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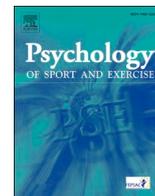https://researchonline.ljmu.ac.uk/id/eprint/26370/

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Tales from the peloton: Stress and coping in professional women's road cycling

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ABSTRACT

Objective: The purpose of this study was to use narrative inquiry to explore professional women cyclist's stories of stress and coping from their race experiences.
Method: Semi-structured interviews with 6 professional cyclists provided powerful accounts of their racing experiences. Pragmatist narrative inquiry emphasises the key characteristics of these experiences, which coupled with a reflexive creative analytic practice led to individualised first-person stories being constructed which were combined into an ethnodrama to tell the stories of a fictional women's bicycle race.
Results: Tension Lines: The Invisible Weight of the Ride is an ethnodrama portraying riders' situated racing experiences. It shows how appraisal moves beyond a focus on cognition and isolated experiences of stress and coping by providing insights into relationships between the different contexts that interplay within professional women's cycling.
Conclusion: This study provides novel insight into the stress and coping experience through the application of narrative inquiry and pragmatism. It details situated, nuanced interpretations, of stressors experienced by professional women cyclists to show the complex process of coping whilst racing. As non-participant elite women cyclists suggested that they found the ethnodrama to authentically represent their experiences, the findings could serve to emotionally connect and generate awareness with athlete support personnel of the complex relationships between stressors and coping.

Professional women's road cycling is growing but under researched. Professional cycling races are challenging, lasting several hours per day, with consecutive days of racing in stage races, meaning athletes experience physical and psychological pressure for extended periods of time (Spindler et al., 2018). This pressure is nuanced in most races meaning that riders experience it at different times depending on their role; for a brief explanation about roles/rider types see Lycett (2023). Cycling is a team sport where the focus is on supporting a nominated individual to enable them to compete for a result during the race finale. Participation comes with high levels of risk. Cyclists have reported inherent dangers arising from frequent physical contact, and the speeds associated with racing mean that crashes happen frequently (Taylor & Kress, 2006). Riders can suffer serious injury, and fatalities do occur. In addition, for women riders, in any given season they can expect lower wages, worse working conditions and poorer career opportunities than their male counterparts (Ryder et al., 2021). For example, riders eligible to ride on the Women's World Tour (WWT) will be contracted to World or Continental teams, though 47 % of these riders are on 1-year contracts (The Cyclists Alliance, 2023). Such a mix of factors is linked to psychological stress and is known to affect performance.

Performance related stress in sport is well researched giving rise to a broad literature base which suggests that how athletes adapt to psychological stressors is affected by biological, psychological, and social constructs (Turner et al., 2020). Psychological stress arises when an individual perceives the demands of a situation exceeds a perception of their resources available to meet it (Lazarus & Folkman, 1984). This appraisal determines the behavioural and emotional coping response to the stressor. That is, humans engage in a structured cognitive process leading from stressor identification to instigation of a coping mechanism. Literature has suggested three overarching types of stressors in sport: competition, organisational and personal (Sarkar & Fletcher, 2014). First, competitive stressors are described as environmental demands associated directly with performance (Mellalieu et al., 2006). Competitive stressors include preparation for competition, injuries,

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perceptions of underperformance, and rivalry (Sarkar & Fletcher, 2014). Second, organisational stressors relate to environmental demands of the sport (Fletcher et al., 2006), which can be concerned with the sport systems and organisations, or, for example in cycling, riding in bad weather. Arnold and Fletcher (2012) synthesise organisational stressors related to leadership, personnel, culture, team, logistics, environment, performance and personal stressors. Finally, personal stressors relate to demands associated with the athlete's non-sporting life, such as family matters (Fletcher et al., 2006), that are differentiated from organisational personal issues, such as contract negotiations.

Models such as Lazarus and Folkman's (1984) transactional theory of stress and coping, and the revised theory of challenge and threat states in athletes (TCTSA-R; Meijen et al., 2020), have provided a base from which the interacting variables can be considered as a complex process. Generally, these concepts have been codified by a variety of approaches that favour reductionist and/or post-positivist framings of stress, appraisal and coping. This is a picture repeated across sports, not only in cycling. Examples include, exploring only stressors and types of coping mechanisms (McGreary et al., 2021; Ntoumanis & Biddle, 2000), or patterns of appraisal and coping (Calmeiro et al., 2014). Though linked studies involving elite athletes from multiple sports consider all three aspects; Mellalieu et al. (2009) identified performance and organisational stressors prior to competition, and Neil et al. (2011) explored these findings in relation to appraisal, emotional and behavioural response. In relation to cycling, Spindler and colleagues (2018) noted there were few studies related to stress and coping. Existing qualitative work examining stress and coping in cyclists from Olympic to recreational levels are insightful (e.g., Kress & Statler, 2007; McCormick et al., 2016); nonetheless, future investigations could better represent the dynamic, reciprocal and temporal nature of the experience. Current literature allows us to piece together snapshots of stress and coping in cycling, but the situated, experiential factors within women's racing, in particular, remain a blind spot in our understanding. There is potential to develop a holistic understanding of stress and coping in context that is reflective of individual's experiences. Current literature has limited considerations of the social environment in which people experience stress and coping, including relationships and the dynamics of the process. Models like the TCTSA-R underplay systemic stressors, such as the gender pay gap (Ryder et al., 2021) and focus largely on individuals and their cognitions. For example, how people consciously think about stressors when appraising the balance of demand (e.g. danger, uncertainty or effort) with the resources available. There is scope to move beyond a focus on cognition and consider the relationship between social and environmental contexts, the interplay people experience between stressors, and impact this has on their response. Narrative inquiry is one potential method of investigation that could allow us to make space for women cyclists' situated knowledge through expression of their experience as stories.

1. Background

In the present study, we employed Clandinin and Rosiek's (2019) assertion that narrative forms, such as the stories people tell, represent a lived immediacy of experience inclusive of relational, temporal, and continuous features. Narrative inquiry would allow us to hear the women's personal, social, and cultural constructions of stress and coping and thus capture the dynamic interplay inherent in the process. This work did not begin as a narrative inquiry, nor did it begin with the current list of authors. The original study began with authors one, two and four. Our intention was to take a post-positivist approach which would complement current knowledge by subjectively exploring the stress and coping process holistically, specifically developing links between stressors, appraisal and approaches to coping. We (authors one, two and four) devised a qualitative research design to explore the experiential aspects of the TCTSA-R in women professional cyclists. This approach proffered methodological innovation and conceptual insights

that were thin in the literature. Semi-structured interviews explored rider's perceptions of stressors, their appraisal of these, and approaches/mechanisms used to cope. Nonetheless, after conducting the first few interviews, the women's stories began to move us as Frank (2010) describes, in that they generated emotions that agitated us, causing us to shift our position on where the focus of our inquiry should be. As the women shared their racing experiences, we recognised they were employing a coping praxis that was situated, self-made, and not wholly represented by the dominant theories available to us. We wanted to show this and knew that narrative inquiry was a robust way to do it (McGannon & Smith, 2015), so we took the reflexive decision to revisit our assumptions about stress and coping and revise our approach informed by narrative theory. Retrospective reflexivity considers the effect of the research on the researcher, acknowledging that our experiences shape our interpretations (Rogers et al., 2021). We viewed this intersubjectivity as promoting growth by aiding our understanding of the selves we bring to our inquiries and share here to be transparent in the formulation of our analytical lens (Attia & Edge, 2017). The original group of authors had limited experience with narrative inquiry but were convinced of the ethical and empirical imperative to share participants' stories. The initial manuscript presented composite vignettes. Following anonymous peer review, we learned that our lack of phronesis in narrative inquiry was preventing us from sensing the richness available in our data and communicating it effectively. In revision, we collaborated with the third author, experienced in narrative inquiry, to re-analyse and re-present our data. We aimed to use narrative inquiry to explore professional women cyclist's stories of stress and coping and through this to enhance the visibility of these race experiences.

2. Methodology

2.1. Philosophical stance and researcher Positioning

Narrative inquiry requires an appreciation for stories and their boundless ubiquity and multiplicity. In narrative inquiry, we are concerned with stories people tell and how these stories form, and are formed of, wider narrative resources. Narrative researchers are sometimes asked to delineate between "story" and "narrative", two key terms often used interchangeably, or to articulate what a story/narrative is or represents. For example, Smith and Sparkes (2009b) assert that stories are tales people tell while narrative refers to their general narratological properties (e.g. tellability, structure, content, etc.). Book et al. (2024) contend the inconsistent use of such foundational concepts blurs the lines for distinguishing what is and is not narrative research. We contend that whether an essentialist distinction between story and narrative exists is a philosophical question, one that must be answered anew for each inquiry.

Initially, we took a critical realist perspective, a foundationalist stance that posits a material world independent of our experience of it and that can be known to varying degrees of approximation (McGannon et al., 2019). We expected that interview data would give us insights into individual mental configurations of the TCTSA-R and would allow contingent yet causal theorising of their unobserved mechanisms within the race context (Ryba et al., 2020). Listening to riders tell their tales of the peloton during interviews drew our attention to their experience of stress and coping, leading to perceived incongruencies with TCTSA-R implied process described within the theory. For example, from our original stance, constructs of TCTSA-R should be objectively observable, overlaid with riders' subjective experiences. Put differently, the stories were transcendental, pointing to a reality beyond riders' particular representations of it. Here, correspondence to an objective truth is a chief concern. Instead, we wanted to work directly with the riders' experiences, and that required an ontological shift. We followed Clandinin and Rosiek (2019) in employing pragmatism, an ontology of experience understood as the continuous interaction of human thought with various internal, external, and material environments. For them, narrative

inquiry is "a quintessentially pragmatic methodology" (p. 42). From this stance, experience is the fundamental ontological category (Dewey, 1929); there is nothing behind it being represented, meaning pragmatist ontology is transactional (constituted by interactions) rather than transcendental. Epistemologically, the aim of pragmatist knowledge is not an exclusively faithful representation of an independent reality; rather, it is to generate relations between an experiencing human being and their world that create new kinds of objects in experience (Rosiek, 2003). Pragmatist narrative inquiries emphasise key characteristics of experience: temporality, continuity, and the confluence of inner life with sociomaterial influences (Clandinin & Rosiek, 2019). Thus, from our revised stance, we studied riders' experiences as storied in the living and the telling, producing knowledge that was simultaneously and continuously individual (an ongoing, embodied personal tale) and sociomaterial (historical, cultural, material-discursive, narratological).

2.2. Participants

After gaining institutional ethical approval we adopted a purposive sampling strategy to attract professional women cyclists who had participated in WWT races during the previous season. This strategy was deployed on the assumption that these individuals would have direct experience of stress/stressors and coping gained whilst competing at the highest level of professional women's bicycle racing. Six women riders volunteered for the study ($M_{age} = 25 \pm 1.4$ years). During the season participants rode for World Tour ($n = 4$) or Continental ($n = 2$) Teams, had raced for a total of 230 days ($M_{total} = 38.3 \pm 17.0$ days) including 145 days at WWT races ($M_{wwt} = 24.2 \pm 13.7$ days) and the range of experience competing in WWT races was from 1 to 5 years ($M_{experience} = 3.2 \pm 1.6$ years). Within the sample, two riders identified themselves as time trialists/helpers, one as a climber/helper, one as a helper and two primarily as sprinters, who would target victory in specific races. Pseudonyms are used throughout.

2.3. Data collection

An interview guide, informed by TCTSA-R, was developed prior to the first interview. The guide was used to ensure key areas relevant to the initial research aim were discussed and was organised around four key sections: (1) Introduction and rapport development; (2) Perceived coping style; (3) Stressors that affect cycling performance; and (4) Appraisal and coping. Data was collected by the first author, who worked as an applied sport psychology practitioner with women cyclists and is a keen cyclist. After each interview, the recording was transcribed verbatim and following the first two interviews the first, second and fourth authors discussed our shift toward narrative inquiry described above. Since data collection was already underway, we continued with our methods, building on our already open-ended questioning, inviting participants to lead the conversation and expand on areas of interest as they arose. Interviewees were also given an opportunity to add anything they felt had not been covered. All interviews were recorded and lasted between 70 and 96 min ($M_{time} = 85.8 \pm 10.0$ min).

In narrative inquiry, interviews are one of many ways to collect stories. They are typically used to gather what Smith (2021, p. 243) calls big stories that "entail a considerable amount of reflection on an experience or event." He contrasts these with small stories, which refer to conversations told during interaction about everyday things. Both big and small stories can (and do) appear in both contexts (interview and prosaic talk). Even though it was informed by TCTSA-R, our interview guide focused on the riders' reflections and elicited extended answers regarding race experiences and event detail (big stories) by asking open ended questions (e.g., 'Using examples, could you explain how different stressors can affect the strategies you use and your ability to cope whilst racing?'), but because of the shared meaning-making around cycle racing, the interviews became sites of engagement for interactional features typical of small stories (Georgakopoulou, 2006). By

serendipitously affording the combination of big and small stories, our data collection captured the process of narration: the interplay between narrative patterns and resources within elite women's cycling, and the micro-processes of co-constructing meaning unique to peers (Sools, 2013).

2.4. Data analysis

As with previous stages of this research, we felt our way to the eventual analysis of the process of narration, something we were only able to find after shifting our ontology. Narrative analysis is undertaken in, broadly, two ways: as a story analyst or as a storyteller. Most sport and exercise researchers employing narrative inquiry take the position of story analysts and focus on the content and/or structure of stories (Book et al., 2024). This fitted with our initial understanding informed by critical realism, so we first employed thematic narrative analysis as outlined by Smith (2016). When it came time to generate themes, the first, second and fourth authors worked iteratively and reflexively as critical friends identifying types of stressors (including race plan, other riders, and contract status), factors affecting appraisal (including level of confidence/self-efficacy, trust in other riders and physical condition) and coping (including attentional focus, distraction, micro-goals, chunking, and trusting teammates). While this analysis yielded the theoretical abstraction germane to our original aim, it stripped the experiential quality of the riders' stories with our attempts to "transform the story[ies] into another theoretical language" (Smith & Monforte, 2020, p. 2). We changed our position from story analysts to storytellers which allowed us to treat the riders' stories as analytical and theoretical in their own right (Smith & Sparkes, 2009a).

Analysis and representation undertaken as a storyteller is collectively known as creative analytic practice (CAP) (Middleton et al., 2024). CAP foregrounds the complexity of lived experience and employs arts-based methods, performance, or various forms of writing in research (McMahon, 2016). We used the themes from our first analysis to make composite vignettes into a creative non-fiction, a genre whereby empirical data is presented as a fictional tale (Smith & Monforte, 2020). Composite vignettes were familiar representations, having recently been used to explore different types of stressors, though not specifically in relation to TCTSA-R (e.g., Potts et al., 2022; McLouglin et al., 2023). Following first peer review, we realised we had not fully accounted for how this shift in representation affected the object of our inquiry, both ontologically and epistemologically, and invited the third to collaborate on our revision. CAP is hospitable to a variety of philosophical positions, critical realism among them (Middleton et al., 2024); however, changing our focus to 'experience as reality in the making' was more appropriately aligned with pragmatism (Rosiek, 2013) and ethnodrama was better able to show it.

Ethnodrama is a type of creative analytic practice that presents varieties of materials, most often textual, (e.g. interview transcripts, historical documents, field notes, etc.) as a written playscript portraying real life encounters into short scenes of fictional and/or nonfictional social life (McMahon et al., 2017). Drawing on Richardson (2000), Smith and Sparkes (2009a) proffer ethnodrama as "a way of shaping an experience without losing the experience" (p. 286), allowing multiple, conflicting voices to be heard and shared and making the unspoken present. These features fit with our revised aims: to understand stress and coping through interactions (rather than individual cognition); to make women's race experiences heard and seen. In sport psychology, ethnodrama has been used for similar aims, showing determinants and consequences in complex situations from multiple perspectives and as a resource to create empathy, shared understanding, and stimulate discussion (e.g. Smith et al., 2023). We extended our application to show the experience of stress and coping, how it changes shape over the course of a race and takes on purposes of its own, identifiable as narratable patterns that elicit responses that become further patterns and so on (Rosiek & Snyder, 2018).

The thematic analysis supplied the core narrative of riders' experiences of stress and coping within a typical race giving us an overall story with a beginning, middle, and end and an appropriate cast of characters. As Cavallerio et al. (2022) attest, the casting of characters was integral to developing the plot, the structure that connects events over time. Each participant identified characters and events with attendant complications/resolutions unique to their role that made sense in the context of the race. Such emplotment points not only to the narrative resources available to riders but also to how these acted on, in, and for them (Smith & Monforte, 2020). Story excerpts from interview data were extracted, reorganised and, through creative writing, set into a fictional race and dramatised (Saldaña, 2007). An iterative writing process enabled us to consider each element of the ethnodrama reflexively as critical friends with a mix of experience as cyclists, researchers, and theorists (Smith & McGannon, 2018). In pragmatist knowledge production, representations arise from experience and must return to experience, not as more real or true to what preceded it, but for significance and resonance (Clandinin & Rosiek, 2019).

2.5. Rigour

The quality of ethnodrama is best judged using the principle of connoisseurship, which involves making knowledgeable, fine-grained discriminations of its complex and subtle qualities (Middleton et al., 2024; Sparkes & Smith, 2009, 2016). Consequently, we employed processes of member and audience reflections using a relativist approach (Smith & McGannon, 2018) with a focus on emotional engagement as a hallmark of arts-based research (Douglas & Carless, 2018). First, drafts of the creative non-fiction were shared with participants for member checking, where riders were encouraged to respond and provide comment, or suggest changes. Three (of six) participants responded, explaining how our interpretations resonated with them. The rider who contributed to Julia and Lieke's characters described them as "spot on and accurate", the rider who was mainly Eilidh said they were "insightful" which "made me feel a bit stressed since it [the stories] woke up the nervousness you have on the bike too". The rider who contributed mainly to Mia and was unable to race at the time said, "I found it to be highly relatable and given that I haven't been able to race in a while, didn't make me miss it either". Some minor changes were suggested which led to further iterations, for example enhancing descriptions around fears of crashing and reinjury. As a form of audience response (Douglas & Carless, 2018), we sent the complete ethnodrama to current and former riders. Those who responded (*n* = 7) included elite junior (national squad), those riding elite domestic races, professionals and Olympic medallists. We asked each: How the story fitted with their experience, how they felt while reading and whether they would make any changes.

In overall terms the ethnodrama resonated with rider experiences. Emotional engagement included being angry towards the Director Sportif, feeling stressed and tense while reading as they do in a race, and feeling solidarity with the riders, typified by:

> Silently cheering on the riders and crossing my fingers that they keep up their mental strength and make good decisions, obviously also "feeling" with the riders since I've experienced a lot of this myself and used similar strategies, relief in the end that they get a good result.

This feedback accentuated physical signs of anxiety and multiple riders identified an apparent lack of interpersonal tension between the riders. Following reflection, we concluded these observations should be seen as influential and adjustments to the script were needed for verisimilitude. We actioned these, and specific suggestions to reword a few sentences to clarify meaning. The following quotation from an Olympic medallist provides an overarching summary:

> It fits really well with my experience, especially overall (team pressure, contract worries, DS being negative / adding stress, fear in the

peloton, things going wrong). I've never had the experience of feeling confident in the peloton but Ivy and Mia's characters and inner dialogue, plus to some extent Eilidh's (because it was also often my role to sit on the front!) felt very real.

The riders' responses helped us feel confident that our portrayal was realistic and evocative of an authentic experience. We offer three key characteristics of ethnodramas and invite readers to invoke them appreciatively while reading and responding to this work. Appreciation does not imply 'liking.' As Sparkes and Smith (2009) explain, appreciation of research, as of wine or art, requires "experience of the qualities that constitute each and to understand something about them. It also includes making judgments about their value (p. 496)." First, ethnodrama enables its reader to feel empathy and in a way (re)live the experience being presented (McMahon, 2016). Having ourselves been impacted by the riders' stories, sharing them in the form of ethnodrama helped us preserve the sense of a real-life encounter as affirmed by the riders. Second, presenting the riders' experiences as ethnodrama allowed them to retain their complexity, displaying the dynamic relations and tensions that make up the riders' experiences (Cavallerio et al., 2022). Third, selecting ethnodrama as our form of creative analytic practice helped us maintain epistemological coherence given our position as storytellers and our interest in the unfolding interactions and lines of association that make up the riders' experiences of stress and coping. McGannon et al. (2019) assert that epistemological awareness aligns with research connoisseurship by affording the reader an informed position from which to scrutinise decision-making and reflexivity in the research process.

3. Tension Lines: The Invisible Weight of the ride

To present rider stories, the first author shifts his positionality from researcher to director to develop a script using many of the words taken directly from rider interviews. The use of a creative analytic practice means that each scene does not represent a single participant or experience and uses literary and artistic technique to engage the reader in the same way as hearing the stories did for the authors. Staging directions and descriptions provide an overview that sets each scene as well as providing details of characters and their actions. With these points in mind the reader is invited to enter the theatre.

3.1. Our cast

The team:	Ivy	1st year professional, climber/helper
	Mia	experienced (returning from injury with anxiety when riding in the bunch), time-trialist/helper
	Nora	3rd year professional (had joined midseason from a team that folded), helper
	Eilidh	experienced, in last year of multi-year contract, time-trialist/helper
	Lieke	2nd year professional, sprinter
	Julia	2nd year professional on 1-year contract, sprinter
Others:		The Directeur Sportif (DS) – responsible for managing the team
		George – a sponsor
		Riders from other teams in the peloton

3.2. Scene 1 – pre-race briefing

Inside the bus. Lights up on riders seated individually on either side of the aisle facing a television screen hanging behind the driver's seat (stage left). A map is projected on the television. Standing adjacent to it is the DS and a man the team have not previously met. The DS is holding his electronic tablet and a paper copy of the course book. Smalltalk can be heard from the riders chatting.

DS: Morning, morning, morning. Here we are day 3 of 5. Before we get on, can I introduce George from the team sponsors who will be in the car with me today.

George waves his hand in acknowledgment to the riders, they respond, and muttered greetings are exchanged. The sponsor takes a spare seat, and the DS continues.

DS: OK, day 3, 122-kilometre stage, another sprint finish expected. Last couple of days have not gone to plan. It is crucial that we get a good showing in the finish today.

The DS continues his briefing in the background, lights dim over everyone except Julia, who spins in her seat to address the audience directly.

Julia: Just so you know, we are aware that our performances have not been as expected, and on a personal level it's disappointing. Things got a bit tense yesterday and afterwards, he pulled me aside for a private word and said, "if you can't figure it out tomorrow, I'm switching who we're sprinting for." [*Frustrated*] It's not even my fault, if everyone had done their job properly, and had at least admitted it when things hadn't gone right. [*Pauses, then speaks in nervous tone*] This makes me anxious, and I've not slept great. I was worrying that I'm going to be thinking about losing the sprint job whilst I'm riding, and that's going to hinder how I do today. And now the sponsor is here as well. Hark at me, worrying about my worrying …

Julia turns back and the lights on the briefing come up.

DS: ….so just to confirm planned roles. Nora is road captain, Ivy you're on the front during the first 25 km, you don't have to break the wind but be there to respond if anyone tries something. You OK with that? [*Ivy nods*]. OK. Eilidh, Nora and Mia split the support roles for the remainder. We know there are a few twists and turns at the end, so regroup for the lead in and final sprint. Lieke you are last lead for Julia and, if Julia has any problems, you're it. Stay alive to what's going on and help each other. Any questions? No. Have a good day. Remember we need a result. [*Everyone filters out of the bus, as lights go down.*]

3.3. Scene 2 – Warm up

Lights up on the riders sitting on their bikes warming up. A spotlight is on Lieke.

Lieke: [*reflectively to the audience*] I was upset at the end yesterday. Our lead out was not what it should have been, and Julia had too much to do at the end to compete. The atmosphere was not great afterwards; there was a notable air of irritation amongst the team after the debriefing. It's alright for my teammates, they seem to be able to just move on. At least I managed to get some time with my journal to reflect. I recorded my thoughts about why I hadn't done what I had hoped. This helped to calm my thinking down and reset for today. I am going to focus on my process goals – I will do everything I can to support the team's goal. This means I must fuel adequately, hold my position in the line, and be present …. I have a habit of thinking about my role at the end of the race too early! [*Spotlight down as Lieke makes a harder effort and spotlight up on Ivy.*]

Ivy: [*addressing the audience and trying to be enthusiastic*] You know, I've struggled to adjust to racing at this level, wasn't expecting to sign world tour, even if it is only a 1-year deal, but here I am. I know I can do it. Today is a great opportunity and I'm going to make the best of it. [*reassuring herself, still addressing audience*] I am not nervous, my role is to be a helper, and I don't have any pressure to get a result. I just need to do my job well, but you heard what the DS said about the overall result, and I want a contract extension. I will focus on my

goals, work for the team at the beginning, then support as best I can for the rest of the race. It's no big deal, just another race, like it'll be fine. Right? [*Spotlight shifts to Nora.*]

Nora: [*addressing the audience*] Well thank fuck for that a clear plan, and everyone says they have done their homework. OK, yesterday was a bit of mess but my mates here [*sweeps arms towards teammates*] do have to recognise we have to prepare if we are going to achieve, and that it's not all about them [*stares towards Julia*]. You see, it's important that everyone understands their role, and is up for it. I am at my best when I know what is being asked and feel familiar with the parcours. Let's see how today goes! [*Lights down*]

Stage is reset to resemble watching a bike race. Bicycles are mounted on a mechanical turntable which can rotate and move riders backwards and forward. The background views (scenery, spectators, team cars and other support vehicles) are projected on the backdrop. Riders are facing stage left, other teams are at the front and the riders sit in the peloton. Ivy is set behind.

3.4. Scene 3 – the early Scramble

Ivy: [*To audience, exasperated*] You're all thinking we must be at 25 km already. Nope, just over 20. So now you're wondering why I'm sitting back here. Well, it didn't start very well! I was too far back when the starter popped his head out of the sunroof and waved his flag. I was focused on doing my job and tried to get to the front to protect my teammates, but the pace was fast, too fast, and I just found myself slipping back through the field. Tried all of those psychological tricks, narrowed my focus and gave myself some instructions, you know "get to the front", "find my teammates", that sort of stuff. Didn't work. All that happened was that I got stressed about what was going on. I couldn't see my teammates and I needed to be up there [*points forward*]. They were all together and Lieke was doing my job for me, I just couldn't move up. Kept asking myself, if they can do it why can't I? When that happened, it became a bit of a self-fulfilling prophecy as I got more stressed and couldn't see the gaps. Felt like I was stuck. The DS comes on the radio, and he says …

DS: [*voice over radio – assertive in delivery*] You need to move up, you need to be up there. Why are you not there?

Ivy: And all that did was make me feel like I am an imposter, and I shouldn't be racing at this level. Tried to stop thinking like that as it was taking away from the physical side of my performance. I knew I should be able to do it but could not get the power out, when I'm stressed it is like a physical sensation like physically your body tenses up because of the stress, you're not relaxed. Luckily for me, other teams marked the attacks and, as you can see, the bunch is all together. Though what that means for my contract, I have no idea.

[Ivy turns from the audience, as we enter live dialogue].

Here comes the 25k marker, I am disappointed I couldn't do what I was supposed to do, but relieved that someone else is now taking on the responsibility. I need to get back onto the back of the bunch, try to support. [*radio crackles*]

Julia: [*into radio*] I have a mechanical

DS: [*on radio*] We are at the back of the cars behind the second group. Going to be a delay.

Ivy: [*into radio*] Do you want my bike? Setup is almost the same.

Julia: [*into radio*] Yes [*Julia falls back from the group towards Ivy. They both get off. Julia takes Ivy's bike and starts to ride. Ivy stands waiting, turning to the audience].*

Ivy: I feel bad, but at least I've helped our protected rider when she needed it. [*lights down*]

3.5. Scene 4 – fighting in the bunch

Before the lights come up, we hear a brief radio exchange

DS: Mia, can you go look after Julia?

Mia: OK, dropping back

Lights come up, the screen shows camera shots from inside the peloton of riders jostling for position, Mia and Julia are in a small group behind the main bunch. Mia is anxious.

Mia: Come on Julia, short effort to get onto the back. We need to move up. This is frantic, everyone is jostling for position. *[There is a nearly a crash in front]* OK Julia?

Julia: Yea, yea.

Mia: The pace is fast, getting back is going to be difficult. I guess we are going to be floating around in this danger zone for a while.

[Mia lifts her head to address the audience].

I need to concentrate, see there's another nearly crash. That was close and I'm feeling a bit spooked, it is all getting a bit chaotic and the further back we are the crazier it is. I don't know why I worry so much about crashing, it's not about me and my skills, it's about someone else crashing into me and wrecking my day. I don't need reminding about the way this could end. And I do not need another injury. Thing is, I do know that it is out of my control, what I need to do is switch my focus back to race. *[she goes back to riding and pauses for a few moments, looking up she says]* But it's just not going away. It feels like I'm choking in my throat my breathing goes shallow, and I need to clear it, I feel my emotions acutely in those situations, not thought. Sometimes I use this kind of visualisation technique, I'm going to try it now …. Okay, the feeling is there, I can see the fear in front of me. I need to put it aside, time to swallow my fear. I see the fear, I am taking a gulp and swallowing it down. Reset, push through. *[she pauses]* OK, that's better. If we are going to bridge back to the peloton, I am going to need to use someone to help get us back *[she surveys the scene]*. Looks like this team has had an issue, they're coming up the outside. *[to Julia]* It's time for a free ride, we can hopefully follow the wheel. *[to audience]* Here we go, there is always little bit of pushing and shoving going on in these situations *[voice in the peloton shouts* for fuck's sake Mia*]*. I guess a few others want this wheel. But I'm having it. That's OK, we're on *[with Julia behind, on her wheel, they ride for a few moments. Another rider says something the audience cannot hear clearly. Looks up]* Did you hear what she said? She said that I don't belong on her wheel. What the … *[Looks down and after a moment, talks into the radio]* Julia, follow them, you are nearly back I'm cooked. *[looking back to the audience]* I need to back off, regroup, breathe, and move on, I just need a few moments to reload again. I need to forget about it and keep going. *[Does a long exhale]* In through the nose *[takes deep inhale]*. Controlled *[Does a long exhale]*. Now, where are my teammates, being near them will make me feel better.

Lieke: *[on radio]* Mia, where you at?

Mia: *[into radio]* Just moving up.

3.6. Scene 5 – setting the pace

The projection is as if a camera was pointing backward, showing the back of the peloton and support cars lined out in the distance. The turntable rotates to stage front, where Eilidh is one of four riders at the front, the team is behind her, she looks up and addresses the audience.

Eilidh: It is a bit messy today, but as you can see at least we're together. I feel sad for Ivy, she had to climb off, but Julia is here, and

she feels strong. *[pause]* Do you want to know what goes on inside my head when I'm bossing the bunch?

DS: *[on radio]* We know the other sprint teams won't do anything, Eilidh sit on the front, control for the next 40k, Nora, Mia, Lieke, look after Julia and stay fresh for the finish.

Eilidh: *[Eilidh moves to the front, spotlight focuses on her. She is giving herself a pep-talk]* Here we go, time to ride. Do not disappoint yourself. It's my job, I'm good at it and I do it really fucking well. I'm going to be the best I can for the next 40k. Opportunity to show yourself to other teams. Focus on your process, focus on the small things *[spotlight dims, there is movement amongst the riders, but Eilidh stays on the front. As the riders move, Eilidh addresses the audience to explain]*. I use lots of self-talk, so while I'm pedalling, I'm saying helpful stuff like Just ride … Watch your numbers … Hard but steady … I am a diesel …. Time trial style … As you can see it's been quite straight forward so far

DS: *[on radio]* 3 Roundabouts before village. Watch the right turn in village

Eilidh: *[to audience]* I hope everyone is sensible; this is what it feels like when someone tries it on …. *[she starts narrating her thoughts]* Right hander … Focus, steady … *[the set moves to indicate the sharp right turn, as it does a rider moves out in front of Eilidh and gets a gap from her]* Who's trying to break? Why? Why are they doing that? Oh my God, what the fuck like? *[pause]* OK Eilidh calm down. You know them, they can't hold that. No-one else is going. Keep your tempo. This is what you like. This is what you do. It's my job. I'm good at it. Just fucking do it. *[she looks determined, staring towards the breakaway rider]* What are they, 400m in front? Gap not growing … Gap is closing … keep it going you're bringing them back … She knows she's done. Ride past like there's no-one there! Good job Eilidh.

DS: *[on radio]* Next 5k drags uphill *[the stage angles slightly uphill]*

Eilidh: *[to audience]* That was a bit of fun, hope my legs hold on this next section. It's just finding my limits, right?

Mia: *[on radio]* Going well E. We're all good. Riders starting to drop now.

Eilidh: *[to audience]* See, my teammates believe in me, and I know I can do this. I just have to stay here. I just have to ride hard! *[to herself]* Remember training was harder. *[She starts singing song lyrics, then looks up at the audience]* distraction always helps when it hurts a little bit!

DS: *[on radio]* Left turn into 400m at 5 % in 1200m.

Eilidh: *[to audience]* That isn't too steep or too long, but others are going to want the corner. *[to herself]* You've got this. Don't worry about behind. Pick up the pace. Get there first. Here we go, turn *[the stage turns and angles more steeply]*. Push. Come on. Come on. Push. 1-2-3-4, 1-2-3-4, 1-2-3-4. Nearly there, no-one else forcing it. *[stage angles down]* Short descent. Recover. Need to recover, that hurts. *[stage returns to level]* Breathe.

DS: *[on radio]* Good job, all together, great job.

Eilidh: *[to audience]* So the last 10k of my stint is pretty flat but my legs are feeling it now! What's going to happen is that I'm going to break my effort down into smaller and smaller chunks as I get towards the end. As we fast forward through the action and you'll hear what's going on in here *[taps her head]*. 8k left, I'm singing to myself … 6k, I'm counting the kilometres down, but also reminding myself that there is only 10minutes left. 5k. Feeling the pain and having a bit of wobble, tell myself that I can taste blood, that yea I'm on the limit but I love that feeling. 4k. Give myself some instructions, tell myself to "suck it up buttercup" and remind myself that if it's hurting me, it's hurting everyone else … 3k.

Mia: *[on radio]* We can take over whenever

Eilidh: *[on radio]* Not yet. *[to audience]* I can do this for 5 more minutes. They need to save their energy. I know other teams know I'm tired and they're pushing, reminding myself of one of my favourite sayings "Don't think just ride" helps a lot in these situations. I have to get really focussed as we get to the end, I hurt … another 500m. Come on … another 500m. One more big dig … One last effort … last 200. OK, 200 more. *[into the radio]* I'm done, over to you.

DS: *[on radio]* Great job Eilidh, recovery mode

Eilidh: *[to audience]* Wow proper praise, that makes a change, and much better than "well done Eilidh, at least you tried". If only I could ask for a contract extension now! Hope they can close this out. Time to spin out my legs, I did great *[she smiles and drifts back through the peloton as the lights fade]*

3.7. Scene 6 – final sprint

The lights come up on Julia stage centre alone, on the projector we can see the blur of other riders, around her, a spotlight draws the focus solely onto Julia. She addresses the audience throughout

Julia: It has not been the day I hoped for so far, bike change and we're down to 4. But we've ridden well, and I'm feeling good. I have this thing I ask myself "Julia are you a victim or a fighter today?" I know I need to be a fighter, but sometimes I doubt myself. As we're getting towards the finish, I am getting a bit anxious but also have hope. We've been strong leading the bunch. I just need to remember that yesterday was terrible at the end, there was so much stress and anger in the peloton. I will need to watch for the choppers – I get it, they are desperately trying to impress to hike their contract! Let's hope I don't get pushed or slapped. I need to stop moaning and focus; I am a fighter. I made it through the mess yesterday and my legs feel good, I'm ready to go for it, we have a plan and know where to execute. *[drifting into her thoughts]* But yesterday we were just in the wrong place, and I got the blame! What if it doesn't work again, can I trust them? What should I do, stay on the train or jump? *[more assertively]* I am a fighter; I just need to follow my instinct. I do know that when I'm given free-range, I can always get a good result. You know what, it's on me, I will make the call when I need to. Now let's see where we are …. *[looks around]* we're OK, just hold the line.

DS: *[on radio]* Right hand turn at 3k is crucial. Come on, too far back, move up for the corner.

Julia: Making this corner, might be harder than the sprint, everyone fighting for position is brutal, everyone wants to be at the front. Nora's on it, her angry mode has been engaged, means we have a chance. Here we go, I need to focus … No, no, no our line is broken, we're all over the place, I'm going to be too far back. Something could still happen, even though we're in a shit position. What do I do? Can we get back or do I just give up? There's still a chance they might get me there, but it's looking pretty bleak.

DS: *[on radio]* Left hand corner coming at 2k, go as hard as you can

Julia: Can you see, everyone is slowing for the corner, I need to get out quick, reassess. I can see Nora coming back but I've lost the others. I need to focus on myself, push push. Nora's picked up Lieke, where's Mia? Is this going to work? I think we are still too far back. It is so frustrating if I'd gone by myself and followed the other lead outs, I would have been able to position myself better. I need to stay calm, where is that fighter, I have time. Look behind me, here comes a fast train up the outside. I'm going to jump on. Last 1500m, and I can feel that head buzz coming on. I am 6th wheel, see how fraught it is, she's barging me, but I just about manage to stay out of the gutter, I'll give her a little push back. It's like a back-and-forth chicken

moment. I can see the finish line just up there; I'm staying on this wheel. I've got momentum. 500m. Get ready. Here I go. *[she lifts off the saddle and into the sprinting position]* Attack. I'm coming round, just pushing as hard as I can my mind is blank, just go as hard as I can to the line *[she sits up, no hands, breathing hard]*. Where was I? 5th maybe? Where is the helper, I need a drink.

DS: Julia got 4th, great job everyone.

Julia: [to herself] 4th, Yes! First after the favourites. [*to audience*] That was such as rush. After it's finished, I realise how the split-second decision making, and my own indecision just add to the tension and how I loved the excitement of the uncertainty at the end. 4th place is good, it shows that I can do it, let's just hope the DS is pleased with the points! Here come the others, we can go and celebrate together [*she jumps off her bike, excitedly turning as the lights* dim *to the sound of celebrations with her teammates*].

4. Discussion

We aimed to both understand stress and coping through interactions, rather than individual cognition, and to make professional women's cycling experiences heard and seen. As rider stories moved us, we took the decision to shift from origins grounded in critical realism to undertaking narrative inquiry with a pragmatist view. Thus, by presenting rider experiences as an ethnodrama, we have attempted to move beyond a focus on cognition and isolated experiences of stress and coping. Our script considers the interplay between internal, social, environmental, and cultural factors that constitute professional women cyclists' race experience. By adopting a pragmatist approach, we recognise experience as more than a subjective representation (Clandinin & Rosiek, 2019). Instead, the individual scenes of our ethnodrama are snapshots showing the real and complex picture of rider stress and coping. As others have debated (e.g., Cavallerio et al., 2022; McMahon et al., 2017), providing an interpretation of CAP findings can undermine its principles. That is, readers should not be led in a particular direction but rather be left to observe their own reactions that leads them to personal interpretation and understanding. As authors we have interpreted, made judgements about, and presented the data from a specific viewpoint (Sparkes, 2002). Thus, although our perspective is no more valuable than the reader's, we provide an overview of our sensemaking.

The current study provides novel insights to our understanding of stress and coping, offering a situated picture of its dynamics during a sports event. This work extends the rich history of literature by translating the complex and practical applications of stress and coping models such as TCTSA-R to a real-world example (e.g., a bike race). To our knowledge, the present study is the first to use narrative inquiry and pragmatism in relation to the TCTSA-R model. Our inquiry shows the dynamics of observing, appraising and coping with stress where riders are affected by both their own cognitive processes and situational activities going on around, that is we saw forms of internalisation and externalisation happening simultaneously. When these external objects are internalised, new objects are created with them. Applying this principle to the process of stress and coping, instead of appraising a stressor and simply applying a coping mechanism to the stressor (the stressor is ontologically the same), we are suggesting that the identified stressor changes within the appraisal process becoming a new resource (e.g. concept or action) as it is incorporated within historically formed, situated experience. To illustrate, in relation to Julia sprinting in the finale, consistent with the performance narrative's outcome focus (Douglas & Carless, 2006, 2009), the overarching stressor relates to achieving a result. Consistent with her role, attempting to perform well at this stage would be her usual objective, though she described before the start how this pressure had been exacerbated following the previous evening's DS conversation. As we enter her monologue, Julia does not directly mention this external stressor per se, instead after the passage of

time and interaction of race experiences, appears to be internalising and asks herself "are you a victim or fighter today?" Thus, setting the scene for her managing situational stressors at this stage of the race.

Previous literature has identified stressors including pre and in-race anxiety and pain during cycling competition (Baghurst, 2012; Kress & Statler, 2007), and in each scene competition and organisational stressors can be identified. Significant competition stressors mirror previous findings such as preparation, injury, expectation and rivalry (Mellalieu et al., 2009), as well as self-induced pressure (McGreary et al., 2021). The use of an ethnodrama to portray experiences changes the language of rider experiences. We can see that rider stress, it is extant, and it is distributed. Specifically, riders describe stressors such as the DS' overall aims to achieve results in the race, Mia's fear of reinjury and Eilidh's requirement to pace the race for an extended period. In TCTSA-R these stressors would be reduced to specific items and considered against measures, such as goals and resources to label them as challenges or threats and linked to a relevant coping mechanism. We observe that Julia and Ivy are both experiencing stress related to the DS who is making performance-related demands of them because of organisational and financial demands. This is where the presence of a sponsor adds additional pressure to the DS, which in turn adds pressure to the team. This trickle down of stress contributes to both social and personal stress experienced by riders. The ethnodrama shows this as a relational picture, but leads us to ask, what would the stressor be said to be? It is not only the sponsor's presence creating the stress, but previous experience and in-the-moment race dynamics contributing to this picture. If the riders' coping responses were the product of cause and effect, this would be purely a cognitive process, where the DS could manage his stress and treat the riders differently. The compound effect of the elements contributing to the stress are distributed through the connections being formed within race experiences, and how they simultaneously and continuously produce objects from this, get carried forward and become impactful in the ongoing situation, meaning each rider is different, enabling some to cope while others cannot.

At a social level we see an interplay between team hierarchy, relationships and battling for contracts. This leads to tension from the need for teamwork and harmony required to achieve their performance objectives. Within the ethnodrama this juxtaposition is shown through social and cultural stressors experienced by the women and how their experiences play out around and during a race. Leike and Nora describe relationship tensions between teammates linked to the hierarchy or power distance, creating an inequity between high and low status individuals within the team (Bochner & Hesketh, 1994). Julia is the leader, the rest of the team are domestiques, or support riders, shielding her from opponents and providing whatever support is needed. In essence these riders sacrifice their own hopes of achieving a personal result, they describe this as being their job. Giving up a bike to support the bigger goal of the team may seem like an act of altruism, however, what is at play is the dynamic between perceived stress of maintaining a contract and the response to sacrifice in the race in the hope of fulfilling a role. Culturally women riders are subject to poorer career and working conditions as well as a huge gender pay gap (Ryder et al., 2021) and short-term contracts (The Cyclists Alliance, 2023). This world they inhabit creates pressure for security, irrelevant of the level of experience, though how it is situated varies between riders. For example, Ivy, a new rider on a one-year contract, continuously refers to her performance and the need to prove her place by protecting her teammates which could lead to securing an extension. At face value this could be likened to the threat state within a cognitive model such as TCTSA-R, however, through her ongoing internalisation/externalisation within experience, the pressure is compounded which ultimately affects her ability to ride effectively. Whereas Eilidh, who is a seasoned professional, appears to recognise her strengths and can draw on these resources to enable her to focus and respond to the situational demands. She was able to manage radio messages, meet demands of the course, and respond to other rider actions, whilst successfully regulating her own effort. Indeed, this

mirrors a suggestion found by McCormick et al. (2016) that the constantly changing tactical elements of racing are like "a moving game of chess" (p. 424). Despite all of this, to Eilidh, the contractual pressure is a footnote to her performance rather than what is driving it. In essence, riders have pre-cognitive embodied elements which became immediate by the environment being experienced. For practitioners, recognising how a rider interprets their experience at that time, not solely linking an identified stressor to elements from cognitive models such as goal relevance and self-efficacy in TCTSA-R, may play a part in appraisal and coping in stressful situations.

4.1. Methodological reflection

The production of an ethnodrama was a novel approach to exploring stress and coping, as such this brief reflection considers methodology, limitations and future directions. It took time to develop an appropriate structure which enabled the ethnodrama structure to reflect narrative principles regarding a beginning, middle and end (Smith, 2016) within each scene and across the whole story. Our presentation is based on our interpretation of the experiences of these riders, with the aim that the stories resonate with reader's own situations (Smith, 2018) and experiences of stressors, appraisal processes and coping methods. Member and audience reflection (Smith & McGannon, 2018) was key to ensure that readers did not ask whether stories were true "but, rather, 'Can I trust this?' and 'Does it chime with my experience?'" (Spalding & Phillips, 2007, p.961). Several limitations should be noted which offer opportunities for future studies. First, while participants all rode in WWT races, not all are on World teams and therefore perceptions may be affected by differences in earning and organisational systems. Second, a different sample with greater role specificity or increased years racing at this level could lead to different experiences. Third, interviews were conducted after the season had been completed, where the passage of time could influence the salience or sensemaking of the situation (Reis et al., 2014). Capturing experiences closer to their occurrence could produce different stories, for example by adopting event-focused interviews (Jackman et al., 2021). While this study offers a novel view of the process holistically, and therefore compliments existing studies, future research could consider narrowing the scope of investigation to explore specific elements such as the processing of simultaneous events or social and cultural aspects associated with inter-team dynamics. Finally, we recognise our unconventional methodological evolution from a critical realist to pragmatist lens and proffer our account as an example of reflexive development through research that others will find transparent and inspiring.

5. Conclusion

This study is the first to explore women's stories of stress and coping within professional cycle racing through interactions, rather than individual cognition, and reporting these experiences as an ethnodrama. Riders are affected by competition and organisational stressors, however, the interplay between internal, social, environmental and cultural factors moves beyond a focus on cognition and isolated experiences to show the complex process of coping. Whilst recognising limitations, this study promotes narrative inquiry as an appropriate methodology to explore stress and coping within competition environments. These stories enable readers to engage with rider experiences and recognise the relational factors that continuously produce objects that become impactful in the ongoing situation. Recognising this process could enhance engagement and development of personalised interventions in applied practice.

CRediT authorship contribution statement

Steven Vaughan: Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation,

Conceptualization, Writing – review & editing. **Hayley E. McEwan:** Writing – original draft, Validation, Supervision, Formal analysis, Conceptualization, Writing – review & editing. **Angela Beggan:** Writing – review & editing, Methodology, Formal analysis, Data curation. **Amy E. Whitehead:** Writing – original draft, Supervision, Methodology, Formal analysis, Conceptualization, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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