"On an Island Alone": The Mental Health and Well-Being of Swimming Coaches in the United Kingdom

Ella McLoughlin[1], Laura Healy[1], Julie Johnston[1], and Joseph Stanford[1]

[1]Department of Sport Science, Sport, Health and Performance Enhancement (SHAPE) Research Centre, Nottingham Trent University

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Correspondence concerning this article should be addressed to Ella McLoughlin, Department of Sport Science, School of Science and Technology, Nottingham Trent University, Clifton Campus, Clifton Lane, Nottingham, NG11 8NS, United Kingdom. E-mail: ella.mcloughlin@ntu.ac.uk

Abstract

This project examined the mental health and well-being of swimming coaches in the United Kingdom. We explored the impact of work-place stressors and the satisfaction or thwarting of coaches' basic psychological needs on mental ill-health, well-being, and burnout. Using a mixed-method design, 146 coaches across competitive levels completed an online questionnaire assessing symptoms of mental ill-health, well-being, burnout, stressors, basic psychological needs, and open-ended questions about their coaching experiences. Workload and (a lack of) work-life balance, feeling isolated, undermined, perceiving a lack of support, and the satisfaction or thwarting of basic psychological needs were key drivers for coaches' symptoms of mental ill-health, well-being, and burnout. Coaches had limited awareness of support services. Findings highlight the need for multi-level interventions: at an individual level, improved mental health education, coping resources, and access to services; and at an organizational level, strategies to ensure manageable workloads and identify and support coaches at risk.

Keywords: basic psychological needs, burnout, coaching, mental ill-health, stressors

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Coaching occupies a unique position within the sporting landscape, having been recognized as an inherently stressful profession. Empirical evidence documents the high levels of stress experienced by coaches and the subsequent challenges this poses for their well-being (e.g., Potts et al., 2021, 2024). More recently, a systematic scoping review highlighted that coaches across multiple performance levels encounter a range of stressors that may impact their mental health (Frost et al., 2024). For example, competitive-related stressors include adequate preparation for competition, internal pressure to succeed, and underperformance (e.g., Gould et al., 2002; Thelwell et al., 2008). In addition to this, coaches may also experience organizational stressors relating to working long hours, job insecurity, and media scrutiny (e.g., Knights & Ruddock-Hudon, 2016; Rhind et al., 2013). Coaches are subject to personal stressors encompassing both minor daily hassles (e.g., missing a bus) to major life events (e.g., relationship issues; Olusoga et al., 2009). Indeed, coaches are required to perform in rapidly evolving roles that encompass both performance-related responsibilities (e.g., team selection, management of coaching staff) and non-performance-related demands (e.g., extensive travel), all of which can lead to an inadequate work-life balance. Recent research has further highlighted the importance of rest for coaches, conceptualized as a psychological state of feeling fresh, motivated, and able to enjoy one's work. Becoming well rested involves both sleeping and wakeful resting, yet coaches face significant barriers within their roles that hinder engagement in this process, as well as limited formal opportunities to learn how to obtain sufficient rest (Eccles et al., 2023). Therefore, it is acknowledged that coaching is a highly demanding profession that typically consists of long and irregular working hours (e.g., Norris et al., 2017), and precarious contracts (e.g., Mallet & Lara-Bercial, 2016), with these challenges often intensified by the isolating nature of the role (e.g., Olusoga et al., 2009).

Building on these challenges, Baldock et al. (2021) reported that the nature of the elite coaching role, particularly in football, may expose coaches to stressors that they are unable to

manage adaptively or constructively, potentially leading to negative effects. Despite growing recognition of the impact of these stressors, research examining the prevalence of mental ill-health and well-being among coaches remains limited (see Frost et al., 2024 for a review). A notable exception is the work of Smith et al. (2020), who surveyed 202 coaches in the United Kingdom (UK) and found that 55% had experienced a mental illness, with 44% currently experiencing one. Depression and anxiety were the most reported conditions, and coaches working in grassroots and community settings were most likely to report mental health difficulties. The study also highlighted that many coaches preferred to access mental health support outside their organization, with decisions to seek help influenced by a combination of personal and organizational factors. While Smith et al. (2020) provides valuable insight into coaches broadly, the present study extends this work by focusing specifically on swimming coaches from across the competitive spectrum, a population that has received comparatively less attention. Indeed, a recent scoping review reported that psychological distress among elite-level coaches ranged from 10.3% to 19.3% (Frost et al., 2024). Pilkington et al. (2022) found that elite-level coaches reported levels of psychological distress and probable caseness (i.e., the likelihood of meeting criteria for a diagnosable psychological condition) similar to those previously reported among elite-level athletes, suggesting that these groups are also susceptible to the pressures of high-performance sporting environments. Extending upon these findings, emotional exhaustion and depersonalization were significantly related to high levels of psychological distress (e.g., Ruddock et al., 2017, 2018). Furthermore, longitudinal research highlighted that professional coaches experienced significantly higher levels of psychological distress during the mid-season compared to the pre-season (Rudduck et al., 2018).

Turning our attention to symptoms of mental ill-health, research has indicated that 14.1% of elite coaches met the criteria for moderate symptoms of depression (Kim et al., 2020). Furthermore, results revealed that symptoms of depression and anxiety were reported by 39.5% of elite-level coaches (Kegelaers et al., 2021). Finally, Åkesdotter et al. (2022) also found that 69% of high-performance coaches were experiencing clinical levels of anxiety, and 28% had met the diagnostic

criteria for a major depressive disorder. Coaches are often known to prioritize the health and well-being of others over their own which can lead to further decrements in their own mental health (Olusoga et al., 2012). Notwithstanding the importance of this research, the prevalence of mental disorders among coaches is poorly understood given that studies reporting prevalence rates are scarce, include small sample sizes, and focus only on elite-level coaches (Frost et al., 2024). As a result, future research is needed to examine the mental health and well-being of coaches across different competitive levels (e.g., amateur to elite).

Added to this, in a recent scoping review of coach burnout, only 8% of studies focused solely on individual sports (Olusoga et al., 2019) suggesting a need to better understand the unique experiences of coaches within these sports. Unlike team sports, individual sports often place distinctive demands on coaches that may influence their mental health and well-being. Competitive swimming is a clear example, with coaches facing disrupted sleep patterns due to early morning and late-night training sessions, high volume of training hours, continuous year-round training without a clear off-season, and the need to manage the highly technical nature of the sport, such as stroke refinement and performance analysis. Additionally, swimming tends to demand early specialization from athletes, putting pressure on coaches to manage young athletes' long-term development alongside short-term performance goals. Finally, coaches must also manage extensive travel for competitions, work in humid, chlorinated environments, all within a high-performance culture that fosters significant pressure to achieve results. To further support this notion, Swim England's Coaching Plan for 2023-2025 outlines four strategic aims to support the coaching community: (1) connecting the coaching community; (2) empowering our people; (3) setting standards; and (4) tackling inequalities within coaching. While the plan acknowledges the importance of coach well-being under the 'setting standards' aim, it does not specify actions directly targeting the enhancement of coach well-being. Recognizing this gap, Swim England emphasizes the necessity of gaining a comprehensive understanding of swim coaches' mental health and well-being to

effectively implement supportive measures. Therefore, it is integral to understand the mental health and well-being of swimming coaches.

One theoretical framework that could be utilized to understand coach mental health and well-being is Self-Determination Theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2019). SDT is an organismic meta-theory of human motivation and flourishing which incorporates social and contextual factors to understand individual's engagement and experience in their activities (Deci & Ryan, 2000). Of particular interest to the present study is Basic Psychological Needs Theory (BPNT; Ryan & Deci, 2017). Within this theory, it is posited that for individuals to experience positive functioning, they need to experience satisfaction of their basic psychological needs of autonomy (i.e., they feel they can act freely), competence (i.e., feel proficient at mastering tasks) and relatedness (e.g., feeling cared for and connected to those around them). Conversely, when these needs are actively thwarted in a specific context, individuals may experience negative consequences for their psychological well-being (Bartholomew et al., 2009).

Much of the SDT literature in a sporting context has examined how coach interpersonal behaviors impact on athlete basic psychological need satisfaction and thwarting (see Mossman et al., 2024 for a review). Less attention has been given to how the social environment experienced by coaches in their specific contexts impacts upon their own mental health and well-being. Some studies have explored how the satisfaction (or thwarting) of autonomy, competence, and relatedness had an impact on coaches' well-being. For example, Stebbings et al. (2011, 2012) demonstrated that coaches' psychological well-being was related to the satisfaction of their basic psychological needs, with the latter study finding that need satisfaction was related to lower work-life conflict, job security, and opportunities for professional development. Conversely, when coaches' needs were thwarted because of higher work-life conflict and fewer development opportunities, they experienced psychological ill-being. Additionally, when coaches' needs are satisfied, in addition to the benefits for their own well-being, they also tend to use more autonomy-supportive interpersonal behaviors with their athletes, thus enhancing the quality of the athletes'

experiences within sport (Stebbings et al., 2011, 2012). These findings are supported by systematic (Norris et al., 2017) and narrative (Tait et al., 2020) reviews, highlighting the utility of SDT-related theories to understanding coach well-being. Nevertheless, there has yet to be an examination of how need satisfaction/thwarting might be associated with indicators of mental ill-health (as opposed to psychological well-being). Understanding how the social environment relates to aspects such as depression and anxiety is important, as this information could help national governing bodies (NGBs), sports federations and clubs, and other employers of the coaching workforce to make changes that can support the psychological needs of coaches thus boosting their mental health.

Therefore, the aim of this project was to: (1) examine the mental health and well-being of swimming coaches in the UK; (2) identify the specific work-place stressors that increase vulnerability to stress-related health problems; and (3) understand the role of basic psychological need satisfaction and frustration on symptoms of mental ill-health and well-being within this population. Furthermore, this study also aims to explore the specific challenges swimming coaches face in the sporting population and to highlight what changes they would like to see in this area going forward. Based on prior research, we hypothesize that greater work-related stress will be associated with higher symptoms of depression, anxiety, and lower levels of well-being. Aligned with our theoretical perspective and previous research (e.g., Stebbings et al., 2011, 2012), we would expect that the satisfaction of coaches' autonomy, competence, and relatedness would be negatively associated with indicators of mental ill-health (e.g., depression, anxiety, burnout) and positively related to well-being. Conversely, when these needs are thwarted, we would expect the inverse relations – that of a positive relationship from needs thwarting to the indicators of mental ill-health and negative relations with well-being.

Methods

Study Design

This study was guided by a pragmatic epistemological stance, which prioritizes the research question and the practical value of findings over adherence to a single philosophical tradition.

Pragmatism supports the use of multiple methods to gain a comprehensive understanding of complex phenomena, making it particularly well-suited to mixed-methods research. In this mixed-method explanatory concurrent design, qualitative data were used to explain the quantitative findings (Guest et al., 2012). Data collection occurred simultaneously and were separately analyzed prior to employing integrative purposes (i.e., open-ended questions being used to explain closed-ended questions in the online survey; Guest et al., 2012). In line with this approach, the weighting of the qualitative and quantitative methods were unequal. Specifically, because the qualitative data were used to explain the quantitative findings, more emphasis was placed on the quantitative data (Creswell & Plano-Clark, 2011). The main aims of this study were answered using the quantitative aspect of the study. The remaining aims, which included exploring the specific challenges coaches encountered and understanding the changes coaches would like to see required open-ended survey questions for coaches to respond without any defined constraints, allowing coaches to express their thoughts, experiences, and perspectives in their own words. This was considered particularly important for the topic area given the potential sensitivity of the responses.

Participants

Participants were 146 swimming coaches (112 male, 33 female, 1 prefer not to say) between the ages of 19 and 80 years old (M_{age} = 43.49 years, *SD* = 13.26). Participants had an average of 17.28 years' experience within swimming coaching and were from a variety of competitive levels, with 10.3% coaching at senior international level, 21.9% coaching at junior international level, 36.3% coaching at national level, 7.5% coaching at regional level, 1.4% coaching at university level, 2.7% coaching at county level, and 19.9% coaching at club level. On average, participants spent approximately 18 hours per week coaching poolside and an additional 16 hours per week working on job related tasks off poolside (e.g., admin, meetings, program planning). Furthermore, 89% of participants were in a paid coaching role, while 11% were coaching voluntarily and 58.9% of participants were coaching full-time, while 41.1% were coaching part-time. An a priori power calculation using G*Power software (Faul et al., 2007) revealed that a minimum sample of 73

participants was required to perform multiple regression analyses with seven predictors. The effect size entered into this calculation was based on the small effect (β = 0.22) between workplace stressors and symptoms of anxiety reported in prior research (e.g., Anchors et al., 2024) and was entered with an alpha of 0.05 and power of 0.80. Furthermore, the sample represented approximately 35% of the membership of the British Swimming Coaches Association (BSCA), which, based on response rates documented in prior research (e.g., 16.5% in Sappleton & Lourenço, 2016), is appropriate to provide a manageable sample size. As such, we can be confident that our sample was sufficiently large to address our research aims.

Procedure

Following institutional ethical approval (Nottingham Trent University School of Science and Technology Non-Invasive Human Research Ethics Committee, Applicant ID: 1855952), swimming coaches were recruited using the researchers' existing contacts and social media (e.g., X). Potential participants who were members of the BSCA were contacted directly through their existing mailing list. Participants were sent a link to the online survey, which was created by JISC Online Surveys and took approximately 30 minutes to complete. The questionnaire consisted of seven sections, with the first six sections featuring closed-ended questions to gather quantifiable data. The final section of the questionnaire consisted of open-ended questions exploring the specific challenges swimming coaches face and what changes they believe would support their well-being in the future. Prior to completing the online survey, participants were informed of their ethical rights (e.g., confidentiality, anonymity, right to withdraw) through an information sheet and subsequently provided informed consent.

Measures

Stressors

The Health and Safety Executive Management Standards Indicator Tool (HSE-MS IT; Cousins et al., 2004) evaluates stressors that, if not effectively managed, are associated with poorer health and reduced productivity (MacKay et al., 2004). The HSE-MS-IT consists of 35 items to assess seven

different types of stressors: (1) demands (e.g., “I am pressured to work long hours”); (2) control (e.g., “My working time can be flexible”); (3) managerial support (e.g., “I am supported through emotionally demanding work”); (4) peer-support (e.g., “If my work gets difficult, my colleagues will help me”); (5) relationships (e.g., “I am subject to bullying at work”); (6) role (e.g., “I am clear what is expected of me at work”); and (7) change (e.g., “I have sufficient opportunities to question managers about change at work”). All items were scored on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). For control, managerial support, peer-support, role, and change, higher scores indicated better standards, and thus, lower work-related stress. Conversely, for demands and relationships, higher scores indicate increased work-related stress. Within this study, the HSE-MS IT demonstrated acceptable to excellent internal consistency across subscales (i.e., Demands = .87, Control = .78, Manager support = .90, Peer support = .87, Relationships = .80, Role = .84, Change = .83) and has previously demonstrated moderate to strong construct validity ($r > .30$) and strong concurrent validity ($r > .50$; Marcatto et al., 2014).

Basic Psychological Needs

The Basic Psychological Need Satisfaction and Need Frustration at Work Scale (BPNSFWS) was used to assess respondents perceived satisfaction of their basic psychological needs at work (Olafsen et al., 2021). For this study, we removed reference to “work” and changed this to “coaching” to suit the context. The BPNSFWS consists of 23 items to assess: (1) autonomy satisfaction (e.g., “I have a feeling of choice and freedom in what I do within my swimming coaching”); (2) autonomy thwarting (e.g., “Most of the things I do when I’m coaching, I do because I feel that I have to”); (3) relatedness satisfaction (e.g., “I feel that the people I care about within my coaching also care about me”); (4) relatedness thwarting (e.g., “When I’m coaching, I feel excluded from the group that I want to be a part of”); (5) competence satisfaction (e.g., “I feel confident that I can do things well when I’m coaching”); and (6) competence thwarting (e.g., “When I’m coaching, I feel like a failure because of the mistakes I make”). All items were scored on a scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). Within this study, the BPNSFWS demonstrated good

to excellent internal consistency across subscales (i.e., Autonomy satisfaction = .88, Autonomy thwarting = .85, Relatedness satisfaction = .91, Relatedness thwarting = .89, Competence satisfaction = .92, Competence thwarting = .87) and has previously demonstrated moderate to strong construct validity (r > .30), and strong criterion-related validity (r > .50; Chen et al., 2015).

Depression

The Patient Health Questionnaire (PHQ-9) was employed to evaluate depressive symptoms experienced in the past two weeks. This tool comprises nine items (e.g., "feeling down, depressed, or hopeless"), with responses rated on a scale from 0 (*not at all*) to 3 (*nearly every day*). Higher total scores, ranging from 0-27, reflect more severe symptoms, with cut-offs of 5, 10, 15, and 20 representing mild, moderate, moderately severe, and severe depression, respectively (Kroenke et al., 2001). Within this study, the PHQ-9 demonstrated excellent internal consistency (.93) and has previously demonstrated good test-retest reliability (r = .84), as well as good construct and criterion validity (Kroenke et al., 2001).

Anxiety

The Generalized Anxiety Disorder (GAD-7) scale was employed to evaluate anxiety symptoms experienced in the past two weeks. This tool comprises seven items (e.g., "worrying too much about different things"), with responses rated on a scale from 0 (*not at all*) to 3 (*nearly every day*). Higher total scores, ranging from 0-21, reflect more severe symptoms, with cut-offs of 5, 10, and 15 representing mild, moderate, and severe anxiety, respectively. Within this study, the GAD-7 demonstrated excellent internal consistency (.94) and has previously demonstrated good test-retest reliability (rs = .83), as well as convergent, construct, criterion, and factorial validity (Löwe et al., 2008; Spitzer et al., 2006).

Well-Being

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was used to assess both hedonic and eudaimonic aspects of well-being including positive affect (e.g., feelings of optimism, cheerfulness, relaxation), satisfying interpersonal relationships and positive functioning (e.g., energy,

clear thinking, self-acceptance, personal development, competence and autonomy; Tennant et al., 2007). The WEMWBS consists of 14 items (e.g., "I have been feeling optimistic about the future"), with each item scored on a scale ranging from 1 (*none of the time*) to 5 (*all of the time*). Higher scores indicated better well-being (range = 14-70), with scores above 60 representing 'high' well-being (Tennant et al., 2007). Within this study, the WEMWBS demonstrated excellent internal consistency (.94) and has previously demonstrated high test-retest reliability (r = .83), and established content and construct validity (Tennant et al., 2007).

Burnout

The Maslach Burnout Inventory – Educators Survey (MBI-ES) was used to assess symptoms of burnout among coaches (Maslach et al., 1996). As per previous research, reference to "students" have been changed to "athletes" to fit the coaching context (Kelley & Gill, 1993; Vealey et al., 1992). The MBI-ES consists of 22 items to assess three different dimensions of burnout: (1) emotional exhaustion refers to feelings of being emotionally overextended and exhausted by work (e.g., I feel emotionally drained from coaching); (2) personal accomplishments refers to feelings of accomplishment and a sense of competence about one's job (e.g., I feel I'm positively influencing my athlete's life through my coaching); (3) depersonalization refers to an unfeeling and impersonal response toward those served (e.g., I feel I treat my athlete as if they were impersonal objects). All items were scored on a scale ranging from 0 (*never*) to 6 (*every day*). Within this study, the MBI-ES demonstrated acceptable to excellent internal consistency across subscales (i.e., Emotional exhaustion =.94, Personal accomplishments =.76, Depersonalization =.60), and has previously shown good construct, convergent, and discriminant validity, as well as acceptable test–retest reliability (rs = .71–.90; Maslach & Jackson, 1986).

Open-Ended Questions

To explore the challenges encountered by swimming coaches and what changes they would like to see in this area going forwards, we administered five open-ended questions at the end of the online questionnaire. The questions presented to participants were: (1) What do you perceive the

biggest challenge swimming coaches are facing today?; (2) To your knowledge, what support services are in place for swimming coaches?; (3) What support services would you like / improve your coaching experience?; (4) How has the coaching landscape changed since you first started coaching?; and (5) What changes do you think need to happen in coaching to enhance health and well-being? For each question, participants were asked to write their answers in a text box provided.

Quantitative Data Analysis

We used SPSS version 28 to analyze the quantitative survey data. First, the quantitative data were screened for univariate and multivariate outliers. This led to two male participants being removed from the data. With regards to the measures of mental health symptomology (i.e., GAD-7 and PHQ-9 scores), we treated data as both categorial and continuous in separate analyses as has been recommended in recent commentaries (i.e., Poucher et al., 2021). Specifically, descriptive statistics were evaluated in relation to established cut-off scores for the indicators of mental health and well-being, as well as the values being used as continuous dependent variables. To understand the impact of stressors and the social environment on the indicators of mental health and well-being, we conducted six hierarchical linear regression analyses (i.e., one analysis each for depression, anxiety, well-being, and the three aspects of burnout). In the first step, we included the independent variables related to stressors (seven variables), needs satisfaction (three variables), and needs thwarting (three variables). In the second step, we included control variables: age, years coaching, number of hours on poolside, and the number of hours working off poolside per week. Given the related nature of our independent variables, we tested for collinearity within our analyses, specifically inspecting the variance inflation factors. These ranged between 1.49 and 3.68 indicating moderate levels of collinearity. Finally, we used independent sample t-tests to examine between-gender differences and differences between coaches who worked full- and part-time on the dependent variables. For all inferential statistical tests, we used an alpha level of $p < .05$.

Qualitative Data Analysis

Qualitative comments were analysed using codebook thematic analysis (Braun & Clarke, 2021) which allows codes to be generated, patterns to be identified and then themes can be formed. Each question was analyzed individually and themes generated from the qualitative data within each question. The process began with the third and fourth authors reading all comments within each question in their entirety to familiarize themselves with the content and context of the responses. Initial observations from the data were noted and used to inform the development of an initial coding framework for each question. The comments were then systematically coded using this preliminary codebook. Coding was conducted manually, with each segment of data assigned one or more relevant codes. As coding progressed, the codebook was refined to accommodate emerging codes and to clarify definitions where necessary. For example, comments such as “more awareness of mental health of coaches by employers” and “support and competent guidance from governing bodies” were initially coded under “mental health awareness” and “organizational guidance”. This iterative process ensured that coding remained grounded in the data while also responsive to new insights. The coding process was further informed by the quantitative findings, ensuring that the qualitative analysis complemented and provided explanatory depth to the quantitative results. Throughout this process, critical friends (i.e., the first and second author) reviewed the analytical work, which promoted a more coherent interpretation of the data. For example, it was highlighted that “attitudes towards sporting organizations” and “organizational provision” did not answer the research question, nor did they provide any explanatory depth to the quantitative results. Therefore, these codes were subsequently removed. These discussions helped ensure interpretive rigor and transparency in the analysis.

Once coding was complete, codes were reviewed and grouped into broader themes that captured significant patterns across the dataset. As an example, “mental health awareness” and “organizational guidance” were grouped together to form the broader theme of “enhancing awareness and competence”. Furthermore, “poor work-life balance” and “inability to rest” were grouped together to form the broader theme of “workload”. Themes were developed based on their

relevance to the research questions and their ability to reflect coherent and meaningful narratives within the data. Each theme was defined and supported by representative quotes. Themes were then reviewed and refined to ensure they were distinct and accurately represented the comments received. Finally, the themes were written up in a narrative format, with illustrative quotes used to demonstrate how each theme was grounded in the data. Given that the qualitative data was intended to be used to explain and provide further meaning to the quantitative data this was deemed the most appropriate approach for this study. To further support the quantitative data analysis, a frequency analysis was conducted to enable an appreciation of the contribution of each theme to the overall quantitative findings to provide further meaning and insight to the quantitative results which was important to answer the specific research questions posed in this study (Elliot, 2018; Harding, 2013).

Rigor

A range of quality criteria were used to bolster the rigor of the data collection and analysis, and our presentation of the results (Levitt et al., 2017). Fidelity was enhanced by managing personal perspectives and the potential impact of these during the research process. In particular, reflexive journaling was used to critically reflect upon our prior assumptions and biases. The first author is a 28-year-old white woman from a working-class background with previous experience in seeking help for her own mental health difficulties. The second author is a 39-year-old white woman from a middle-class background, who has experience of coaching within club and talent development pathways in hockey. The third author is a 44-year-old white woman from a middle-class background, who was previously an international level swimmer and who has experience of providing coach education and support within swimming. The fourth author, a 33-year-old white male from a working-class background, is the Director of Coaching at an English Performance Centre with over 15 years of coaching experience. As such, the findings we present below are influenced by our prior experiences, assumptions, and biases. The first and second authors served as “critical friends” to support reflexivity and enhance analytical rigor. The critical friends provided constructive feedback

on the development and refinement of the codebook, challenged initial theme generation, and encouraged consideration of alternative interpretations. This collaborative engagement helped to identify potential biases, ensure transparency in coding decisions, and thereby strengthen the credibility and trustworthiness of the thematic findings (Smith & McGannon, 2018). The principle of utility refers to the alignment of the research design and methods with the study's goals of answering research questions (Levitt et al., 2017). We strived for meaningful coherence by aligning the epistemological approach, study purpose, approach to enquiry, procedures, and results (Levitt et al., 2017). To maximise the utility of the research, data were collected using methods (e.g., online questionnaire comprising of quantitative questions and open-ended qualitative questions) that allowed for rich and insightful analyses (Levitt et al., 2017). This research also attends to the need for convergence and divergence between participants, by including quotations from different participants throughout the dialogue.

Results

Quantitative Findings

Mental health symptoms

On average, participants reported mild symptoms of depression (M = 8.50, SD = 6.96) and anxiety (M = 8.00, SD = 6.25), as well as relatively low levels of well-being (M = 43.86, SD = 9.95). In terms of depression severity, 8.9%, 11.0%, 18.5%, and 25.3% of participants met the criteria for severe, moderately severe, moderate, and mild depression, respectively. Similarly, 15.8%, 20.5%, and 30.8% of participants met the criteria for severe, moderate and mild anxiety, respectively.

Role of stressors and needs satisfaction/thwarting

Depression. In relation to depressive symptoms, there was a significant positive relation with Demands (β = .38, p < .001). There were also marginally non-significant relations positively with Relationships (β = .17, p = .057) and negatively with Autonomy Satisfaction (β = -.16, p = .069). The relations between all other variables were non-significant. Overall, the model explained 57% of the variance in depressive symptoms (R^2 = .57, p < .001). When the control variables were added in Step

2, these relations were largely unchanged in direction but the pathways between Relationships (β = .22, p = .01) and Autonomy Satisfaction (β = -.17, p = .050) were now significant. Additionally, age was negatively associated with depressive symptomology (β = -.25, p = .009). However, the addition of these variables only explained an additional 3% of the variance in depressive symptomology, which was not significantly different to the first step (R^2 = .60, R^2 change = .03, p = .072).

Anxiety. There were significant positive relations between anxiety symptomology and Demands (β = .30, p = .001), and Relationship Thwarting (β = .35, p < .001). There were also marginally non-significant negative relations with Managerial Support (β = -.18, p = .059) and Autonomy Satisfaction (β = -.16, p = .075), and a positive relation with Competence Thwarting that also failed to reach significance (β = .18, p = .073). These variables explained 55% of the variance in anxiety (R^2 = .55, p < .001). Adding the control variables in Step 2 resulted in the relation between anxiety and Managerial Support becoming larger and significant (β = -.20, p = .045) and a significant negative relation with Age (β = -.21, p = .036). These variables only explained a very small amount of additional variance in anxiety, which was non-significant (R^2 = .57, R^2 change = .02, p = .244).

Well-Being. Managerial Support (β = .19, p = .030) and Autonomy Satisfaction (β = .33, p < .001) both showed significant positive relations with well-being. There were also significant negative relations with Relationship Thwarting (β = -.19, p = .044) and Competence Thwarting (β = -.26, p = .006). These variables explained 62% of the variance in well-being (R^2 = .62, p < .001). When adding the control variables, the relation with Relationship Thwarting became marginally non-significant (β = -.18, p = .061). The rest of the pathways were unchanged and overall, these variables did not significantly explain additional variance (R^2 = .64, R^2 change = .02, p = .231).

Burnout. The regression showed significant positive relations between Emotional Exhaustion and Demands (β = .48, p < .001), and Autonomy Thwarting (β = .23, p = .003). There was also a marginally non-significant positive relation with Relationship Thwarting (β = .17, p = .072). Overall, 62% of the variance in emotional exhaustion was explained by these variables (R^2 = .62, p < .001). Adding the control variables significantly explained an additional 5% of the variance (R^2 = .66, R^2

change = .05, p = .002). Within this Step, there were significant positive relations between emotional exhaustion and Demands (β = .37, p < .001), Relationships (β = .19, p = .021), Autonomy Thwarting (β = .20, p = .005) and the hours spent on poolside activities (β = .13, p = .041). There was also a significant negative relation with Managerial Support (β = -.17, p = .050).

There were also significant positive relations between Personal Accomplishments and Relationship Satisfaction (β = .24, p = .038), and Competence Satisfaction (β = .23, p = .051). Overall, this step explained 36% of the variance in Emotional Exhaustion (R^2 = .36, p < .001). When the control variables were added, this only explained an additional 2% of variance which was non-significant (R^2 = .38, R^2 change = .02, p = .446). The relation with Relationship Satisfaction (β = .24, p = .038) was largely unchanged, but the pathway from Competence Satisfaction became non-significant (β = .19, p = .117).

There were significant positive relations between Depersonalization and Demands (β = .26, p = .008), Relationships (β = .23, p = .020), and Autonomy Thwarting (β = .31, p < .001). Overall, 49% of the variance in depersonalization was explained by these variables (R^2 = .49, p < .001). Adding the control variables in the second step resulted in an additional 5% of variance being explained (R^2 = .54, R^2 change = .05, p = .008). In this step, the relations between depersonalization and Demands (β = .14, p = .158) became smaller and non-significant. The relations with Relationships (β = .31, p = .001), and Autonomy Thwarting (β = .28, p = .001) were largely unchanged. Additionally, negative relations were found with Competence Satisfaction (β = -.23, p = .033) and Age (β = -.21, p = .039).

Between-group differences

Gender. Independent samples t-tests showed significant gender differences in Emotional Exhaustion (t (141) = 2.33, p = .021), Personal Accomplishments (t (141) = 2.52, p = .013), and Depersonalization (t (141) = 2.31, p = .022). In all of these, men reported higher values than women. The analyses for depression, anxiety, and well-being were all non-significant (ts (143) = -1.22 - 1.35, ps = .179 – 611). These findings should be somewhat interpreted with caution given the uneven group sizes between male (n = 110) and female (n = 33) coaches.

Working hours. Independent samples t-tests showed that coaches who worked full-time (n = 84) reported significantly higher depression (t (142) = 2.01, p = .029), anxiety (t (142) = 2.38, p = .019), Emotional Exhaustion (t (142) = 4.09, p < .001), and Depersonalization (t (144) = 2.99, p = .001), and significantly lower well-being (t (142) = -2.13, p = .035) than coaches who worked part-time (n = 60). The difference in Personal Accomplishments was non-significant.

Qualitative Results

Support

This theme represents coaches expressing both feelings of loneliness and isolation and a lack of respect and care from others in the swimming environment, including the NGB with 28.8% of coaches mentioning a need for greater support. This theme could be used to explain both the relationship thwarting element and the impact of high perceived demands represented within the results related to depression. For example, coaches said: “Support in the workload. Everyone in the swimming world knows it’s not just coaching hours. It’s the endless hours preparing outside the pool and respect and care given to coaches for all they do is very low”. This was further emphasized by another coach stating: “It’s challenging to lead a program as the sole employee in the program”, and a third coach who noted: “Support from those within our governing body can seem against us”. Finally, a fourth coach explained: “Coaching being such an isolated space many I know feel they on an island alone”.

Workload

This theme was mentioned by 31.1% of the sample and represented the poor work-life balance perceived by coaches which was driven by both the number of hours they needed to give to the role, both on and off poolside, and the unsociable nature of these hours. This theme could also be used to explain the relationship thwarting element and the impact of high perceived demands represented within the results related to increased levels of anxiety experienced by coaches. Coaches felt overwhelmed by the amount of work they were required to do as exemplified here:

> Coaches are constantly working. Go to the pool. Work. Go back home. Admin to do. Work. A lot of the time I feel there's no real time for coaches to disconnect and relax. We're expected to work and coach all week. Then it gets to the weekend, we have a meet and so working all weekend and no real designated time off. We'd be lucky to get the Monday morning off training. But then back in to train Monday PM. That's not time off. Most of your average adults in 'normal' jobs will have two days off a week, either a weekend or at least something. My experience is that coaches get nowhere near that. It's not sustainable. The challenge is having to do all that, and still be motivated to work, but also motivate swimmers and other colleagues.

Coaches also highlighted perceptions of unhealthy cultural norms that they felt they needed to conform to: "There seems to be a thing that you should give your life to your coaching... When do you see your family and kids?". Other coaches noted the expectation to be available 24/7. Additional strains related to workload were that not all coaches were full-time, professional coaches - 41% of the sample were part-time, and they worked another job to gain additional income as noted below:

> Even as a paid position, I still have a job on the side and I am absolutely exhausted from competitions. I also have to use annual leave and the day I take off is for a very long tiring day, which essentially wastes what should be a 'holiday day'. I'm also quite young and I've sacrificed a lot of missed events, holidays because the calendar is pretty much yearly and training / competitions are always constant.

Parents and parent led committees

Coaches reported experiencing a variety of problems with parents, with 28.8% of coaches mentioning parents and/or parent led committees, related to which is the issue that clubs are governed by volunteer committees who are comprised of parents of swimmers from the club:

> Most normal clubs are 'run' by volunteer committees. Their opinions can be ephemeral depending on who is there at any given point, so it's hard to know the exact direction we are going in. Additionally, this is my job and livelihood, it's difficult for me to just leave and go

somewhere else - I like where I live. So, working with people who at times don't treat me or the club professionally is a major stress in terms of my security, mental and financial well-being.

And further explained by this coach: "Putting up with voluntary committees who often have no swimming knowledge but try and have a big say on our jobs and way of doing things". These quotes suggest that this theme could be used to explain the relationship between autonomy support and competence thwarting with well-being as well as the relationship between autonomy thwarting and emotional exhaustion. Coaches are feeling undermined and unsure of the direction of travel as further evidenced here: "Working with club committee of parents who think they know best even when they have no experience whatsoever". Beyond issues with the parent-led committees, coaches felt undervalued by parents who were unaware of the challenges the coaches encountered:

A lack of understanding by club parents of what it takes to plan prepare and deliver effective coaching coupled with club management who have no understanding of the work coaches put into their athletes both at the pool and behind the scenes.

Enhancing awareness and competence

Coaches were specifically asked about what support they were aware of and what support they felt they needed. Although the BSCA offers legal support, relevant representation, and a counselling service, an alarming 37.6% of coaches were not aware of any support services they could use. Furthermore, when asked what support they would like to receive, 36.3% requested more education, 31.5% asked for a specific coach welfare service, while 13.3% did not know what support they needed. One coach clearly articulated the need for greater education:

I feel like the biggest challenge facing coaches is a lack of high-quality education. Coaching courses offer very little in terms of preparation for being poolside and dealing with the multitude of issues that can come their way. Most successful coaches have achieved through learning on poolside and going through tough lessons. In my opinion the education courses provided have serious gaps that lead to problems for coaches. I would also include CPD's in

this. I think the single biggest problem for most coaches is the interaction with parents. However, to my knowledge this isn't covered in coaching courses. Many clubs fail or struggle due to financial issues - again I don't think this is covered in coaching courses.

Discussion

The aims of this project were to: (1) examine the mental health and well-being of swimming coaches in the UK; (2) identify the specific work-place stressors that increase vulnerability to stress-related health problems; (3) understand the role of basic psychological need satisfaction and thwarting on symptoms of mental ill-health and well-being within this population; and (4) explore the specific challenges swimming coaches face in the sporting population and to highlight what changes they would like to see in this area going forwards. Our findings demonstrate that a range of stressors are associated with symptoms of mental-ill health. Additionally, we have provided evidence that the social environment can play an important role in coaches' mental ill-health symptoms and experiences of well-being, specifically through the satisfaction or thwarting of the basic psychological needs of autonomy, competence, and relatedness. Our qualitative findings provide context to the quantitative analyses, supporting the notion that when coaches feel undermined and undervalued it compromises their well-being. This study makes an important contribution to the literature by examining the mental health and well-being of coaches across different competitive levels (e.g., amateur to elite). This is pertinent as studies reporting mental ill-health prevalence rates in the coaching workforce are scarce, include small sample sizes, and focus only on elite-level coaches working in team sports (Frost et al., 2024; Olusoga et al., 2019).

In relation to the prevalence of symptoms of mental ill-health within the present study, we found that 63.7% of coaches reported some symptoms of depression and 67.1% reported symptoms of anxiety. This is broadly aligned with previous research reporting prevalence of mental ill-health in elite coaches (Åkesdotter et al., 2022; Kegelaers, et al., 2021; Kim et al., 2020), suggesting that coaching may be associated with poor mental health across a range of competitive levels. It is interesting that the prevalence in the present study was somewhat higher than those found by

Smith et al (2020), which examined prevalence of mental illness across the coaching workforce in the UK. This finding may suggest that the specific sporting context, in this case swimming, may have unique challenges which contribute to the prevalence of mental ill-health within coaches. It may be beneficial for future research to focus on single-sport contexts to fully appreciate these unique challenges when examining and ultimately promoting coach mental health and well-being.

The prevalence found in the present study are in stark contrast to both national statistics from the UK population suggesting that 19% of women and 12% of men experienced symptoms of depression or anxiety (Mind, 2024), and also research on mental ill-health in athlete populations which have found prevalence rates to be between 19-46.4% (Gouttebarge et al., 2019; Gulliver et al., 2015). While we fully endorse recent movements to promote and support athlete mental health (Mosech et al., 2018; Schinke et al., 2024; Vella et al., 2021), our research suggests that more attention needs to be given to support the mental health and well-being of the coaching workforce. Based on our findings, particular attention may need to be given to full-time coaches given they reported higher symptoms of depression, anxiety, and burnout, and lower well-being than those coaches working part-time. This is reinforced by the finding that working longer hours on poolside was associated with higher levels of emotional exhaustion, and the qualitative results which demonstrate workload is a prevalent issue for coaches. Taken together, these findings demonstrate the toll that the long working hours experienced by (predominantly, but not exclusively) full-time coaches can have on their mental ill-health, well-being, and burnout. Our findings support and extend those of previous research (e.g., Pilkington et al., 2024; Smith et al., 2020) by providing explanations as to why coaches may experience mental illness, poor well-being and burnout within their roles. As such, clubs and organizations employing coaches should attempt to manage workload appropriately, and avoid coaches working excessive hours, to protect coaches' mental health.

When examining the role of stressors, our findings showed that the demands of the role, strained working relationships, and (a lack of) managerial support all appeared to be influential in relation to mental ill-health, well-being, and burnout. This was supported by our qualitative findings,

where coaches highlighted the high workload and sense of isolation within their roles. Our research extends existing work showing the demanding and isolating nature of coaching (Norris et al., 2017; Olusoga et al., 2009) by linking these directly to indicators of mental health and well-being. These findings are particularly concerning given that a third of coaches were not aware of any available support for their mental health. As such, clubs, committees, and governing bodies should prioritize informing coaches of the various forms of support available to them (e.g., legal support, relevant representation, and counselling services), as well as exploring ways in which the demands of the role can be reduced to promote greater work-life balance for swimming coaches in the UK. Beyond this, governing bodies should proactively support swimming coaches' mental health by ensuring that psychological services are fully integrated into the sporting environment. For example, mental health screening could be incorporated and delivered by qualified professionals (e.g., clinical psychologists) to help coaches identify and manage symptoms (Purcell et al., 2019). Organizations could also implement proactive monitoring systems, such as the HSE-MS IT, to identify and provide tailored support to coaches who may be at risk of stress-related health problems. Moreover, where possible, organizations should aim to reduce the quantity, frequency, or intensity of stressors by modifying the environment in which coaches operate (Fletcher & Arnold, 2021). Adopting such preventative stress management strategies may help alleviate the overall demands placed upon coaches and promote more sustainable coaching practices (Fletcher et al., 2006).

Our study has also extended the literature (Stebbings et al., 2011, 2012) examining how the social environment can influence coaches' mental health and well-being. All the basic psychological needs of autonomy, competence, and relatedness were shown to be important in relation to our mental health and well-being outcomes. As expected, when these needs were satisfied, coaches generally experienced lower levels of mental ill-health and burnout and higher levels of well-being, with the opposite relations found when these needs were thwarted. Coaches' satisfaction (or conversely thwarting) of autonomy seemed to be pertinent, a finding which was supported through

the qualitative data. When coaches felt undermined by parents and parent-led committees, they felt this compromised their mental health and well-being and overall led to coaches feeling undervalued.

In terms of strengths, this is the first mixed-methods study to investigate the mental health and well-being of swimming coaches in the UK. Indeed, the use of both quantitative and qualitative approaches allowed for a more comprehensive understanding of phenomena by identifying the specific predictors of mental ill-health within this population (e.g., stressors, basic psychological need satisfaction and need thwarting, and burnout). Another strength is the range of coaches sampled within this study. To elaborate, this study collected data from swimming coaches who ranged in gender, age, competitive level, and experience. Therefore, this study has ensured the findings are relevant and transferable to swimming coaches in a variety of different contexts. It should be noted, however, that despite a relatively good response rate (~35 % of the BSCA membership), the sample was limited to swimming coaches in the UK, thus limiting generalizability to other sports. Thus, future research should replicate this study with a more diverse sample. Another limitation of this study is its cross-sectional design, which may restrict the conclusions that can be drawn from the statistical analyses, particularly in terms of directionality or causality. Future studies should employ longitudinal designs to more effectively capture the mental health and well-being of swimming coaches throughout a competitive season. This study also used psychometric instruments that, while well-validated in general workplace and non-sport settings, have not been specifically validated within coaching populations. Although these tools demonstrated acceptable to excellent internal consistency in the present study, their reliability and validity may differ when applied to the unique demands of sports coaching. Future research should therefore seek to validate these measures within coaching contexts to ensure they accurately capture the psychological experiences of coaches. Finally, the qualitative component of this explanatory mixed-methods study used broad open-ended questions which was consistent with the study's epistemological stance. This approach allowed participants to share experiences beyond the predefined theoretical framework, providing rich, contextual insights that complemented the quantitative findings.

Nonetheless, we acknowledge that more targeted questions could have strengthened the qualitative data's explanatory power regarding constructs such as psychological needs and stressors.

From an applied perspective, the findings of this study have important implications for sporting organizations who are committed to better supporting coaches' mental health and well-being. Based on these findings, NGBs should recognize the competing demands placed on coaches and begin assessing their workplace demands, the perceived availability of support, and whether coaches feel competent and autonomous in their roles. In doing so, this could identify those who may be more susceptible to developing mental health problems (i.e., symptoms of depression and anxiety were higher when coaches felt the demands of their role were high). Furthermore, the findings of this study highlight the importance of organizational-level interventions, in that responsibility for promoting mental health and well-being in coaches should not just fall on coaches themselves (see Gorczynski et al., 2020). For example, NGBs could ensure coaches have manageable demands and workloads by enhancing the non-technical and administrative support. Additionally, given 37.6% of coaches in our sample did not know of any support services they could use within the sporting environment, NGBs should enhance awareness of existing support services while also improving the provision of support offer. Indeed, while competitive athletes have access to mental health support via sport and clinical psychologists, performance lifestyle advisors, and doctors, this could be extended to all members of the workforce (e.g., coaches). Finally, NGBs should focus on enhancing coach education to provide support on interacting with parents and financial planning. Taken together, these recommendations underscore the need for a comprehensive, organization-led approach to promoting coach well-being, ensuring that mental health support is accessible, proactive, and integrated into everyday coaching environments.

In conclusion, we conducted a mixed-method examination of the mental health and well-being of swimming coaches in the UK. We were able to identify the specific work-place stressors that increase vulnerability to stress-related health problems, understand the role of basic psychological need satisfaction and thwarting on symptoms of mental ill-health and well-being, explored the

specific challenges swimming coaches face and highlighted what changes they would like to see going forwards. Analysis determined that workload, perceptions of support, relationship thwarting in the workplace and a lack of autonomy were the key drivers for increased feelings of depression and anxiety and decreased well-being. Moreover, the qualitative data revealed that coaches often felt lonely and isolated in their roles, struggled with a poor work-life balance, faced challenges related to parents and parent-led committees, and had limited awareness of the support services available to them. The results of this study can help inform the development of evidence-based and multi-level (i.e., individual and organizational) interventions to improve coaches' mental health and well-being.

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