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A daily diary study of primary appraisals, emotional exhaustion, and turnover intentions in sport coaches

James L. Rumbold [a], Daniel J. Madigan [b] and Faye F. Didymus [c]

[a]Academy of Sport and Physical Activity, Sheffield Hallam University, Sheffield, UK; [b]School of Science, Technology and Health, York St. John University, York, UK; [c]Carnegie School of Sport, Leeds Beckett University, Leeds, UK

ABSTRACT

Cognitive-motivational-relational theory asserts that stress is a dynamic process, during which daily fluctuations in mediating processes (primary appraisals) can explain a range of ill-being and performance related outcomes. We tested this idea using a daily diary study to examine the relationships between primary appraisals, emotional exhaustion, and turnover intentions in sport coaches. Forty-four sport coaches (61% male; M_{age} = 34.98 years) completed an online questionnaire twice per day for five days. The findings of within-person analyses indicated that hourly harm appraisals positively predicted momentary emotional exhaustion over the diary period (β = .30, p < .05). Additionally, emotional exhaustion positively predicted coaches' job turnover intentions (β = .18, p < .05). The findings offer unique insight into the cognitive-motivational-relational theory of stress and emotion by illustrating how exhaustion and turnover intentions may be intensified as a function of primary appraisals experienced during the working day.

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Burnout; coaching; cognitive appraisals; experience sampling; occupational stress

Coaches appear to be leaving sport at alarming rates. Recent research evidence has highlighted that job turnover in coaches could, in part, be due to their experiences of stress during their roles (e.g., Potts et al., 2022). Given the multitude of potentially stressful events that coaches encounter, the ways in which these events are continually appraised in relation to one's goals and well-being could, in time, become emotionally taxing (Lee & Chelladurai, 2018). Indeed, whilst cross-sectional studies indicate that stressors may be associated with feelings of emotional exhaustion and turnover intentions in coaches (Kaski & Kinnunen, 2021; Larner et al., 2017), recent reviews (e.g., Olsen et al., 2021; Potts et al., in press) have highlighted a dearth of literature examining appraisals in this population. The dearth of literature examining appraisals is problematic given the pivotal role that appraising plays in determining whether potentially stressful events lead to positive or negative outcomes for health, well-being, and performance (Lazarus, 1991, 1999). Further, a dearth of quantitative studies examining the dynamic and episodic nature of appraising in sport means that we know little about how fluctuations in appraisals may influence changes in coaches' ill-being and performance outcomes (see Rumbold et al., 2020). In the present paper, we address the importance of appraising in the coach stress and emotion literature by examining how within-person changes in primary appraisals are associated with changes in perceptions of emotional exhaustion and coaches' intentions to exit their job roles.

Cognitive-motivational-relational theory (CMRT; Lazarus, 1999) posits that stress and emotion express a unique relationship between a person and their environment. Other theories (e.g., the biopsychosocial model of challenge and threat; Blascovich & Mendes, 2000) integrate affective and cognitive processes to explain the wider biopsychosocial factors (e.g., cardiovascular indexes) that influence stress. The CMRT emphasizes that the meaning a person attaches to work events is pivotal during individuals' experiences of stress. That is, the way(s) in which a person appraises a situation will have tangible influences on emotions (Lazarus, 1999), and on a plethora of health, well-being, and performance-related outcomes (see Potts et al., 2022). It is during primary appraising that a person constructs relational meanings of events by assessing whether the situation is relevant to his or her values, goal commitments, beliefs, and situational intentions (see Lazarus, 1999). If deemed relevant, one or more transactional alternatives will be experienced: threat, challenge, harm, and/or benefit (see Didymus, 2017). These transactional alternatives and their associated relational meanings determine the emotions experienced and the outcomes of stressful episodes. These stressful outcomes might include a change in one's (a) psychological well-being (i.e., evaluations of positive affect, overall life and life domain-specific satisfaction; Diener et al., 1999), (b) experiences of ill-being (i.e., overtly adverse experiences, negative affectivity and feelings of burnout; Stebbings et al., 2016), and (c) evaluations relating to one's performance in specific life domains (e.g., job turnover intentions). Despite the theoretical tenets of CMRT, there are limited studies in sport that have examined how episodic appraisals are linked to the outcomes of stressful episodes. This may, in part, be because appraisals can be difficult to recall retrospectively (e.g.,

CONTACT James L. Rumbold J.Rumbold@shu.ac.uk Sport and Physical Activity Research Centre, College of Health, Wellbeing and Life Sciences, Collegiate Crescent, Sheffield Hallam University, South Yorkshire S10 2BP, Sheffield, UK

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sometime after the appraisal of an event has occurred). Appraisals can also happen quickly, sometimes subconsciously, and as part of a complex process that involves both primary and secondary appraising. This complex process combined with the speed at which appraisals occur makes the measurement of appraisals difficult (e.g., Didymus, 2017; Lazarus, 1991) and calls for more innovation and sensitivity in the design of research and the methods used.

Although a few cross-sectional studies have identified how stressors such as workload and a lack of organizational support may be linked to coaches' perceptions of emotional exhaustion as a potential indicator of ill-being at work (e.g., Kaski & Kinnunen, 2021), there is also theoretical impetus for examining how changes in primary appraisals over time may be linked to changes in coaches' emotional exhaustion. In outlining a specificity model of illness and ill-being, Lazarus (1991) argued that recurrent "faulty" (i.e., threat and harm) appraisals can indirectly lead to maladaptation (e.g., exhaustion) and somatic illness. This experience may be explained by an energy-depleting mechanism. It has been argued by occupational psychology researchers that efforts to continually appraise and cope with work events may result in compensatory psychological and physiological costs that gradually drain a person's (energy) resources (e.g., Demerouti et al., 2004). This continuation of efforts to appraise and cope with work events may in turn lead to emotional exhaustion (Yao et al., 2015). Indeed, recent qualitative evidence supports this argument in highlighting how harm appraisals of ongoing coach and athlete interactions were linked to coaches feeling drained (Potts et al., 2022).

Prolonged experiences of emotional exhaustion are problematic because of their consistent links to poor performance and job turnover in sport and occupational psychology. In a series of cross-sectional studies conducted within sport coaching (Kilo & Hassmén, 2016; Lee & Chelladurai, 2018), and various other occupations (Lee & Ashford, 1996), researchers have identified positive associations between experiences of emotional exhaustion and turnover intentions. One explanation for this relates to the roles of emotional labour and protective coping behaviours. Efforts to fabricate and or express emotions may result in heightened emotional exhaustion (Lee & Chelladurai, 2018), whilst considering exit from one's job or organization (i.e., turnover intention) represents a withdrawal coping option that may reduce the psychological costs of emotional exhaustion (Knudsen et al., 2009). Although the cross-sectional associations between emotional exhaustion and turnover intentions seem clear, there are limited studies in sport that have examined these relationships using temporal designs to capture the implications of enduring exhaustion (Nicholls et al., 2022). Recent research in non-sport work settings suggests that turnover intentions may fluctuate within short time periods (e.g., days), depending on the nature of work events and the relevance they have for well-being (Xiaolin Shi et al., 2021). Furthermore, in a daily diary study with restaurant workers over a 10-day consecutive period, Park et al. (2020) found a significant within-person relationship between daily burnout and daily turnover intentions ($p < .01$). On the basis of this significant relationship, we believe that coaches who experience increased emotional exhaustion over time would be likely to experience increased turnover intentions.

The present study advances research on coach stress by examining the dynamism of primary appraising over a coaching (i.e., working) week. Coaches who work within a sport organization are an important group of coaches to examine in relation to dynamic work-related stress transactions. This is because employed coaches are likely to encounter a plethora of work stressors related to the sport organizations in which they are employed (for a review, see Norris et al., 2017). In particular, workload, work-home imbalance, a lack of organizational support and job insecurity around contracts are some of the most cited stressors that lead employed coaches to experience burnout and leave the profession (Bentzen et al., 2016; Kaski & Kinnunen, 2021; Kilo & Hassmén, 2016; Rumbold & Didymus, 2021). Examining the degree to which changes in primary appraisals over a coaching week are linked to emotional exhaustion and turnover intentions in this population may have important implications for developing stress management interventions for coaches and the sport organizations in which they are employed.

In examining changes in primary appraisals, exhaustion and turnover intentions over time (i.e., a working week), we address a frequently neglected tenet of CMRT (Lazarus, 1991, 1999), which posits that stress is a dynamic process that requires more innovative methods than have been used in research with coaches to date (Lazarus, 1999). Using an experience sampling methodology (ESM) to reduce recall bias and more sensitively monitor appraisals as they occur over time, we examined how changes in sport coaches' hourly primary appraisals were associated with changes in emotional exhaustion and job turnover intentions. In doing so, we tested the following hypotheses:

H1: Threat and harm appraisals will be positively associated with emotional exhaustion. Challenge and benefit appraisals will be negatively associated with emotional exhaustion.

H2: Emotional exhaustion will be positively associated with turnover intentions.

Method

Participants and procedure

Following institutional ethical approval (HWB-S&E-80), sport coaches were recruited via emails to national governing body sport organizations and professional sport teams (who employ coaches), and by contacting coaches directly via Twitter and LinkedIn invitations. Forty-four sport coaches (61% male; M_{age} = 34.98 years, SD = 11.06) volunteered to participate in the study, representing 17 different sports: Australian rules football, badminton, basketball, diving, field hockey, golf, gymnastics, martial arts, netball, rugby union, soccer, swimming, tennis, track and field, triathlon, volleyball, and water polo. The competitive standard of athlete that coaches reported coaching included: Club (4.5%), university/collegiate (4.5%), non-professional (4.5%), semi-professional (4.5%), professional (23%), national youth or junior (16%), national senior (14%),

international junior (11%), and international senior level (18%). On average, the coaches worked 27.73 hours per week (SD = 16.90) and had been coaching for their sport organization for 6.69 years (SD = 6.51). One week before completing an online daily diary questionnaire,[1] coaches completed an online questionnaire (Qualtrics) to gather demographic information and enable the authors to obtain anonymous information to align each daily diary questionnaire with each participant. Using contact information collected in the demographic questionnaire, coaches were reminded daily via text message or email to complete their diary every morning and afternoon for five working days. On average, coaches completed their morning questionnaires at 10.38 am and their afternoon questionnaires at 18.16pm. The data collection period represented different times of the season (e.g., pre-season, mid-season, post-season) for the coaches who operated in different sports. Subsequently, it was important to identify whether the data collection period reflected a time in which workload demands may/may not be high. Thus, in the demographic questionnaire we asked coaches to rate the extent to which each month in the season represented the busiest working period in their coaching roles. This question was responded to on a five-point scale (1 = "Very quiet", 5 = "Very busy"). For the month in which data were collected for each coach, the mean response to this question was 4.16 (SD = 0.87). Furthermore, 79.1% of the coaches rated that the data collection period represented either a "busy" or "Very busy" working period in their coaching roles.

Daily diary measures

Primary appraisals

Sport coaches were first asked to identify a work event in the past hour that had the most stressful impact on how they thought and felt about their coaching role. In line with best practice principles for experience sampling designs (Bolger et al., 2003), the selection of events was based on common daily stressors that can occur for coaches (Bentzen et al., 2016; Kaski & Kinnunen, 2021; Norris et al., 2017). Coaches chose from one of the following: "Argument with another person at work", "barriers to performing your role", "limited social support at work", "a social or political issue in your work", "doing mentally difficult work", "having a high workload", or "other". In line with previous ESM studies in sport psychology (Rumbold et al., 2020), this question was designed to stimulate thoughts about primary appraisals. Primary appraisals were then assessed by asking coaches to rate the extent to which they perceived the work event in the past hour as a threat, challenge, harm, or benefit (see Table 1 for the list of ESM items used in this study). Appraisal items were rated on a six-point scale (1 = "Not at all", 6 = "To a large extent"). To address the limitations of single-item measures in previous ESM studies in sport (e.g., Rumbold et al., 2020), hourly threat (α = .93), challenge (α = .91), harm (α = .81), and benefit (α = .80) appraisals were each assessed with two items.[2]

Momentary emotional exhaustion

Two items were adapted from occupational psychology literature (e.g., Diefendorff et al., 2011; Maslach & Jackson, 1986) to assess sport coaches' momentary emotional exhaustion (α = .93). Coaches rated how emotionally exhausted they felt "right now" on a six-point scale (1 = "Not at all", 6 = "To a large extent").

Turnover intentions

Drawing on sport psychology measurements of turnover intentions (e.g., Larner et al., 2017), two items were developed to assess coaches' intentions to leave the sport organization that they coach for (α = .71). Items were responded to on a five-point scale (1 = "Strongly disagree", 6 = "Strongly agree").[3]

Table 1. Primary appraisal, emotional exhaustion and turnover intentions items used in the study.

In the past hour, to what extent did you . . .
View these events as having the potential to prevent you from performing well?
View these events as having the potential to prevent you from achieving your goals?
View these events as damaging to your well-being?
View these events as harmful to achieving your goals?
View these events as an opportunity to improve and work towards your goals?
View these events as an opportunity to overcome issues?
View these events as beneficial for your well-being?
View these events as beneficial for achieving your goals?
To what extent RIGHT NOW, do you feel . . .
Emotionally drained from your work?
Emotionally exhausted from your work?
Please rate the extent to which you agree with the following statements.
Sometimes I think about leaving the sport organization I coach for
I have never considered leaving the organization I coach for

[1]To clarify what is meant by daily diary in this research design context, daily diary designs are a form of experience sampling method (also referred to as ecological momentary assessment) in which intensive self-report data is collected to capture subjective experiences of psychological constructs as they occur in ecologically valid settings (e.g., during a working day for coaches) (see Bolger et al., 2003). Daily diary designs require participants to complete multiple assessments per day to capture subjective fluctuations in measured variables over a period of time or across different situations (Shiffman et al., 2008).

[2]For all variables we also checked the two-item reliabilities by running Spearman-Brown coefficients. In all cases, the Spearman-Brown coefficients were the same as the Cronbach alpha reliabilities for primary appraisal, emotional exhaustion and turnover intention items.

[3]In comparison to the hourly and momentary measures conducted in this diary study, the daily measurement of turnover intentions did not have a specific timeframe for participants to reflect on. In line with the tenets of Lazarus' cognitive-motivational-relational theory (1999), the broader timeframe for coach reflection during the daily diary period was deliberate; to examine how hourly appraisals of work events may influence momentary (i.e., exhaustion) and broader stress appraisal outcomes (i.e., turnover intentions).

Table 2. Table of means, standard deviations, internal consistencies, and correlations.

	M	*SD*	α	1	2	3	4	5	6
1. Threat appraisals	2.74	1.52	.93	—					
2. Challenge appraisals	3.18	1.60	.91	.00	—				
3. Harm appraisals	2.54	1.39	.81	.83	.01	—			
4. Benefit appraisals	2.68	1.47	.80	−.30	.63	−.27	—		
5. Emotional exhaustion	2.35	1.35	.93	.49	−.07	.51	−.27	—	
6. Turnover intentions	2.89	1.28	.71	.08	−.17	.09	−.18	.26	—

N = 44; *N* of observations = 337. Correlations for the daily diary data are below the main diagonal. $r > |.11|$, $p < .05$; $r > |.17|$, $p < .001$. Significance tests (2-tailed) are not shown for ESM data because of non-independence of observations.

Data analysis

To examine whether appraisals predicted changes in emotional exhaustion, and whether exhaustion was related to changes in turnover intentions, we used multilevel path analysis with the measurement occasions (T1-T10) representing the within-person level (changes). To do so, we used multilevel path analysis as it allowed disaggregation of the levels of analyses (Laporte et al., 2021; see; Nicholls et al., 2022 for a recent example in sport). Robust Full Information Maximum Likelihood in Mplus 7.0 was used (Muthén & Muthén, 1998–2012) to test the models accompanied by the mean-adjusted chi-squared test statistic. Because our interest was in the within-person part of the model, our model fit evaluation included markers of overall model fit (i.e., RMSEA) but focused primarily on markers of fit for the within-person aspect (i.e., SRMR within). Acceptable fit was based on the following benchmarks: root mean square error of approximation (RMSEA) < .08 and the standardized root mean square residual (SRMR) <.08 (e.g., Byrne, 2016). More importantly, we were interested in the size and significance of paths in the within-person model.

Results

Preliminary analyses

Data were screened following the protocol outlined by Tabachnick and Fidell (2014) using IBM Statistics SPSS 25.0. Across the 10 time points, missing value analysis indicated that there were 337 complete cases and 103 missing responses. In these instances, we used the full information maximum likelihood (FIML) method for model estimation for missing data (Enders & Bandalos, 2001). Next, subscales were computed and screened for univariate (Z scores) and multivariate outliers (Mahalanobis distance). These assessments did not result in cases being removed from the study. Table 2 shows the means, standard deviations, reliabilities, and correlations for the ESM variables.

Multilevel path analysis

Intraclass correlations

To determine the amount of variance attributable to the different levels (within vs between), we calculated the intraclass correlations: exhaustion = .42, turnover intentions = .88, threat appraisal = .27, challenge appraisal = .36, harm appraisal = .31, and benefit appraisal = .33. Data are suitable for multilevel path analysis when intraclass correlation coefficients are above .05 (Preacher et al., 2010).

Within person model

The within-person model provided acceptable model fit ($\chi 2$ [8] = 2.47, scaling factor = 1.07, SRMRwithin = .02, RMSEA = .00; see Figure 1). The model showed that when coaches increased their harm appraisals of work events over the coaching week, they experienced greater emotional exhaustion. Changes in challenge, benefit, and threat appraisals over time, however, were unrelated to exhaustion. Primary appraisals collectively explained 20% of the

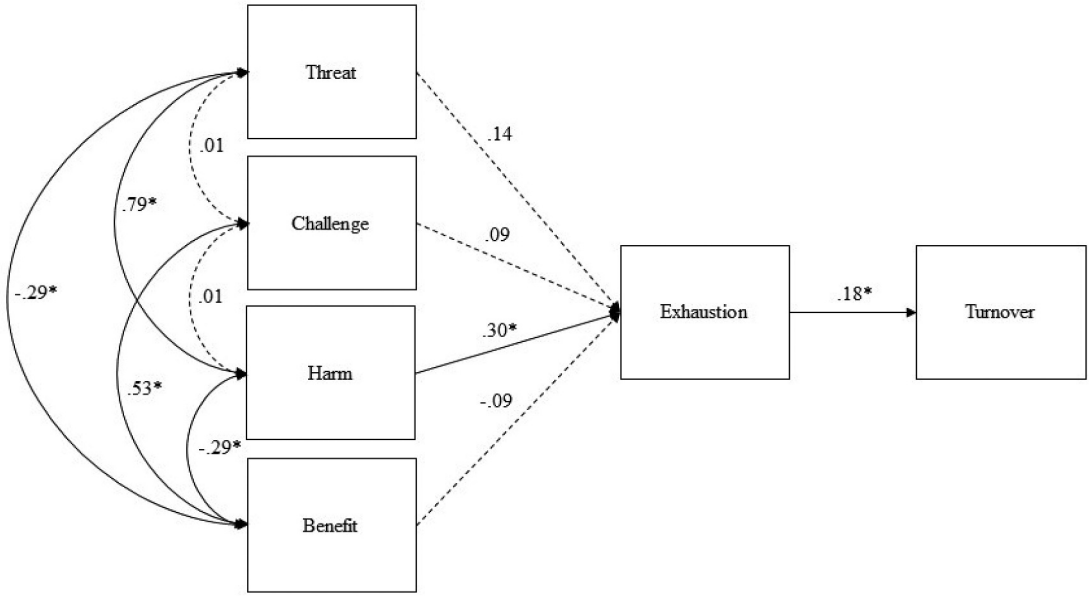

Figure 1. Within-person model of primary appraisals, exhaustion, and turnover intentions in coaches. Note. * = $p < .05$. Dashed lines represent nonsignificant paths ($p > .05$).

variance in exhaustion over the coaching week. In addition, increases in emotional exhaustion over the coaching week were associated with increased turnover intentions. Exhaustion explained 3% of the variance in increased turnover intentions.

Discussion

To our knowledge, this is the first study to examine coaches' daily primary appraisals and how changes in appraisals over time may be associated with changes in emotional exhaustion. Our results provide partial support for H1 whereby increases in daily harm appraisals over the coaching week were associated with increases in coaches' emotional exhaustion. According to CMRT and energy depleting explanations (Demerouti et al., 2004; Lazarus, 1991), harm appraisals represent individuals' perceptions of damage to their well-being and goals. When a person believes that such damage has occurred (i.e., a harm appraisal), ongoing adaptational encounters could occur that lead to distress (Lazarus, 1991). Harm appraisals may also lead coaches to recurrently over time process emotionally damaging events, which can gradually drain their energy resources (Yao et al., 2015). The strong temporal association between harm appraisals and emotional exhaustion is noteworthy because appraisal literature in sport, and relevant theories (e.g., the theory of challenge and threat states in athletes; Meijen et al., 2020), have often focused exclusively on the cross-sectional examination of challenge and threat states and, in doing so, have overlooked harm appraisals. Qualitative literature with coaches and athletes has highlighted the implications of harm appraisals for performance dissatisfaction (Didymus & Fletcher, 2017) and diminished health (Potts et al., 2022) but limited quantitative literature exists which explores these notions. Thus, our work adds to available knowledge by suggesting that increases in harm appraisals are important for emotional exhaustion and, therefore, that theorists and empirical researchers should examine the full range of appraisals temporally in future research.

We also note that changes in threat, challenge, and benefit appraisals across the coaching week were not significantly related to changes in emotional exhaustion, despite observing a strong correlation between threat appraisals and emotional exhaustion (see Table 2). Although threat appraisals are assumed to influence emotional exhaustion (Demerouti et al., 2004; Lazarus, 1991), the high correlation between threat and harm appraisals in our path analysis model may have prevented our ability to assess the independent contribution of threat appraisals in explaining variance over the coaching week in emotional exhaustion. From an applied research and practice perspective, however, this finding leads to interesting questions about the influence of negative appraisal (threat*harm) interactions over time for coaches' well-being and is therefore an avenue for future work in this area. This study extends cross-sectional research on the exhaustion-turnover relationship, by highlighting that there is also a strong temporal relationship over time, such that increases in coaches' emotional exhaustion over a coaching week were related to increased intentions to quit one's job roles. In this regard, our findings support H2, and previous research that has identified a positive cross-sectional association between coaches' experiences of emotional exhaustion and their turnover intentions (e.g., Lee & Chelladurai, 2018). In the current daily diary study, however, our findings also support the notion that increases in exhaustion over a 5-day period are indicative of coaches' increased intentions to exit their job roles. In line with occupational psychology, this finding can be explained by individuals implementing protective coping behaviours whereby they consider withdrawal from jobs that are emotionally taxing for their health and well-being (Knudsen et al., 2009). In the context of the current experience sampling study, this may also mean that coaches who experience heightened emotional exhaustion over the course of a coaching week may begin to progressively increase their coping options to withdraw from a job. This is noteworthy since it highlights that coaches' intentions to leave one's job role may not represent a stable, unwavering perspective as cross-sectional study findings would suggest. Instead, turnover intentions could fluctuate throughout a working week as a consequence of work events, how events are appraised as being relevant to one's well-being (Xiaolin Shi et al., 2021), and how increasingly exhausted coaches may feel.

Limitations and future research

The present study has several limitations. First, the five-day working period over which we assessed the target variables may be considered a short-term insight into coaches' experiences. The data collection period meant that we could not capture changes over longer, potentially important periods of time. Future work should examine longer time periods to determine whether the present findings hold true. Moreover, the accumulation of primary appraisals, and stress outcomes could be examined using time series and growth curve modelling designs. Second, the remoteness of our online data collection procedure may have been a double-edged sword: remoteness likely reassured participants about their confidentiality and the anonymity of their data but may have also contributed to participant attrition. Daily diary studies are notoriously difficult to conduct without high levels of attrition. Future research using similar methods should determine ways to minimize attrition. This could be achieved by enhancing researcher visibility, building rapport with participants prior to data collection (e.g., during a familiarization session), and sending messages of gratitude and encouragement throughout the period of data collection (Didymus & Fletcher, 2012). In addition, researchers can adopt signal-contingent experience sampling designs, that require participants to report on their daily experiences when prompted by signals (e.g., mobile app or email calendar notifications) that can be sent on a fixed daily schedule (Totterdell et al., 2013). Finally, we recognize that emotional exhaustion is an integral element of burnout. Future ESM studies in this area should monitor how changes in primary appraisals are associated with changes in the other symptoms of burnout (i.e., depersonalization, reduced sense of accomplishment), alongside emotional exhaustion.

Implications for applied practice

The present findings have important implications for applied practice. Given the relationship that we have highlighted between harm appraisals and emotional exhaustion, applied psychologists could sample coaches during busy periods of the competitive season to identify when harm appraisals are particularly potent for emotional exhaustion, and whether this relationship stays consistent during the season. Such work would offer useful insight to the possible nature and timing of interventions with coaches, which, in turn, may help to reduce the number of coaches choosing to exit the profession. Indeed, the way in which coaches appraise events drives their experiences of emotions (Lazarus, 1999) and, according to our data, is partly responsible for their emotional exhaustion. Given that exhaustion is a key element of burnout (Maslach & Jackson, 1986), and that burnout is strongly related to turnover intentions, optimizing coaches' appraisals may have wide-ranging implications for coaches and the profession more widely. Cognitive restructuring may be one way to optimize appraisals and emotions, and to reduce emotional exhaustion and turnover intentions (e.g., Didymus & Fletcher, 2017).

To conclude, the present study readdresses the importance of appraisals in the coach stress and emotion literature, by examining how daily changes in primary appraisals are associated with changes in emotional exhaustion and turnover intentions. We found that daily appraisals of harm were particularly relevant for coaches' experiences of emotional exhaustion, and that exhaustion was particularly important for turnover intentions. Continuing with daily diary methods in future applied research will be important for informing the development of stress management interventions for coaches.

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ORCID

James L. Rumbold http://orcid.org/0000-0002-1914-1036
Daniel J. Madigan http://orcid.org/0000-0002-9937-1818
Faye F. Didymus http://orcid.org/0000-0003-3854-1518

Data availability statement

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly.

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