to the act of comparing any aspect of one's performance in relation 2 to that of another individual, and (2) inadequate preparation, which is characterised by a 3 sense of being unprepared for competition. Although Thatcher and Day (2008) examined 4 situational properties, they did not relate them to transactional alternatives (i.e., appraisals). This is important given that sport performers' transactional alternatives are impacted by the 5 6 situational properties of the stressors experienced (Didymus & Fletcher, 2012). Thus, to 7 extend this work, Didymus and Fletcher (2012) linked situational properties of organisational 8 stressors to transactional alternatives. The findings highlighted that most situational 9 properties were at play except temporal uncertainty, a finding the authors attributed to swimmers' training and competitions being scheduled in advance. Of the situational 10 11 properties that were experienced, imminence and duration were consistently associated with 12 maladaptive appraisals (e.g., threat). Didymus and Fletcher (2012) advanced critique of 13 Thatcher and Day's (2008) new properties of stressors, suggesting that their conceptualisation 14 as *situational* properties was questionable. They highlighted that self and other comparison 15 refers to intra-individual cognitions that are performance-specific, and inadequate preparation refers to feeling unprepared. Thus, they argued that it is problematic to apply these properties 16 "across the numerous potential stressors an athlete may encounter" (Didymus & Fletcher, 17 18 2012, p. 1378). While important, these studies focused on acute stressors in one sport each 19 (e.g., trampolining and swimming, respectively) and, given the mixed samples and findings, 20 further work is required to explore the underlying properties of lifetime stressors encountered by performers competing across different competitive levels (e.g., amateur to elite). Thus, in 21 22 response to calls for further research on the situational properties of stressors (Simpson et al., 23 2021), this study explored the situational properties of lifetime stressors that are influential 24 for sport performers' health and well-being.

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Method

1 Philosophical Assumptions

2 A critical realist paradigm underpinned this study. Critical realism bridges the divide 3 between positivist and interpretivist traditions by recognising both objective and subjective 4 realities (Ryba et al., 2020). This approach combines ontological realism (i.e., belief that an 5 objective reality exists) with epistemological relativism (i.e., acknowledgment that this reality 6 cannot be directly or fully accessed; Braun & Clarke, 2022). In this study, sport performers' 7 experiences of lifetime stressor exposure (and the properties of these stressors) are grounded 8 in a pre-existing reality vet mediated through socially situated practices and interpretations. 9 Critical realism thus provides a philosophical foundation for exploring perspectival and 10 contextual truths, where human practices shape how reality is experienced and understood. 11 Foremost, the findings we present are influenced by the first author's working-class 12 background and experiences as a 28-year-old white woman who is personally interested in 13 the subject area due to her prior brushes with stressors and adversities. These experiences 14 provided a nuanced perspective that informed the study's design (e.g., prioritising flexibility 15 in scheduling interviews with participants, ensuring the interview questions captured a wide 16 range of stressors and how these stressors interacted with one another), facilitated rapport 17 with participants (e.g., when appropriate, the first author shared relatable anecdotes about 18 navigating stressors which helped created a sense of shared understanding), and heightened 19 sensitivity to the ways in which individuals respond to stressors (e.g., responding to 20 participants in a non-judgemental way, asking follow-up questions gently and 21 empathetically). This influenced the study's findings by shaping the first author's 22 perspective, interpretation, and interactions during the research process.

23 **Participants**

Participants were recruited into this study if they: (1) were over the age of 18 years
old; (2) had trained and/or competed in a sport at a minimum club level or above over the

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1	past 12 months; (3) had access to the internet to complete the online questionnaire; and (4)
2	had experienced a relatively high number of lifetime stressors. To identify those who had
3	experienced relatively high lifetime (non-sport and sport-specific) stressor exposure, intensity
4	sampling was used to purposefully select participants who had experienced the phenomenon
5	of interest (see Patton, 2015). This strategy was used on a pool of participants drawn from a
6	prior study of 395 sport performers ($M_{age} = 22.50$ years, $SD_{age} = 5.33$; McLoughlin et al.,
7	2022). Indeed, using the Stress and Adversity Inventory (Slavich & Shields, 2018) and the
8	Sport Stress Assessment Module (McLoughlin et al., 2022a), we identified and contacted all
9	participants (n = 64) in the top 10% for lifetime stressor count ($M = 28.44$, $SD = 9.23$, Range
10	= 18-43) or severity (M = 73.78, SD = 24.04, Range = 48-111). In total, nine sport performers
11	(7 female, 2 male; $M_{age} = 23.67$ years; $SD = 4.42$) responded and agreed to take part. These
12	participants were from various individual (e.g., athletics) and team (e.g., rugby) sports.
13	Performers represented a range of competitive levels, including regional ($n = 2$), national ($n = 2$)
14	2), and international ($n = 5$). All participants were from the United Kingdom. The sampled
15	interviewees offered sufficient information power given the: (a) narrow research question
16	being explored (i.e., exploring situational properties of lifetime stressors), (b) homogeneity of
17	the sample (i.e., all interviewees had experienced the phenomena in question and could
18	therefore provide in-depth information relating to the research question), (c) study was
19	underpinned by transactional stress theory (Lazarus & Folkman, 1984), (d) quality of
20	dialogue during interviews (e.g., clear and focused communication), and (e) exploratory
21	analytical strategy (i.e., the ambition was not to cover the whole range of phenomena
22	reported, but to present relevant patterns in the data; Malterud et al., 2016).

23 **Procedure**

24 We conducted three pilot interviews to check the interview questions and probes were 25 suitable. These pilot interviews were conducted with sport performers who met the inclusion

1 criteria. From these pilots, it was noted that some questions were particularly broad (e.g., 2 Why did the stressors you have experienced have this impact on you?), and so additional 3 probes were included to aid clarity (e.g., Could you identify a specific stressor on your 4 timeline and explain what it was about that event that was stressful for you?). Due to the high 5 quality of data collected, this data was included in the study. Institutional ethical approval 6 was granted from the Research Ethics Approval Committee for Health (REACH) at the 7 University of Bath (EP 19/20 088). Interviewees were contacted via email and presented with 8 an outline of the study. They were advised of their ethical rights via an information sheet, 9 given an opportunity to ask questions, and subsequently provided informed consent.

10 Before the semi-structured discussions, interviewees created a timeline of their life, 11 which highlighted the various "highs and lows" they had experienced in their sporting and 12 non-sporting lives. To avoid confusion, participants were notified at the start of the interview 13 that these "highs and lows" would be referred to as stressors throughout the interview. To 14 support the creation of the timelines, interviewees were given some resources to help them 15 develop their timelines (e.g., example timelines, pencils, emojis). Participants were instructed 16 to take a photograph of their timeline and send this to the lead author by email approximately 17 24 hours before the interview (for more details, see McLoughlin et al., 2023). Timelining is a form of graphic elicitation that facilitates visual representation of interviewees' sense-making 18 19 (Williams, 2018). The focus on temporality is a distinctive feature of timelining (Phoenix & 20 Rich, 2016), and the process of discussing the timelines helped build rapport with 21 interviewees, facilitated active engagement, and served as a foundation for the interviews 22 (Williams, 2018). Timelining is particularly useful when exploring phenomena over time 23 (such as lifetime stressor exposure), as using creative methods like this can help participants 24 spend more time thinking about the topics under study. This deepens their understanding of 25 past experiences and improves their ability to remember events (Mannay, 2021). Previous

research has demonstrated the value of timelining as a method for exploring experiences
related to health and well-being. For example, Langbein et al. (2022) used timelining to
explore how endurance athletes psychologically navigated recovery from relative energy
deficiency in sport. This method enabled participants to reflect on the thoughts, emotions, and
behaviours they experienced at key points during their recovery. Such an approach highlights
timelining's potential as an effective tool for examining complex and sensitive experiences
(e.g., lifetime exposure to stressors).

8 We developed an interview guide to support discussions of topics relevant to the aim 9 of this study. This interview guide comprised open-ended questions pertaining to interviewees' sport participation (e.g., What has been the highlight of your sporting career so 10 11 far?), encounters with stressful life events (e.g., Please talk me through your timeline and tell 12 me about the stressors you have experienced?), and the perceived reasons why these stressors 13 impacted health and well-being (e.g., Could you identify a specific stressor on your timeline 14 and explain what it was about that event that was stressful for you?). We used probes (e.g., 15 Can you elaborate on this further?) throughout the interviews to generate greater depth of 16 information and to clarify answers that were unclear. The first author facilitated each 17 interview via Microsoft Teams at a time and date that was suitable for each interviewee. The interviews lasted 72 to 160 minutes ($M_{duration} = 92.44$ minutes; SD = 26.52), were recorded 18 using a digital recording device, and transcribed verbatim by the first author. 19

20 Data Analysis

We took an abductive approach to reflexive thematic analysis (Braun & Clarke, 2019) to explore the situational properties of lifetime stressors that influenced sport performers' health and well-being. This approach was guided by Lazarus and Folkman's (1984) transactional stress theory and previous literature (e.g., Didymus & Fletcher, 2012). Despite our awareness of and sensitivity to this theory and research, our initial phase of coding and

1 theme generation was inductive and driven by the first author's interpretations of the 2 interviewees' lived experiences. To begin the analysis, the first author listened back to the 3 audio-recordings and read the transcripts multiple times to familiarise herself with the data. 4 Next, she documented initial trends and selected insightful passages via the font highlight 5 tool in Microsoft Word. She then used the comments function in Microsoft Word to facilitate 6 the initial iteration of coding and identify data that were useful for answering the research 7 question. Next, the first author then completed multiple coding sweeps by reading initial 8 notes, reflecting on preliminary codes, and refining them to reflect interviewees' experiences. 9 Throughout this process, the first author coded the data twice – once to capture the explicit, 10 semantic meaning conveyed by participants and again to interpret the deeper, latent 11 underlying meanings (Patton, 1990).

As per Trainor et al. (2020), the first author created a Microsoft Word document for 12 13 each interviewee including all codes and accompanying quotes. She then manually organised 14 codes, whereby those with similar meanings were condensed into one denoted code (e.g., 15 "exposure to multiple stressors" and "stressors in multiple life domains" were combined). 16 Progression through the analytical phases was not linear but involved recursive movement 17 forwards and backwards through each phase (Braun & Clarke, 2022). The first author then arranged codes into clusters to generate tentative themes (e.g., "proximity of stressors"). 18 19 After familiarising ourselves with the relevant literature (e.g., Lazarus & Folkman, 1984), we 20 engaged in a recursive process whereby we moved backwards and forwards between the data 21 and developing analysis to check that we were telling a compelling story that addressed the 22 research question (Braun & Clarke, 2022). This process highlighted that some changes were 23 needed to our tentative themes to ensure our themes captured a range of data that were united by, and evidenced, a shared idea (vs. a topic summary; Braun & Clarke, 2022). Until this 24 25 point, data were analysed inductively. The first author then began to refer to theory (i.e.,

1 Lazarus & Folkman, 1984) and previous research (i.e., Thatcher & Day, 2008) to review the 2 distinctiveness of our themes. Here, she acknowledged that no new properties had been 3 identified and so she mapped our themes to those already existing in the literature (e.g., 4 "proximity of stressors" reflected multiple different stressors occurring in close proximity to 5 one another and so this related to "timing of stressors in relation to the lifecycle"). Then, the 6 first author defined themes and named them before starting the write-up of the manuscript. 7 Finally, she digitally recreated the timelines using Microsoft Word to highlight pertinent 8 stressors and the associated situational properties to explain why lifetime stressor exposure 9 was harmful for health and well-being (see Figure 1 for a recreated timeline for one participant. All other timelines can be found in the Supplementary Materials). Some 10 11 information has been omitted from the timelines to protect interviewees' identities.

12 **Rigor**

13 In line with our critical realist perspective, we used a range of quality criteria to 14 bolster the rigor of the data collection and analysis, and our presentation of the results (Levitt 15 et al., 2018; Ronkainen & Wiltshire, 2021). We selected the worthiness of the topic, rich 16 rigor, meaningful coherence, and methodological integrity as criteria that can be used to 17 assess the rigor of this work. First, worthiness of the topic was established by addressing a noteworthy gap in literature regarding situational properties of lifetime stressors, to 18 19 understand why exposure to stressors impacts the mental health and well-being of sport 20 performers. Next, we ensured rich rigor by using pilot interviews and engaging in dialogue 21 with critical friends who are experts in qualitative research methods. Indeed, given that the 22 way we interpret results can be impacted by our theoretical lenses (Danermark et al., 2019), 23 the second author served as a "critical friend" throughout the analytical process and ensured the findings addressed our a priori goal of understanding the situational properties of lifetime 24 25 stressors that are influential for sport performers' health and well-being (e.g., by ensuring the

1 themes developed linked to specific situational properties and not any other aspect of stress 2 transactions). As we developed our understanding of the semantic and latent meanings in the 3 data, we decided to remove some initial themes (e.g., controllability of stressors) as we 4 agreed they were not situational properties. Finally, we strived for meaningful coherence by aligning the study purpose, approach to enquiry, procedures, and results (Levitt et al., 2017). 5 6 Reflexivity can also be used to enhance the quality of our research (Danermark et al., 7 2019). In this study, a reflexive journal was used to understand the ways in which the first 8 author influenced the research and theme development (e.g., the first author having personal 9 experience with some of the stressors that interviewees discussed and recounting how this 10 impacted her own well-being). When maintaining the reflexive journal, the first author 11 recognised that her positionality influenced what interested her in the data. From a critical 12 realist perspective, the first author approached coding with a focus on identifying underlying 13 mechanisms, being mindful of how her own experiences might shape her interpretations 14 while striving to attend to participants' experiences that differed from her own. Maintenance 15 of the first author's reflexive journal was a continuous process that helped to identify thoughts, emotions, subjectivities, and sensitivities, and shed light on changing 16 17 preconceptions. Reflexive writing encourages transparent and critical engagement with the 18 data, enabling the identification of underlying mechanisms and contextual influences that 19 may contribute to variations in how stressors are experienced and understood. In this way, 20 reflexivity served not only as a tool for self-awareness, but also as a means of supporting the study's ontological and epistemological adherence to critical realism. 21

22 Transparency and Openness

To protect the identify of participants, the full dataset is not available. Furthermore, because of the exploratory nature of, and qualitative methods used in, this study, it was not pre-registered, hypotheses were not considered necessary, and no computer code or syntax 1 was used. However, interested readers can ask for certain study materials (i.e., interview 2 guide) from the lead researcher. Finally, the APA Style Journal Article Reporting Standards 3 for Qualitative Research (JARS-Qualitative; Levitt et al., 2018) were followed during the 4 writing of this manuscript. 5 **Results** 6 Four overarching themes were generated to explore the situational properties of 7 lifetime stressors that are influential for sport performers' health and well-being. These are: 8 (1) the timing of stressors in quick succession creates a domino effect; (2) limited past 9 experience enhances vulnerability to novel situations; (3) lack of clarity surrounding stressful

10 events impacted health and well-being; and (4) prolonged and long-lasting stressors drain the

11 tank until there is nothing left. Digitally recreated timelines are referred to in this section to

12 illustrate pertinent stressors and the associated situational properties perceived to have

13 explanatory value for *why* lifetime stressor exposure affects health and well-being (see Figure

14 1 for one recreated timeline. All other timelines are available in Supplementary Materials).

15 The Timing of Stressors in Quick Succession Creates a Domino Effect

16 The first reason why lifetime stressor exposure affected sport performers' health and 17 well-being was due to the timing of stressors in quick succession to one another. This theme 18 was characterised by stressors occurring at the same time as other events in the participant's 19 life, which may subsequently lead to viewing the situation as more stressful. This can be 20 demonstrated by Participant 1 who highlighted that the significance of stressors was 21 exacerbated by other events that occurred concurrently in their life:

What happened to me was that there was a lot of stressors in quick succession of each other. I didn't seem to have a long enough period of time where there were no problems and could recover and regroup. Things just happened really quickly and just added up over time... Once you have so many things that you have not fully 1

recovered from or you haven't fully accepted, then the stressors just really added up.

2 (Participant 1)

The presence of multiple stressors occurring at the same time could have led to individuals viewing minor life events as more stressful due to other competing demands placed upon them. Some participants went on further to explain how the cumulation of stressors had a negative impact on their mental health and well-being. For instance, the following quote from Participant 2 highlighted how multiple stressors occurring at the same time as one another led to burnout, emotional exhaustion, and physical fatigue:

9 There was a domino effect... I had joined a new rugby team and I felt a lot of pressure 10 with playing at that time, I broke up with my long-term girlfriend, and then this 11 woman who my mum employed as my nanny got really ill. She brought me up my 12 whole life, and she was a massive, massive part of my life. She died around that 13 time... There was one day where I turned up to training and I pretended that I had a 14 foot injury, so I didn't have to train. I was literally empty. I had nothing in me. I had 15 lost the ability to push myself. I felt tired, I was at breaking point, and I just felt so 16 drained. (Participant 2)

This illustrates how the presence of stressors in close proximity to one another led to sport performers' feeling emotionally drained and overwhelmed, ultimately resulting in dropout from their sport. This is particularly important in the sporting environment as athletes are exposed to multiple stressors while also required to perform well. Therefore, this highlights how the co-existence of both sporting and non-sporting stressors on an individual can lead to relatively poor health and well-being (e.g., emotional and physical exhaustion).

For some participants, their realities involved several stressors occurring in close proximity to one another, creating a "ripple" effect making minor life events appear to be more stressful. This can be highlighted by the following quote from Participant 3:

When they [stressors] started to occur, I wasn't able to deal with some of the stressors that I could usually deal with in normal circumstances... It could just be silly little things, like I could drop a bottle on the floor, or smash a glass, little things just really got to me... I wasn't in a great mental state, and I was falling into a little bit of depression. (Participant 3)

6 This quote demonstrates how minor events (e.g., missing a bus) were viewed as more 7 stressful as the presence of multiple stressors occurring at the same time reduced the 8 individual's ability to cope with stressors. Taken together, this negatively impacted health 9 and well-being, whereby participants experienced elevated symptoms of depression and a 10 reduced sense of well-being.

11 Limited Past Experience Enhances Vulnerability to Novel Situations

Most participants were high achieving in childhood, which they felt left them vulnerable to stressors (e.g., failure) during adulthood because they had relatively limited past experience of dealing with stressors. Indeed, for some participants, the stressors that were particularly harmful for their health and well-being (e.g., high distress) were those that were novel and unfamiliar. This notion can be illustrated by Participant 4 below:

17 I have always been good at things... My hockey had always been going well, I had always been doing well at school. When things started to go wrong, that was my first 18 experience of that, and I don't think I was prepared for it... There were lots of highs 19 20 up until I reached AS level. That was when things really stepped up in terms of schoolwork and hockey. My AS exams didn't go to plan. I went to the U18s European 21 22 championships and I just underperformed... I had never experienced that before, and I 23 found it really difficult to cope. (Participant 4) This quote highlights how early experiences of success can inadvertently leave 24

25 individuals unable to cope with challenges later in life. For this participant, having a history

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1 of high achievement created an expectation of continual success which exacerbated negative 2 feelings following failure. As can be shown from Participant 5's quote below, it was reported 3 that exposure to stressors that had not been previously experienced left them more susceptible 4 to mental health and well-being issues (e.g., increased anxiety): 5 I hadn't gone through anything like that before. I was quite sheltered at England 6 camps and being sponsored, you are very much sheltered from a lot of these stressors. 7 Don't get me wrong you are presented with lots of stressors that the average person 8 might not experience, but because you are so well protected and prepared, they don't 9 seem like stressors. They just seem a part of the role . . . of being an athlete. But with 10 things like not getting along with my coach, moving to the states for three years, my 11 nan dying, those are things you don't prepare for, and you are not sheltered from. So, 12 when you experience those, it is like what do I do? I have no idea what to do. And 13 therefore you panic and freak out and you obviously feel bad, and just try and get 14 through that. I think the whole sheltered thing from being a young athlete in a high 15 international level role sheltered me from stressors. (Participant 5) 16 This quote illustrates that the structured and protective nature of elite sport can, 17 paradoxically, limit the development of broader coping mechanisms. Indeed, when faced with 18 stressors outside of their controlled sporting environment, participants often felt unprepared 19 which ultimately led to heightened anxiety (e.g., a sense of panic). This emphasises the 20 importance of equipping athletes not only with the tools to effectively manage performance-21 related pressures but also with strategies to navigate life stressors that exist beyond the 22 sporting context. In addition, the following quote from Participant 6 highlights that they were 23 not encouraged to experience day-to-day stressors due to fear of negative consequences (e.g., 24 harm or injury). By avoiding stressful situations, this relates to the commonly held 25 misconception that all stressors are "bad" and should be avoided, and ignores the reality of

life whereby stressors are a normal feature of adolescence that can help build various coping
 strategies (e.g., support seeking):

3	My mum mollycoddled me, she tried to protect me from all of the things that could go
4	wrong and didn't let me make my own mistakes They always had the best
5	intentions at heart, but it did leave me vulnerable There was a point in 2017 where
6	it got quite bad. I just didn't want to do anything and it got to the point where, if my
7	mum didn't stop me, I would've just ended it right then. It definitely had an impact on
8	my mental health. I just carry things on my back, I would never get things off my
9	chest. I always walk with it and eventually it just got to the point where, even though I
10	was so young, I just thought it was too much. I don't have any experience of dealing
11	with things that like. (Participant 6)
12	This quote suggests that environments that lack opportunities for experiential learning
13	stunt the development of participants' abilities to withstand stressors, possibly making them
14	more vulnerable to ill-health and ill-being (e.g., suicidal ideation). This highlights the
15	potential dangers of environments that prioritise avoidance of stressors over preparation for
16	their inevitability, leaving sport performers ill-equipped to optimally deal with stressors.
17	Lack of Clarity Surrounding Stressful Events Impacted Health and Well-Being
18	Most participants highlighted that ambiguous stressors (e.g., stressors that were
19	unclear), negatively affected their health and well-being. Indeed, the quote below from
20	Participant 7 demonstrates that a lack of clarity surrounding a stressor (i.e., parental
21	infidelity) exacerbated the detrimental impact on health and well-being:
22	In 2010, I found out that my dad had been having an affair for the past 3 years. I was

really impacted our relationship for quite a long time... My dad didn't openly tell

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still really young, and I had no idea how to deal with it and basically it just really,

25 people about his affair. I didn't know who knew and who didn't. My best friend at the

1 time, her parents were friends with my mum and dad, and so I didn't want to tell her. I 2 don't even know if his mum knows, I don't even know if he told my Grandma. I still 3 don't know who knows about the affair, there is still that secrecy there. (Participant 7) 4 The lack of clarity around who was aware of their father's affair created a pervasive sense of secrecy and uncertainty, which added an additional layer of emotional strain. This 5 6 ambiguity not only complicated their ability to process the event but also left them feeling 7 isolated, as they struggled to navigate who they could confide in or trust. As can be 8 highlighted from Participant 7 below, the ambiguity relating to who knew about a stressor 9 (i.e., parental infidelity) resulted in a long-term collapse of that relationship, which negatively impacted mental health and well-being (e.g., greater irritability, a symptom of anxiety): 10 11 It has taken until the last couple of years for me not to hold that anger when I talk to 12 him because it would come out at really random times. He would ask me to tidy up 13 and I would just lose it. Any conversation that I had with him would have this 14 underlying anger. I had no tolerance for him at all. (Participant 7) 15 This quote reveals how the ambiguity surrounding a stressor can have long-lasting effects on mental health and well-being. As an example, this underlying anger often surfaced 16 17 in seemingly unrelated situations (e.g., being asked to tidy up), which reflects the prolonged 18 emotional impact of the stressor and its connection to symptoms of anxiety, such as 19 irritability. Participants also noted that when faced with an ambiguous stressor, they were 20 unable to understand what was happening and why, particularly when the event contradicted deeply held values or expectations. This had negative ramifications for health (e.g., 21 22 symptoms of depression) and is illustrated by the quote below from Participant 3: 23 With my dad having an affair, I just couldn't understand it, he had not brought us up like that. If he would've known that me or my brother would have done that to 24 somebody, he would be mortified... For somebody at the heart of that to then 25

1 completely tear it to shreds was quite crucial actually... That changed a lot about how 2 I thought about myself and I think I have become a more independent as a result of 3 that... I tend not to admit when I need some help and support. I think I was falling 4 into a little bit of depression and had I not been so stiff upper lip about it, I probably should've sought more help and spoken to people about it. (Participant 3) 5 6 This quote highlights that when stressors are particularly ambiguous, this can 7 undermine an individual's mental health and well-being and lead to maladaptive coping 8 mechanisms. Indeed, Participant 3 described becoming more independent and resistant to 9 seeking help, which may have deepened their emotional distress further. Prolonged and Long-Lasting Stressors Drain the Tank Until There is Nothing Left 10 11 Most participants said that it was often the length of time over which a stressor 12 occurred that determined its impact on their health and well-being. Indeed, stressors that were 13 present over a prolonged period (i.e., six months or more) were deemed more harmful than 14 those of a shorter duration (i.e., one week). In the following quote from Participant 3, 15 duration was an underpinning property when the participant could no longer emotionally 16 support her mother through alcohol addiction (see also Supplementary Materials): A lot of the stressors that I have experienced have centred around my family... My 17 mum struggles with alcohol addiction, so throughout different points, my mum went 18 19 to rehab... Thinking back to the first rehab, if she was upset or got herself in a state or 20 a mess, I would sit with her for hours... After a while, I just didn't have anything left in the tank to sit and have those conversations, so I just turned around and said "okay, 21 pull yourself together, get up and sort yourself out, look at the positives etc." I did that 22 23 with my mum and it just backfired massively... I ended up leaving her in a state and I have never done that before, when you look at someone who is in quite a dire 24 25 situation mentally and physically from alcohol consumption and I do regret that. If

1 anything would have happened, that would have been on my head from walking out 2 the door. But I just think at that point I just couldn't deal with it. (Participant 3) 3 The above quote demonstrates how, for one participant, their reality of the on-going 4 nature of a stressor slowly drained their resources and led to them being unable to cope, negatively impacting their health and well-being (e.g., high mental and physical fatigue). 5 6 Similarly, below, the quote from Participant 9 illustrates how long-lasting stressors, 7 particularly when experienced during formative years, can act as a "trigger" for anxiety 8 symptoms:

9 Throughout school, I was bullied. One girl in particular took a big dislike to me, which led to a few years of bullying at school. This was a cause of anxiety for me ... 10 11 That finally got dealt with, but then when we moved hockey clubs a couple of the 12 girls weren't too receptive to me and my sister being the new kids on the block. They 13 started to pick on us and see us as the easy targets to pick on because we were the youngest in the team... That was also a trigger for my anxiety. (Participant 9) 14 15 This quote highlights how unresolved stressors, such as bullying, can carry over into 16 new contexts compounding their impact over time. Prolonged stressors such as these can 17 have lasting effects on individuals' mental health and well-being, increasing the risk of anxiety symptoms and other emotional difficulties. 18

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Discussion

This study explored the properties of lifetime stressors that are influential for sport performers' health and well-being. We developed four themes: (1) the timing of stressors in quick succession creates a domino effect; (2) limited past experience enhances vulnerability to novel situations; (3) lack of clarity surrounding stressful events impacted health and wellbeing; and (4) prolonged and long-lasting stressors drain the tank until there is nothing left. These themes largely emulate the situational properties of stressors proposed by Lazarus and

1 Folkman (1984) in their theorisations of stress transactions, however, the originality of our 2 findings lies in the suggestion that *lifetime* stressors (vs. examining acute or chronic stressors 3 in isolation) may be more likely to harm health and well-being when the stressors 4 experienced by sport performers coincide with other life events, are novel and/or ambiguous 5 in nature, and are long-lasting. As a result, our findings advance theoretical understanding by 6 providing original insight into why lifetime stressor exposure can be harmful for sport 7 performers' health and well-being. These findings could assist practitioners in identifying 8 individuals who are most at risk of stress-induced ill-health and encourage the creation of 9 appropriate intervention strategies.

10 The first reason why lifetime stressor exposure was influential for sport performers' 11 health and well-being was, in part, because of the timing of stressors in relation to the 12 lifecycle. This finding suggests that when stressors occur in close proximity to other stressors 13 there can be detrimental effects on health and well-being. Research conducted outside of 14 sport has found that the accumulation of stressors during childhood can render individuals 15 more susceptible to stressors throughout adulthood (e.g., Pearlin et al., 2005). Although 16 similar, our findings suggest that if stressors occur within relatively quick succession of each 17 other this will have a negative impact on health and well-being. This is because if a stressor is too frequent, the body will be unable to fight the stressor indefinitely (Selye, 1983). 18 19 According to response-based conceptualisations of stress, the body will have depleted its 20 energy resources from the initial alarm reaction stage, and illness may result (e.g., 21 cardiovascular disease; Selve, 1983). Thus, while it is important to assess the frequency of 22 stressors over the lifespan, it is the timing of these stressors in relation to each other which 23 will determine its impact on health-related outcomes (e.g., depressive symptomology). Thus, 24 our study shows that it may not be the accumulation of stressors which is damaging for

health-related outcomes but experiencing stressors in relatively close proximity to one
 another (i.e., the timing of stressors over the life cycle).

3 A second reason why lifetime stressor exposure might have been influential for sport 4 performers' health and well-being was, in part, because of the novelty of a stressor. This 5 finding contributes to the literature given that our study highlights the significance of novel 6 situations in explaining why lifetime stressor exposure may harm health and well-being. In 7 particular, we found that stressor exposure detrimentally impacted health and well-being 8 when participants perceived they had not experienced a similar stressor previously. Within 9 this theme, the participants were reflecting upon experiences they encountered during 10 adolescence, this may suggest that age and developmental stage played a key role in their 11 perception of novel situations. Indeed, an important principle in brain development is the 12 notion of "sensitive periods", which can be described as time-limited developmental 13 windows in adolescence that are characterised by increased brain plasticity and greater 14 sensitivity to environmental inputs (Blakemore & Mills, 2014). During adolescence, key 15 areas involved in the regulation of emotional and cognitive processes (e.g., amygdala, 16 hippocampus, prefrontal cortex, and hypothalamic-pituitary-adrenal axis), are still immature 17 (Eiland & Romeo, 2013). Such on-going structural and functional changes in the brain make adolescents more susceptible to struggling with stressors (Lupien et al., 2009). This suggests 18 19 that there may be an important relationship between novelty of stressors, age, and 20 developmental stage that requires further attention.

Furthermore, in the illustrative quotes, participants seemingly described situations as those where they had no previous experiences (i.e., absolute novelty) or situations where they had some experience in similar situations (i.e., relative novelty; Thatcher & Day, 2008). This is surprising given that Lazarus and Folkman (1984) suggested that having no previous experience to draw upon is unlikely, because individuals will often have previous experiences

1 with many stressors that are experienced directly or vicariously (e.g., observing the 2 experiences of others). It appears that participants in this study were not able to identify 3 similar situations when faced with a stressor that was particularly novel, which subsequently 4 led to detriments in health and well-being. This contrasts with the findings of Didymus and 5 Fletcher (2012) who found that high standard swimmers were often able to draw upon their 6 own and other peoples experiences to appraise stressors more adaptively (e.g., as a 7 challenge). One explanation for these opposing results could be due to the range of 8 competitive levels included in the present study (i.e., regional to international), highlighting 9 that sport performers competing at lower levels may not be able to transfer information 10 garnered from actual and vicarious experiences to novel situations (Bandura, 1977).

11 It also seems that participants had limited exposure to stressors in their childhood due 12 to being protected from such stressors. While protection from such stressor exposure could be 13 viewed as a positive parenting or coaching strategy (Tamminen & Holt, 2012), it may limit 14 sport performers' ability to develop an adequate coping repertoire, thereby rendering them 15 susceptible to struggling with novel stressors in adulthood (Arnold & Fletcher, 2021). Indeed, 16 some exposure to stressors during childhood may be important for building resilience and 17 familiarity with unfavourable situations (Seery & Quinton, 2016). This, however, should not be confused with the unethical and inappropriate imposition of stressors highlighting that 18 19 sport performers should not be introduced to stressors for a learning benefit only (Fletcher & 20 Sarkar, 2016). Over the course of their lives, individuals will be exposed to situations where 21 they are not able to avoid, reduce, or remove stressors (Fletcher & Arnold, 2021), and so it is 22 in these instances where practitioners working with sport performers can offer support. 23 Another reason *why* lifetime stressor exposure was potentially influential for sport

performers' health and well-being was, in part, because of the ambiguity of stressors
experienced. A stressor can be described as ambiguous when there is a lack of clarity

1 surrounding a stressor (Lazarus & Folkman, 1984). Research has indicated that individuals 2 who do not tolerate ambiguity, compared to those who do, tend to perceive ambiguous and 3 uncertain situations as threatening which subsequently leads to negative affect and anxiety 4 (Bardi et al., 2009). In contrast to previous research (e.g., Didymus & Fletcher, 2012), this 5 study found that ambiguity was an important and consistent factor when identifying the 6 properties that were particularly harmful to sport performers. To elaborate, previous research 7 found that ambiguity showed no consistent patterns when related to appraisals (Didymus & 8 Fletcher, 2012). One explanation for these contradictory finding could be due to the focus on 9 personal or non-sporting stressors in the present study. Indeed, Didymus and Fletcher (2012) focused on organisational sport-specific stressors and so it could be argued that environments 10 11 outside of sport may be more unpredictable and volatile. As such, the findings of this study 12 highlight, for the first time, the significance of examining the effects of both non-sport and 13 sport-specific stressors that sports performers experience in their lives. This approach allows 14 for a more comprehensive examination of stressors and enables a holistic perspective on the 15 professional and personal lives of sport performers.

16 A final reason why lifetime stressor exposure might have influenced participants 17 health and well-being was, in part, because of the duration of stressors. We found that when 18 stressors were long-lasting and persistent over time, sport performers' health and well-being 19 were detrimentally affected (Hopwood et al., 2015). Our results are aligned with previous 20 theory suggesting that stressors that are on-going are particularly harmful for health and wellbeing (e.g., Epel et al., 2018). To elaborate, McLoughlin et al. (2021) found that elite athletes 21 22 who were exposed to more chronic stressors over the lifespan demonstrated depressive and 23 anxiety-related symptoms alongside lower levels of well-being. Furthermore, chronic difficulties have been more strongly related to autoimmune disorders, mental ill-health (e.g., 24 25 depression), and physical health complaints than acute life events (e.g., Slavich & Shields.,

2018). This is a vital topic given that prolonged stimulation of physiological systems is one of
the key contributors to allostatic load (i.e., wear and tear on the body) and subsequent disease
(McEwen, 1998). This is because persistent stimulation of stress systems impacts the body
which, in the long term, results in negative health outcomes (e.g., Kudielka & Kirschbaum,
2005). As such, these results extend existing literature by outlining the reasons *why* lifetime
stressor exposure may be harmful for sport performers' health and well-being.

7 Several weaknesses of this study should be noted. First, we only conducted interviews 8 at one moment in time, which unfortunately does not capture variation over time. It is 9 recommended that future research should conduct repeated interviews or use close-proximity 10 longitudinal methods (e.g., Potts et al., in press) to obtain richer and more detailed accounts. 11 Second, future research could also conduct event-focused interviews that capture rich, in-12 depth information about specific moments or events (Jackman et al., 2022). Third, although 13 we recruited sport performers from a range of competitive levels into the present study (i.e., 14 regional to international), we did not explore any differences in competitive level when 15 analysing the data. Future research could explore these differences further. Finally, this study 16 focused on the underlying properties of lifetime stressors that are influential for sport 17 performers' health and well-being. As a result, the impact of such stressors on performancerelated outcomes is not clear. Future research could, therefore, explore this further. 18

This study has some important implications. From a theoretical perspective, this study broadly supported the situational properties from transactional stress theory (Lazarus & Folkman, 1984), but it highlighted a much more nuanced and detailed insight into the specific situational property. Therefore, this is the first study to explore the situational properties of *lifetime* stressors in sport performers from various competitive levels. Although novelty, duration, ambiguity, and timing in relation to the life cycle were identified by sport performers in relation to *why* lifetime stressor exposure was harmful to health and well-being,

1 our findings did not support the remaining properties of stressors outlined by Lazarus and 2 Folkman (1984), such as event uncertainty, imminence, and temporal uncertainty. This is not 3 to say that these properties are unimportant but rather that they may be less applicable to 4 lifetime stressors due to their unpredictable nature. Many personal, non-sporting stressors 5 (e.g., bereavement, relationship issues) occur unexpectedly. This may make it difficult for 6 sport performers to speculate on their occurrence, anticipate their timing, or know with 7 certainty when they will happen, and reflect on their effects on their health and well-being. 8 From a methodological perspective, timelining offers several benefits in research, including 9 facilitation of rapport building, enhanced contextualisation of narratives, and the promotion of non-verbal communication; thereby providing access to "othered" ways of knowing (Kolar 10 11 et al., 2015). As a result, we encourage future research to utilise creative and visual methods 12 to enhance the quality of data collected and engage with power dynamics, representation, and 13 meaning (Kolar et al., 2015).

14 From an applied perspective, the findings imply that practitioners and organisations 15 need an in-depth understanding of the psychological load experienced by sport performers 16 (Mellalieu et al., 2021). Indeed, awareness of the total demands sport performers are exposed 17 to in their life inside and outside of sport can allow practitioners to employ individual- and organisational-level interventions that seek to reduce performers' load (e.g., modifying 18 19 training demands; Hanton et al., 2015). Individually, practitioners could implement a mental 20 rest plan to support sustained high-performance in sport performers (Eccles et al., 2021). 21 More specifically, practitioners could work with performers to ensure they can better obtain 22 sleep (e.g., via the use of a sleep diary) and engage in wakeful resting (e.g., encouraging 23 performers to focus on something other than their sport, such as reading a book). At an 24 organisational level, clubs and governing bodies should ensure appropriate monitoring of 25 psychological load, with the same emphasis that physical load is given, and should review

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and adapt sport schedules where required. One example of monitoring physical load is in
rugby, which has limited game time to protect players' welfare (e.g., no player is allowed to
start more than two matches in the same week and players are only be permitted to be on the
pitch for a maximum of 180 minutes per week; Kitson, 2020).

5 Another way organisations could monitor the psychological load of sport performers 6 is via conducting a comprehensive stress audit (see Rumbold et al., 2018). Specifically, a 7 stress audit can help identify: (1) which stressors are particularly harmful for health and well-8 being; (2) why this impact may occur (e.g., via cognitive appraisals, emotions, etc.), and (3) 9 which groups are most "at risk" (Anchors et al., 2024). To reduce the impact that ambiguous 10 and novel stressors can have on health and well-being, one organisation-level intervention 11 could focus on the development of clearer selection policies (Slade et al., 2024). This is 12 important as selection and deselection are part of all competitive sports and can be defined as 13 a potentially adverse event for sport performers (Neely et al., 2016). Indeed, recently, Slade 14 et al. (2024) produced a set of guidelines for coaches, sport performers, and organisations to 15 consider when developing selection policies. These guidelines comprise intrapersonal, interpersonal, leadership, transparent, educational, and feedback behaviours as well as 16 17 specific actions that sport performers, coaches, and organisations can take for better 18 managing selection and deselection. Although in some instances it would be optimal to 19 reduce a property (e.g., novelty, ambiguity) of stressors, this is not always possible. Thus, in 20 such cases, it might be appropriate for sport performers to develop strategies that help them to 21 better respond to, or cope with, such properties of stressors. One individual-level intervention 22 that could help sport performers better manage novel, complex, and insoluble situations is by 23 cultivating ambiguity tolerance through mindfulness (Spinelli et al., 2023). Through being in 24 a mindful state, individuals can observe the emotions that may arise from ambiguity with 25 non-judgmental awareness and non-reactivity (Lauriola et al., 2016). It is hoped that such

1 interventions will reduce the potential underlying properties of stressors and/or help sport 2 performers' to better cope with them; thus, ultimately, improving their health and well-being. 3 To conclude, this study explored situational properties of lifetime stressors and offers 4 answers to the question of why they might influence sport performers' health and well-being. 5 Using timelining and semi-structured interviews, we developed four themes: (1) the timing of 6 stressors in quick succession creates a domino effect; (2) limited past experience enhances 7 vulnerability to novel situations; (3) lack of clarity surrounding stressful events impacted 8 health and well-being; and (4) prolonged and long-lasting stressors drain the tank until there 9 is nothing left. This is one of the first studies to show that high lifetime stressor exposure may be more likely to deter health and well-being when the stressors experienced are poorly timed 10 11 in relation to other life events, novel and/or ambiguous in nature, and long-lasting.

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Figure 1. Digitally recreated timeline to highlight pertinent stressors and their associated situational properties to explain *why* lifetime stressor exposure was harmful for sport performers' health and well-being.



Note. The digitally created timelines are not able to portray an in-depth illustration of all participants' experiences and how these relate to certain situational properties. Instead, the timelines are used to guide and help structure the interviews and should not be interpreted as a stand-alone insight into the findings.