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Coach Burnout: A Scoping Review

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Coach Burnout: A Scoping Review

Abstract

Coaches' experiences of burnout and stress have been popular topics for research within sport psychology, particularly over the last decade. The purpose of this scoping review was to provide an up-to-date and critical review of the coaching burnout literature, consolidate research findings, assess current methodological and conceptual trends, and identify avenues for research in this area. Five electronic databases were used to conduct the literature search up to September 30th, 2017 (PsycINFO, Web of Science, PubMed, SPORTDiscus, ORIA, Google Scholar). Initially, 65 papers, reviews, and books chapter were identified, but through an iterative process (Arksey & O'Malley, 2005), 45 peer-reviewed, published articles satisfied the inclusion criteria, and the data from these studies was charted. Findings indicated that coach burnout literature is explored from a number of different theoretical perspectives, and shortcomings were identified regarding constructs and concepts used, and research quality. Based on consolidated findings, key challenges are identified, and recommendations for future research are suggested. Recommendations include the use of designs that fully capture the enduring nature of the burnout experience, further consideration being given to the measurement of coach burnout, and further research exploring the clinical treatment and prevention of burnout in coaching contexts.

Keywords: Coaches, Burnout, Literature Review, Stress, Measurement,

Coach Burnout: A Scoping Review

Introduction

Burnout is most often described as "an enduring experiential syndrome" (Maslach & Jackson, 1986) with three central characteristics: emotional exhaustion (a feeling of being overwhelmed and emotionally depleted by work), depersonalisation (a cynical attitude towards, or withdrawal from, personal relationships at work), and reduced personal accomplishment (perceived lack of competence, low self-esteem and inadequacy). Although originally documented in human care settings (Freudenberger, 1974; Maslach, 1976), Freudenberger (1975) suggested that burnout might also be observed in other environments, while Schutte, Toppinen, Kalimo, and Schaufeli (2000) argued that burnout was more likely to develop in professionals whose job roles are based around interpersonal relationships. These human relationships are an integral part of sports coaching (Vealey, Udry, Zimmerman, & Soliday, 1992), which itself has been described as a potentially 'consuming, demanding, and frustrating experience' (Raedeke, 2004). As such, and given that burnout symptoms might contribute to the alarming number of coaches leaving the profession in certain sports each year (Raedeke, 2004), coaches' experiences of burnout and stress have been popular topics for research within sport psychology (e.g., Bentzen, Lemyre, & Kenttä, 2014, 2016b; Hudson, Davison, & Robinson, 2013; Kellmann, Altfeld, & Mallett, 2015; Knight, Reade, Selzler, & Rodgers, 2013; Olusoga Butt, Hays, & Maynard, 2010; Olusoga & Kenttä, 2017).

Early research into coaching burnout was based largely on Smith's (1986) Cognitive-Affective Stress Model, which suggested that burnout was a result of prolonged exposure to stress (e.g., Caccese & Mayerberg, 1984; Capel, Sisley & Desertrain, 1987; Kelley, 1994; Kelley & Gill, 1993; Vealey et al., 1992). Vealey et al. (1992) explored predictors of burnout from a stress perspective and suggested that trait anxiety and a host of cognitive perceptions of the

coaching role (e.g., perceived rewards, perceived value of the role, perceived overload and perceived control) were predictive of burnout in male and female collegiate coaches.

Furthermore, Kelley (1994) and Kelley and Gill (1993) found that in collegiate coaching, stress appraisals (e.g., perceived stress, role conflict and 'coaching issues') were significantly related to all three dimensions of burnout. However, as Raedeke (1997) suggested, not everyone who experiences stress burns out. Consequently, a number of other perspectives have also been suggested to explain the burnout phenomenon.

From a sociological perspective, Coakley (1992) argued that the culture of sport organisations can lead to the development of a singular and sport-related identity. When experienced in tandem with a limited sense of control, burnout (conceptualised by Coakley as premature withdrawal from sport) can be the result. While Coakley's assertions were based on interviews with a small set of adolescent athletes, it is not unrealistic that organisational culture might play a role in coach burnout. Raedeke, Granzyk, and Warren (2000) explored the notion that stress on its own is not sufficient to cause burnout, and that highly committed coaches are more likely to experience the syndrome. Raedeke et al. (2000) suggested that coaches could display one of three commitment profiles (attraction, entrapment, or low commitment) based on the theoretical determinants of commitment (i.e., costs and benefits, satisfaction and attractive alternatives, investments, and social constraints). In their study with 295 age-group swimming coaches, Raedeke et al. found that coaches displaying characteristics of entrapment (i.e., coaches who perceive that there are high costs and low benefits associated with the role, a lack of attractive alternatives to coaching, that they have invested a significant amount, and that others wish them to continue), scored higher on the burnout dimension of emotional exhaustion than coaches displaying low commitment or attraction profiles. Also exploring burnout from a

motivational perspective, Donahue, Forest, Vallerand, Lemyre, Crevier-Braud, and Bergeron (2012) found that professional coaches' obsessive passion was associated with their use of ruminative thoughts, which, in turn, was predictive of emotional exhaustion. Moreover, harmonious passion was thought to prevent rumination and, thus, indirectly protect coaches from experiencing emotional exhaustion. Several recent studies have used the motivational framework of Self-Determination Theory (Ryan & Deci, 2017) to study the process of burnout among coaches. Findings indicated that lower levels of need satisfaction and autonomous motivation seem to explain why some coaches are more prone to experience higher levels of burnout than others (Bentzen et al., 2014, 2016b; Bentzen, Lemyre, & Kenttä, 2016a; Stebbings, Taylor, Spray, & Ntoumanis, 2012). Finally, Lundkvist, Gustafsson, Hjälm, and Hassmén's (2012) interviews with elite Swedish soccer coaches suggested that burnout stemmed from issues related to home and work. More recent explanations have therefore focused on work-home interference and lack of recovery as major determinants of burnout (e.g., Bentzen et al., 2016b; Kellman et al. 2015; Lundkvist et al., 2012; Lundkvist, Gustafsson, Davis, & Hassmén, 2016).

In 2007, Goodger, Gorely, Lavalley, and Harwood, published a systematic review of the literature on burnout in sport. Earlier reviews had been carried out almost 20 years previously (Dale & Weinberg 1990; Fender, 1989). In each case, the focus of the review was on burnout in sport as a whole so studies reporting on athlete burnout were included. Specifically, in Goodger et al.'s (2007) review, fewer than half of the studies reviewed focused on coaches, and as the authors themselves conceded, there was a 'notable absence of elite coaches' in the sample (p.132). Goodger et al. highlighted a number of avenues that future researchers should consider, such as the relationship between burnout, mood, stress, and recovery, and the treatment and prevention of burnout. However, following their review, research seemed to focus more on the

stress experiences of coaches than on burnout (e.g., Fletcher & Scott, 2010; Olusoga et al., 2009, 2010, Thelwell, Weston, Greenlees, & Hutchings, 2008). Moreover, burnout research continued to focus more on athletes (e.g., Appleton, Hall, & Hill, 2009; Hill, Hall, & Appleton, 2010; Lemyre, Hall, & Roberts, 2008; Gustafsson, Hassmén, Kenttä, & Johansson, 2008), than on coaches or other 'performers' (e.g., managers, support staff) in sports organisations.

More recently, however, coach burnout research has gained momentum and is beginning to answer some of the coach burnout questions that remain (e.g., Bentzen et al., 2014, 2016a, 2016b; Kellman et al., 2015; Lundkvist et al., 2012; Olusoga & Kenttä, 2017). Nevertheless, coaching burnout research is hampered by a lack of useful consensus on appropriate measures and, indeed, on the application of such methods, for capturing the burnout experience. Moreover, a variety of theoretical perspectives have been adopted in exploring coach burnout. As such, the purpose of this paper is to provide an up-to-date and critical review of the coaching burnout literature, consolidate research findings, assess current methodological and conceptual trends, and identify avenues for research in this area, all of which might help to drive research in this field forwards.

Method

A scoping review has been described as a process of mapping the existing literature in a certain area (Arksey & O'Malley, 2005), and has been suggested to fit well when the aim of a study is broad (Armstrong, Hall, Doyle, & Waters, 2011). Importantly, the body of literature within the field of coach burnout is still relatively modest, yet is considerably varied when it comes to theoretical framework, study design, and measurement. Scoping reviews are argued to be suitable in these situations, as they allow greater flexibility to include a wider range of types of publications, compared to a systematic review (Armstrong et al., 2011; Clark, Camiré, Wade,

& Cairney, 2015). In addition, scoping reviews are preferable when the research aims to identify parameters and gaps in the body of literature (Armstrong et al., 2011). Within the current study, the methodological framework of a scoping review as described by Arksey and O'Malley (2005) was used. However, to advance this methodology, Levac, Colquhoun, and O'Brian (2010) suggested some refinements to the process, which will also be taken into consideration in this study. Broadly, this method consists of five main steps: 1) Identifying the research question (see introduction), 2) Identifying relevant studies, 3) Study selection, 4) Charting the data, and 5) Collating, summarising, and reporting the results (Arksey & O'Malley, 2005; Levac et al., 2010).

Literature search strategy (identifying relevant studies)

Five electronic databases were used to conduct the literature search up to September 30th, 2017: PsycINFO, Web of Science, PubMed, SPORTDiscus, ORIA, and Google Scholar. These databases were chosen as, combined, they represented a wider perspective of sport (e.g., psychological, sociological, medical, organisational and pedagogical perspectives), which could be of interest for the scope of this review. Keywords used in the search were: 'burnout', 'exhaustion', 'coach', 'coaches', and 'sport'. These keywords were used in different combinations in the searches (e.g., 'coach, burnout, sport'; 'coaches, burnout, sport'; 'sport, coach, exhaustion'). Only articles written in English were included. Studies involving dual-role teacher-coaches were included in the review as they contribute significantly to the coaching burnout literature; however, studies involving PE-teachers instead of coaches, and stress instead of burnout were excluded.

For every search conducted in each of the databases, the accuracy and relevance of the studies found were evaluated as unsuitable for the scope of this review after approximately 40 results. Consequently, only the first 100 results of each search were screened by reviewing and

assessing the abstracts and keywords to determine whether the studies were appropriate for the scope of the review, guided by the inclusion and exclusion criteria. The second author conducted this part of the literature review, and consulted with the first and third authors when uncertain. Additionally, the reference list of all papers found of interest at this stage of the literature search was screened (Arksey & O'Malley, 2005). Initially, 65 papers, reviews, and books chapter were found to be relevant for this review, and these were collated in a reference list and downloaded in a shared file for all researchers.

Charting the data

All three authors cooperated in a more thorough assessment of the papers found, via extensive discussion. To chart the data effectively, a spreadsheet was created on a shared google document (meaning each member of the research team had access to and the ability to edit the data). For the studies that met our inclusion criteria, we extracted data pertaining to the participant demographics (i.e., number, gender, role, sport type, and level of performance), study design (i.e., methodology, methods, data analysis techniques), measures (independent and dependent variables, correlates and co-variables, measurement tools), and theoretical perspective/underpinning (theoretical framework underpinning burnout / conceptualisation of burnout). The extraction of data was an iterative process, with further key data being deemed more/less important as the data charting exercise was completed. For example, the fields in the spreadsheet were expanded to include further categories of performance level, while for sport type, the classification of team or individual sport was considered sufficient. Moreover, during this process, a further 20 publications were excluded from the review: Four book chapters, three previous burnout reviews, one professional practice article, nine studies with limited or no actual burnout data, and two conference/dissertation abstracts. One additional paper was found to

pertain to teachers of physical education rather than coaches. However, in order to provide a broader description of relevant literature in the area, a reference list of these publications is included in Appendix A. Finally, the remaining 45 peer-reviewed, published articles satisfied our inclusion criteria (See Table 1).

Results

The purpose of this review was to map the existing coaching burnout literature. In carrying out the literature search, we identified 65 publications of various types related to coaching burnout, published between 1984 and September, 2017. Of these, over one third was published after 2010, indicating a welcome resurgence in the popularity of exploring burnout in coaching populations. However, only the 45 peer-reviewed, published research articles that satisfied our inclusion criteria will be analysed in the results section.

Coach characteristics

A detailed breakdown of the sample demographics can be found in Table 2. Exploring the characteristics of the samples used in the 45 peer-reviewed, published research studies allowed us to gain a valuable insight into where coaching burnout research has been focused, and, perhaps, to identify neglected coaching populations who might benefit from further investigation. Over half (53.3%) of burnout research studies were conducted with North American coaches, while Scandinavian and European coaches were sampled in 41% of the included studies. The majority of studies (75.6%) were conducted using mixed samples of male and female coaches. Seven studies (15.5%) focused exclusively on male coaches, whereas one study (2.2%) was conducted with a sample of female coaches. In three studies (6.7%) the gender breakdown of the sample was not specified.

Given that various work-life interference issues can contribute to burnout, coaches' employment status is an important consideration in burnout research, however, employment

status was not adequately specified in sixteen (35.6%) of the studies included. A full breakdown of the coach characteristics, including sport type and performance standard, can be found in Table 2.

Study design

A summary of the design characteristics of the reviewed studies can be found in Table 3. The vast majority of published research (84.45%) was quantitative. Taken together with the two mixed-methods studies, most designs (80%) were cross-sectional, and we found variation in the tools used to measure burnout. More specifically, in the sample of 40 quantitative or mixed-methods research studies, descriptions of measurement tools were not always comprehensive. However, we attempted to capture the burnout measure used, as it was specifically described by the authors in each study. The vast majority of authors used some form of the Maslach Burnout Inventory (MBI-Human Services Survey - MBI-HSS; Maslach & Jackson, 1981; MBI-General Survey - MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996; MBI-Educators Survey - MBI-ES; Maslach & Jackson, 1986). The MBI is comprised of three scales: emotional exhaustion, depersonalization, and personal accomplishment, yet the specific version of the survey used in the studies under review varied considerably (see Table 3). In four studies (10%) the version of the MBI used was not stated at all, and while authors of nine studies reported using some form of the MBI modified for use with coaches, in only five such studies was the 'MBI-C' specifically referred to. The CBQ (an adapted version of the Athlete Burnout Questionnaire; Raedeke & Smith, 2001) was used in five studies (12.5%), and the authors in one study chose to use the Job Burnout Scale (Yin & Xue, 2009) comprising subscales of depersonalization, low-potency feeling, and knowledge drain.

Of the 40 mixed methods/quantitative studies, only the frequency of burnout was measured in thirty-five (87.5%), while in five studies (12.5%) the intensity and frequency of burnout was measured. The emotional exhaustion scale was used to measure burnout in seven studies (17.5%). Finally, although in eight of the 40 studies it was proposed that higher burnout levels were identified by taking a composite measure of all three subscales (i.e., high burnout characterised by higher emotional exhaustion, higher depersonalisation, and reduced personal accomplishment), a composite measure of burnout was used in the analysis of data for one study; separate analyses were performed on each subscale in the rest.

Burnout perspective

Of further interest was the theoretical perspective/conceptualisation of burnout adopted by coach burnout researchers. In our final sample of 45 research studies, we found that the approach adopted varied considerably from study to study. In twenty-seven of the 45 studies (60%) a stress perspective was adopted to explain coaching burnout. In three of those 27 stress-based burnout studies, authors also included workload and work-home interference to explain burnout. Recovery in addition to stress was also discussed in three studies, burnout in relation to perfectionism was explored in one, and in one study, authors included leadership as an underpinning theory.

Burnout was explored in relation to a combination of Self Determination Theory (SDT) and Workload in six studies (13.3%), while in another two studies (4.4%) a commitment-based explanation of burnout was adopted. In one study burnout was related to Work-Home Interference, while one set of authors used Golembiewski's (Golembiewski, Munzenrider, & Carter, 1983) Phase Model of Burnout to underpin their research. Role Theory, Coach Efficacy,

Emotions, Emotional Labour, Passion, Leadership, and Conservation of Resources (COR) were also cited once each as frameworks underpinning studies into coaching burnout.

Discussion

The purpose of undertaking this scoping review was to provide an up-to-date and critical review of the coach burnout literature, with the aim of consolidating research findings, assessing current methodological and conceptual trends, and identifying promising avenues for future research in this area. We identified 45 published, peer-reviewed journal articles that met our inclusion criteria; these researchers studies explored coach burnout from a number of different perspectives, with a broad variety of coaches, and using a range of methods and measures. The overall strengths and limitations of the research are discussed.

Research quality

Despite the ongoing experience of burnout, our review found that the vast majority of authors exploring coach burnout did so using quantitative, cross-sectional designs. While these studies are certainly useful in extending our understanding of coach burnout, they do little to reflect the 'enduring' burnout experience. To echo Lundkvist, Gustafsson, and Davis (2015), it is disappointing to see such a lack of longitudinal designs in this area as the temporal effects of independent variables cannot be accurately examined by cross-sectional research only. Furthermore, only five studies reported using qualitative methods. Again, without dismissing the use and contribution that quantitative burnout research has made, a more balanced methodological approach to research in this area might help to further advance our understanding of the etiology and lived experience of coaches experiencing burnout.

Despite these limitations, the quality and quantity of coaching burnout research appears to have grown in the last decade. With the development of more sophisticated methodological approaches, recent research (e.g., Altfeld, Mallett, & Kellman, 2015) has moved beyond merely

making simple demographic comparisons. While methodologically challenging and, hence, somewhat rare, a small number of longitudinal studies has explored the impact of wellbeing, work-home interference, workload, recovery, and motivational profile on burnout dimensions over the course of an entire competitive season (Bentzen et al. 2014, 2016a, 2016b; Bentzen, Lemyre, & Kenttä, 2017). In particular, Bentzen et al. (2016a) highlighted the potential for coaching burnout to develop or dissipate over time, and further research of this nature is needed if we are to develop our understanding of the dynamic burnout process (Olusoga & Kenttä, 2017).

Finally, to improve the quality and interpretation of coaching burnout research, we recommend that the reporting of samples, authors provide more detailed description and contextual information in the future. Descriptions of the level of coach sampled were not provided in three studies (6.7%), gender breakdown of the sample was not specified in three studies (6.7%), and the nature of the coaching roles was not adequately specified in sixteen studies (35.6%). Contextual information is vital in understanding the burnout process and differences between coaches operating at descriptively similar levels can be stark. National coaches of one sport might spend 200 days a year travelling with their team, whereas coaches of a similar level from another sport might spend only a few days with their athletes. Similarly, coaches with one or few athletes will have a qualitatively different experience than those with several. Moreover, some coaches also need to orchestrate and manage large support teams in addition to being responsible for all the athletes. Since it has been stated that coaching is a blended profession that occurs in many different contexts (Duffy et al., 2011), it is vital that future research distinguishes between, or at the very least acknowledges distinctions between the

multitude of coaching roles that exist, and provides detailed descriptions of the coaches being studied and their contexts.

Research samples

One of the strengths of the coach burnout literature to date is the variety of coaches sampled (including those involved in youth-, high-school and collegiate-, amateur-, professional-, and high performance sport), and across a variety of contexts (e.g., part- and full-time, as well as dual-role teacher-coaches). This diversity is important for understanding the unique work-life balance challenges that coaches operating in different environments might experience. It also represents and reflects the blended coach profession. Of note, however, was the lack of research with high-performance coaches, which comprised only 15.6% of the studies reviewed. Since job insecurity, pressure, demands, and the importance of performance outcomes may peak at the highest level, it is reasonable to argue that more contextual knowledge is needed. Moreover, the dearth of research with female coaches and Paralympic/disability sport coaches is also a limitation of the reviewed research and these coaches are worthy of further investigation. While the workload and recovery that coaches experience appear to be central to the burnout experience, it would still be of interest for research to explore the perhaps unique challenges that present themselves to coaches in more diverse contexts, and the unique situational and contextual factors that might contribute to their burnout experiences.

Burnout measurement

Although the overwhelming majority (85%) of the studies reviewed reported using some version of MBI, there was still a considerable variation in the specific burnout measure employed. Specifically, the MBI-GS (7.5%), MBI-HSS (30%), and MBI-ES (25%), developed for use in educational settings, were all employed. Lundkvist, Stenling, Gustafsson, and

Hassmén (2014) highlighted concerns with using the MBI in coaching burnout research, namely that 'neither the MBI-HSS nor the MBI-ES were developed for such a context' (p.211), and that the differences between coaching and teaching/healthcare contexts (although all involve helper-helpee relationships) are too great for a single burnout measure to capture. Given that the range of organisational and performance stressors that sports coaches encounter might go beyond those encountered in educational and health settings (i.e., stressors with direct links to sporting results and, hence, job security), Lundkvist et al. argued that the MBI-GS was preferable for use in coaching contexts to both the MBI-HSS and MBI-ES. However, they also suggested that the CBQ should be the measure of choice for coach burnout researchers. Moreover, based on Raedeke and Smith's (2004) adoption of a global burnout index, created by combining ABQ subscales, Lundkvist et al. also suggested that combining the CBQ dimensions should provide a theoretically sound global measure of burnout. However, only five studies (Kilo & Hassmén, 2016; Lundkvist et al., 2016; Malinauskas, Malinauskiene, & Dumciene, 2010; Short, Short, & Haugen, 2015; Stebbings et al., 2012), actually measured burnout using the CBQ (or what the authors described as an adapted version of the ABQ). Context, however, is again important here. The roles of coaches in high performance sport and high-school settings are likely to be very different and, as such, the appropriate scales for measuring burnout might also differ (see Lundkvist et al., 2014, for detailed discussion on this topic). Moreover, the factor structure of the CBQ has been questioned.

Comparison across research is further limited, since our findings also indicate variation in the way that measurement tools have been used in the coach burnout literature. For example, the intensity *and* frequency of burnout was measured in only five studies (12.5%) and in six studies "burnout" was measured using only the emotional exhaustion scale of the MBI. It could well be

argued that using only one dimension is not a true measure of the burnout syndrome since a syndrome by definition is a maladaptive condition characterised by a set of associated symptoms occurring together. An important measurement issue that has not been discussed in great detail is whether research is actually measuring a true burnout syndrome, or just symptoms of burnout. There is no established cutoff level to validate whether researchers are studying clinical burnout. In fact, burnout as a clinical diagnosis does not exist in either of the two international clinical manuals for psychiatric disorders (cf., ICD-10 and DSM-V). Consequently, trying to establish clinical criteria and cutoffs in measurement hold some major challenges beyond psychometric issues. In addition, differentiating so-called clinical burnout from depression and normal prolonged fatigue responses is essential when the emphasis is to study true burnout. Therefore, we argue that the integration of more comprehensive psychiatric assessment might be useful in coach burnout research. In doing so, it would also be possible to gain knowledge regarding a possible overlap with other clinical and mental health issues such as sleep disorders, dependency problems, and other clinical diagnoses such as depression (Bianchi, Schonfeld, & Laurent, 2015).

However, it can also be argued that measuring sub-clinical issues or just the incidence of the three dimensions in high performance sport is a worthwhile endeavor, simply because a small difference in coach behaviour (i.e., coach performance/efficacy) might have a practically significant impact on athlete performance at times when they are sensitive to the coach-athlete dynamic, not only in critical competitions, but also in the day-to-day experience of coach-athlete interactions (e.g., Bentzen et al., 2014; Thelwell, Wagstaff, Rayner, Chapman, & Barker 2017). For example, slightly elevated levels of exhaustion, cynicism, or a reduced sense of performance accomplishment might well have a notable impact, not only on coach and athlete performance,

but also on the quality of the coach-athlete relationship (McNeil, 2016; Thelwell, Wagstaff, Chapman, & Kenttä, G., 2017). In this matter, research should try to link reduced sense of performance accomplishment to context-specific performance outcomes in competitive sports.

Theoretical underpinning/conceptualisation.

To date, coach burnout literature has adopted multiple burnout perspectives, from stress-based explanations (Smith, 1986), to commitment perspectives (Raedeke, 2004), motivational explanations (e.g., Bentzen et al., 2014, 2016a, 2016b, 2017; Donahue et al., 2012), and work-home interference (Bentzen et al., 2016b; Lundkvist et al., 2012). It could be argued that this inconsistency in theoretical underpinning or conceptualisation of burnout is a limitation of the research. We would suggest, however, that while burnout should be explored in relation to the most adequate theoretical framework/underpinning, it is a strength of the literature, which is only just beginning to flourish, that various frameworks have been explored and proposed. It would be remiss to think that we are gaining a comprehensive understanding of the entire burnout experience using only one perspective or theory. Rather than predominantly drawing from athlete burnout and sport science research, we encourage future coach burnout researchers to consider and integrate research findings from occupational, educational, and clinical settings. For example, the model of effort-reward-imbalance at work (Siegrist, 1996; Siegrist et al., 2004) has been used extensively in occupational settings and shares some aspects with Raedeke's commitment perspective (1997; 2004). Moreover, clinical models developed by Barlow and colleagues (2004) to explain common vulnerability factors in the genesis of emotional disorders should be applicable to coach burnout.

Practical implications and recommendations

Based on this scoping review of the burnout literature, we recommend that future burnout research captures the enduring and dynamic nature of the phenomenon by making greater use of longitudinal research designs. Indeed, research that spans beyond a single competitive season might shed light on coaches' experiences of the ever changing situational factors that contribute to burnout. More qualitative research would redress the balance which is currently skewed toward cross-sectional, quantitative designs, and would help to more fully illuminate the lived experiences of coaches suffering with burnout.

More thought should be given to detailed reporting of participant samples, and subtle differences in coaching roles should be acknowledged in order to advance contextual understanding. Careful consideration should be given to the measurement of coaching burnout, specifically to whether or not we are studying coaches who are truly burned out, or coaches who are displaying some symptoms of one burnout dimension (i.e., by only measuring emotional exhaustion). Moreover, research designs in future coach burnout literature should be afforded careful attention. One obvious issue with much of the burnout literature is the use of self-report measures to assess levels and incidence of burnout. Baumeister, Vohs, and Funder (2007) suggested that 'self-reports of behaviour, emotion, intention, and thoughts are often illuminating, may be the appropriate method for certain topics, and sometimes are all that is possible' (p. 399). However, we should be cautious of 'over-interpreting' research findings and drawing too strong conclusions about coach burnout based solely on self-report measures of internal experiences. Self-report measures aside, thought should also be given to the methods of data analysis used. For example, while longitudinal research is of clear benefit to the field, researchers should ensure that analyses take into account within-person changes over time as potential predictor variables (e.g., Stenling, Ivarsson, Hassmén, & Lindwall, 2017).

Future research should also begin to explore prevention and clinical treatment of burnout. There is a growing evidence base supporting the efficacy of Mindfulness-Based Interventions. In particular Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982) and Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2018) have shown effectiveness in improving a range of clinical and non-clinical psychological outcomes (cf., Gu, Strauss, Bond, & Cavanagh, 2015). While there has been a notable rise in the use of Mindfulness-Based Interventions for athlete mental health and stress management (Shinke, Stambulova, Si, & Moore, 2017), performance enhancement (e.g. Röthlin, Birrer, Horvath, & Holtforth, 2016), and indeed in other interpersonal professions such as nursing (e.g., Song & Lindquist, 2015), such programmes might also be beneficial for coaches, particularly in terms of them developing recovery and self-care strategies (Lundqvist, Ståhl, Kenttä, & Thulin, 2018).

Researchers also have an important role to play in terms of the language used in burnout research. Related to the measurement of burnout described above, the ways in which burnout is theoretically explained to athletes, coaches, National Governing Bodies (NGBs), and other key stakeholders is important. Coaching is a demanding profession and it is essential that a distinction is made (even if at the individual level) between the functional normative fatigue response expected to be associated with the role, and the maladaptive emotional/physical exhaustion associated with burnout. Coaches at the elite level have reported a culture in which showing vulnerability and seeking help are regarded as a weakness, while suppressing the symptoms of burnout and avoiding help-seeking is the norm (Olusoga & Kenttä, 2017). Increasing coaches' awareness of when their responses are 'normal' and when they might be symptoms of early burnout might a) normalise stress and burnout in coaching, and b) encourage coaches to seek help when they recognise changes in their responses to stress. Perpetuating

stereotypes of the coaching profession should be avoided, and terminology is therefore important. Researchers and professional service providers should feel a responsibility to consistently promote a clear message of burnout in practice. This is also a responsibility for stakeholders within professional practice. However, so far, coaches need for wellbeing has commonly been neglected within the high performance community. It is therefore promising and important to note that the United States Olympic Committee, in partnership with its National Governing Bodies and academia, recently created and published a *Quality Coaching Framework* (2017), including a chapter written explicitly about coach wellbeing, specifically noting the importance of designing self-care strategies (monitoring of energy, sleep, physical activity and regular wellness checkups) that can hopefully contribute to a positive change in professional practice.

To our knowledge, only two studies (Price & Weiss, 2000; Vealey, Armstrong, Comar, & Greenleaf, 1998) explore athletes' responses to coach burnout symptoms. Following recent research investigating athletes' responses to coach stress (Thelwell et al., 2017), future burnout research should further consider the interplay between coaches and athletes. Moreover, given the cost of burnout at individual, organizational, and community sport levels, future research should explore the wider impact of coach burnout, within and beyond the work environment.

Summary

This scoping review provides an up-to-date, critical review of the coach burnout literature. The quality and quantity of coaching burnout research has certainly advanced in the last decade. However, we suggest that future research should use methods that reflect and attempt to capture the enduring, dynamic nature of the burnout experience. In addition, since coaching is a blended profession that takes place across a multitude of professional and non-

414 professional contexts in sport and physical activity (Duffy et al., 2011), it is vital that future
415 researchers take care to provide detailed descriptions of the coaches being studied.

416 While careful consideration should be given to the tools used to measure burnout,
417 differentiating so-called clinical burnout from depression and chronic fatigue responses is
418 essential. Therefore, we argue that the integration of more comprehensive psychiatric assessment
419 might be useful in coach burnout research. Finally, future research should explore prevention and
420 clinical treatment of burnout.

421 The culture of elite sport in particular has been described as one in which vulnerability
422 and support-seeking are often perceived as weaknesses, often leading to coaches masking stress
423 and burnout (Olusoga & Kenttä, 2017). Those responsible for coach education/development,
424 NGBs, and coaches themselves have a responsibility to help shift this culture to one in which
425 coaches are actively encouraged to seek help when they recognise changes in their responses to
426 the stressors inherent in coaching.

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Table 1: Summary of studies included in the scoping review

		N	Sex	Level	Role	Sport Type	Country	Methodology	Study Design	BO Measure	Main Findings	Theoretical framework
			M/F MIX	HP PRO AM COLL HS YS	PT/FT	Team Individual		QUANT QUAL MIXED	CS LONG RET	All three dimensions and frequency only, unless otherwise stated)		
1	Altfeld, S., & Kellmann, M. (2015). Are German coaches highly exhausted? A study of differences in personal and environmental factors. <i>International Journal of Sports Science and Coaching</i> , 10(4), 637-654.	158	MIX F = 9% M = 91%	MIX HP = 46% PRO = 37% Other = 27	FT	MIX T = 46.8% I = 53.2%	Germany	QUANT Survey	CS	MBI-C (German) EE Only	Overall stress and overall recovery demonstrated significant effects on exhaustion. Sense of wellbeing and feeling of meaningfulness both significantly related to exhaustion.	Stress / Recovery
2	Altfeld, S., Mallett, C. J., & Kellmann, M. (2015). Coaches' burnout, stress, and recovery over a season: A longitudinal study. <i>International Sport Coaching Journal</i> , 2(2), 137-151.	70	MIX F=18% M = 82%	MIX	MIX FT = 64.3% PT = 35.7%	MIX T = 82% I = 18%	Germany	QUANT Survey	LONG	MBI-C	Burnout levels did not significantly change over the course of a season. Full-time coaches whose values of perceived success decreased over the season showed increased emotional stress and decreased recovery values.	Stress / Recovery
3	Bentzen, M., Lemyre, P. N., & Kenttä, G. (2014). The process of burnout among professional sport coaches explored through the lens of Self-determination theory: A qualitative approach. <i>Sports Coaching Review</i> , 3(2) 101-116.	4	MIX F = 50% M = 50%	HP	FT	MIX	Norway	QUAL Interview	RET	N/A	Heavy workloads, lack of leader support, and work-related conflicts affected motivation. Psychological need thwarting and more controlled motivation explained increasing risk of burnout over time.	SDT Workload
4	Bentzen, M., Lemyre, P. N., & Kenttä, G. (2016a). Changes in motivation and burnout indices in high-performance coaches over the course of a competitive season. <i>Journal of Applied Sport Psychology</i> , 28(1), 28-48.	343	MIX F = 8.7% M = 91.3%	HP	N.S.	MIX T = 52.2% I = 47.8%	Norway & Sweden	QUANT Survey	LONG 1 season	MBI-GS	Coaches increased in burnout and decreased in wellbeing over the course of a season. SDT process model of change useful for explaining differences in burnout and wellbeing in professional work experiences.	SDT Workload
5	Bentzen, M., Lemyre, P. N., & Kenttä, G. (2016b). Development of exhaustion for high performance coaches in association with workload and motivation: A person-centered approach. <i>Psychology of Sport and Exercise</i> , 22, 10-19.	299	MIX F = 8.4% M = 91.6%	HP	N.S.	MIX T = 44.5% I = 55.5%	Norway & Sweden	QUANT Survey	LONG 1 season	MBI-GS: EE Only	Higher levels of workload and work-home interference were associated with higher exhaustion. Higher levels of recovery, intrinsic and identified regulations associated with lower levels of exhaustion.	SDT Workload
6	Bentzen, M., Lemyre, P. N., & Kenttä, G. (2017). A comparison of high-performance football coaches experiencing high-versus low-burnout symptoms across a season of play: Quality of motivation and recovery matters. <i>International Sport Coaching Journal</i> , 4(2), 133-146.	92	MIX F = 6.5% M = 93.5%	MIX HP PRO	FT	TEAM Soccer	Norway	MIXED Survey Interview	LONG 1 season	MBI-GS	Motivational profile, work-home interference, and ability to meet recovery demands were variables that contributed to explain differences in coaches' burnout symptoms.	SDT Workload
7	Caccese, T. & Mayerberg, C. (1984). Gender differences in coaches Perceived burnout of college coaches. <i>Journal of Sport Psychology</i> , 6(3), 279-280.	231	MIX F = 40.3% M = 59.7%	COLL NCAA/AIW A Div. I	N.S.	N.S.	USA	QUANT Survey	CS	MBI-HSS Freq. & Int.	Female coaches reposted significantly higher levels of emotional exhaustion and significantly lower levels of personal accomplishment than male coaches.	Stress
8	Capel, S. A., Sisley, B. L., & Desertrain, G. S. (1987). The relationship of role conflict and role ambiguity to burnout in high school basketball coaches. <i>Journal of Sport Psychology</i> , 9, 106-117.	235	MIX No Info	HS Dual Role Teacher Coaches	PT	TEAM Basketball	USA	QUANT Survey	CS	MBI-HSS Freq. & Int.	Higher role conflict, higher role ambiguity, and lower student enrolment in the school contributed significantly to higher burnout frequency and intensity	Stress Workload

9	Dale, J., & Weinberg, R. S. (1989). The relationship between coaches' leadership style and burnout. <i>The Sport Psychologist</i> , 3, 1-13.	302	MIX F = 23% M = 77%	HS & COLL NCAA Div. I	FT	MIX	USA	QUANT Survey	CS	MBI-HSS Freq. & Int.	Coaches displaying consideration style of leadership scored higher on freq. and int. of emotional exhaustion and depersonalisation. Male coaches scored higher in freq. and int. of depersonalisation.	Stress Leadership
10	Donahue, E. G., Forest, J., Vallerand, R. J., Lemyre, P. N., Crevier-Braud, L., & Bergeron, E. (2012). Passion for work and emotional exhaustion: The mediating role of rumination and recovery. <i>Applied Psychology-Health and Well Being</i> , 4(3), 341-368.	117	MIX, F = 11.1% M = 88% (1 = N.S.)	Study1 MIX Study 2 conducted with Nurses	MIX FT = 81%	MIX	Norway	QUANT Survey	CS	MBI-HSS EE Only	Obsessive passion predicted ruminative thoughts which, in turn predicted emotional exhaustion. Harmonious passion prevented the use of rumination and indirectly protected coaches against emotional exhaustion.	Dualistic Model of Passion
11	Drake, D. & Herbert, E. P. (2002). Perceptions of occupational stress and strategies for avoiding burnout: case studies of two female teacher/coaches. <i>Physical Educator</i> , 59 (4), 170-184.	2	F	HS	PT Dual Role	TEAM Basketball Soccer Volleyball	USA	QUAL Case Study Interview	LONG 4 months	N/A	Stressors included intra-role conflicts, coaching multiple sports, and inter-role conflicts. Coaches described a cyclical pattern of stress over each academic year, and over a career.	Stress
12	Gencay, S. & Gencay, O. A. (2011). Burnout among Judo coaches in Turkey. <i>Journal of Occupational Health</i> , 53, 365-370.	65	MIX F = 15.4% M = 84.6%	HP	N.S.	IND Judo	Turkey	QUANT Survey	CS	MBI(N.S.) (Turkish)	Burnout levels of coaches ranged from low to moderate. More experienced Judo coaches (over 16 years) had higher levels of emotional exhaustion than less experienced Judo coaches. Coaches who did not feel satisfaction from their sport administrators had significantly higher levels of emotional exhaustion than those who did.	Stress
13	Hardin, R., Zakrajsek, R., & Gaston, B. (2015). The relationship between job satisfaction and burnout in fast-pitch softball coaches. <i>Journal of Contemporary Athletics</i> , 9(1), 1-14.	326	MIX F = 22% M = 78%	MIX COLL 40.8% (all divisions) HS = 42.6%	MIX FT = 47.5% PT = 31.6%	TEAM Fast-pitch softball	USA	QUANT Survey	CS	MBI-HSS	Softball coaches were moderately burned out. Operating conditions, nature of work, contingent rewards, and promotion influenced coaches' levels of burnout.	SDT
14	Hjältn, S., Kenttä, G., Hassmén, P. & Gustafsson, H. (2007). Burnout among elite soccer coaches. <i>Journal of Sport Behavior</i> , 30(4), 415- 427.	47	M	HP	MIX	TEAM Soccer	Sweden	QUANT Survey	CS	MBI-ES	71% of coaches in the Women's Premier League experienced moderate to high levels of emotional exhaustion, compared to 23% of coaches in the men's league. Increased leadership demands place coaches in the women's league at higher risk of burnout.	Stress
15	Hunt, K. R., & Miller, S. R. (1994). Comparison of levels of perceived stress and burnout among college basketball and tennis coaches. <i>Applied Research in Coaching and Athletics Annual</i> , 9, 198-222.	915 & 955	N.S.	COLL NCAA Div. I and III)	N.S.	MIX Tennis Basketball	USA	QUANT Survey	CS / LONG	MBI-HSS modified Freq. & Int.	Burnout rates were higher for basketball than tennis, and were higher at T2 (1990-91) than T1 (1982-83). For both coaching groups, self-imposed pressure to win was the greatest stressor	Stress
16	Karabatsos, G., Malousaris, G., & Apostolidis, N. (2006). Evaluation and comparison of burnout levels in basketball, volleyball and track and field coaches. <i>Studies in Physical Culture and Tourism</i> , 13(1), 79-83.	452	N.S	N.S	N.S.	MIX Basketball Volleyball Track & Field	Greece	QUANT Survey	CS	MBI-ES	Basketball coaches reported higher emotional exhaustion and depersonalisation then coaches from other sports, and displayed explicit tendencies for burnout. Team sports coaches experienced "considerable" levels of professional burnout.	Stress
17	Kelley, B. C. (1994). A model of stress and burnout in collegiate coaches - Effects of gender and time of season. <i>Research Quarterly for Exercise and Sport</i> , 65(1), 48-58.	249	MIX F = 47.4% M = 52.6%	COLL NCAA Div. III	PT Coach only = 17% Teach/Coach = 38%	TEAM Baseball Softball	USA	QUANT Survey	CS / LONG 1 season	MBI-ES modified	Male and female coaches higher in coaching issues and lower in hardiness were higher in perceived stress. Both male and female coaches' stress appraisal was predictive of all burnout components.	Stress
18	Kelley, B. C., Eklund, R. C., & Ritter-Taylor, M. (1999). Stress and burnout among collegiate tennis coaches. <i>Journal of Sport & Exercise Psychology</i> , 21(2), 113-130.	265	MIX F = 37.4% M = 62.6%	COLL NCAA Div. I (30.2%) Div. II, III, or NAIA (69.8%)	MIX PT = 71%	IND Tennis	USA	QUANT Survey	CS	MBI-ES modified	High levels of burnout among the sample A significant multivariate effect was found for gender but not competition level. Women had higher tendency to find coaching stressful than men Women higher on CIS	Stress

19	Kelley, B. C., & Gill, D. L. (1993). An examination of personal situational variables, stress appraisal, and burnout in collegiate teacher coaches. <i>Research Quarterly for Exercise and Sport</i> , 64(1), 94-102.	214	MIX F = 53.7% M = 46.3%	COLL NCAA Div. III & NAIA	PT Dual Role	TEAM Basketball	USA	QUANT Survey	CS	MBI-ES modified	Greater satisfaction with social support, less experience, and gender (females higher), were related to stress appraisal. All stress appraisals were positively related to burnout.	Stress
20	Kilo, R. A., & Hassmén, P. (2016). Burnout and turnover intentions in Australian coaches as related to organisation support and perceived control. <i>International Journal of Sport Science & Coaching</i> , 11(2), 151-161.	406	MIX F = 28% M = 72%	MIX All levels	MIX FT = 19.2% PT = 80.8%	MIX Multiple	Australia	QUANT Survey	CS	CBQ	Higher perceived organisational support was associated with lower coach burnout scores. Internal locus of control and use of approach coping strategies predicted lower levels of burnout. All three burnout dimensions were strong predictors of coaches' turnover intentions.	Conservation of Resources (COR)
21	Koustelios, A. (2010). Burnout among football coaches in Greece. <i>Biology of Exercise</i> , 6(1), 5-12.	132	M	AM	PT (assumed)	TEAM Football	Greece	QUANT Survey	CS	MBI-HSS	Low overall levels of burnout. No significant differences between age groups and Emotional Exhaustion was highest among 30-39yr olds	Stress
22	Koustelios, A. D., Kellis, S., & Bagiatis, K. (1997). The role of family variables on football coaches' burnout. <i>Coaching and Sport Sciences Journal</i> , 2(3), 41-45.	203	M	N.S.	N.S.	TEAM Football	Greece	QUANT Survey	CS	MBI-HSS (Greek)	Single coaches experienced a statistically higher level of depersonalisation than married coaches. An interaction effect found single coaches with no children scored higher on depersonalisation than married coaches with children.	Stress
23	Lee, Y. H. & Chelladurai, P. (2016) Affectivity, Emotional Labor, Emotional Exhaustion, and Emotional Intelligence in Coaching. <i>Journal of Applied Sport Psychology</i> , 28, 170-184.	430	MIX F = 34.7% M = 65.3%	COLL NCAA Div. I	N.S.	MIX	USA	QUANT Survey	CS	MBI (N.S) EE Only (modified - 5 items only)	Positive affectivity predicted three forms of emotional labour. Coaches' surface acting and genuine expression significantly predicted their Emotional Exhaustion. Emotional intelligence moderated the relationship between surface acting and Emotional Exhaustion.	Emotional Labour
24	Li, L. (2012). The Study on Effects Resulted from Job Burnout on Performance Appraisal of Professional Coaches in China. <i>Advanced Materials Research</i> , 345, 405-410.	213	N.S	MIX	Managers or Coaches in professional sports teams	MIX	China	QUANT Survey	CS	Job Burnout Scale	Burnout is the Independent here. Low potency and knowledge drain elements of burnout predict task performance (KD being the primary factor).	Stress Workload
25	Lundkvist, E., Gustafsson, H., Hjälm, S., & Hassmén, P. (2012). An interpretative phenomenological analysis of burnout and recovery in elite soccer coaches. <i>Qualitative Research in Sport, Exercise and Health</i> , 4(3), 400-419.	8	M (from Hjälm et al., 2007)	HP	MIX FT = 1	TEAM Football	Sweden	QUAL Interview	RET	N/A	Findings describe coach burnout as stemming from a combination of issues related to home and work. Two profiles of burnout identified: - handling performance culture - overall situation including workload, family, and health	Stress / Recovery Workload
26	Lundkvist, E. Gustafsson, H., Davis, P., & Hassmén. (2016). Workaholism, home-work/work-home interference, and exhaustion among sports coaches. <i>Journal of Clinical Sport Psychology</i> , 10, 222-236.	261	MIX 261	MIX 17% PRO Rest HS	MIX FT=54% PT=44%	MIX Soccer Athletics	Sweden	QUANT Survey	CS	CBQ EE Only	Workaholism associated with Emotional Exhaustion for coaches high on EE. Negative work-home interference has a stronger association with EE than negative home-work interference. Coaches in the higher percentiles have a higher risk for burnout.	Work-Home Interference
27	Malinauskas, R., Malinauskiene, V., & Dumciene, A. (2010). Burnout and perceived stress among university coaches in Lithuania. <i>Journal of Occupational Health</i> , 52(5), 302-307.	203	MIX F = 33% M = 67%	COLL	N.S.	N.S.	Lithuania	QUANT Survey	CS	CBQ	Burnout was more common among university coaches with over 10 years' experience. Higher levels of perceived stress were associated with burnout.	Stress
28	McNeill, K., Durand-Bush, N., & Lemyre, P. N. (2016). Understanding coach burnout and underlying emotions: a narrative approach. <i>Sports Coaching Review</i> , 6(2), 1-18.	5	MIX, F = 2 M = 3	MIX	FT	IND'L Mixed sports	Canada	QUAL Interview	Narrative	MBI-ES	Coaches described a variety of emotions including anger, anxiety, apathy, and dejection, which have negative implications on their well-being and coaching practice. Emotions were linked to the three dimensions of burnout.	Emotions
29	Nikolaos, A. (2012). An examination of a burnout model in basketball coaches. <i>Journal of Physical Education & Sport</i> , 12(2), 171-179.	170	M	PRO At least 1 season with Nat. Division Club	N.S.	TEAM Basketball	Greece	QUANT Survey	CS	MBI-ES	26% variance in perceived stress was accounted for by coaching level, social support, and years in present position 23% of variance in burnout level was accounted for by combination of indirect and direct variables, with perceived stress being a major predictor.	Stress

30	Olusoga, P. & Kenttä, G. (2017). Desperate to quit: A narrative analysis of burnout and recovery in sports coaching. <i>The Sport Psychologist</i> , 31(3), 237-248.	2	M	HP	FT	TEAM	Sweden	QUAL Interview	RET	N/A	Findings highlighted the experiences of burnout including antecedents, experiences of coaching with burnout, withdrawal from sport, and recovery and personal growth. Role-clarity, work-life balance, counselling, and mentoring all important in facilitating recovery.	Stress Work Home Interference
31	Omotoya, O. O. (1991). Frequency of burnout among selected soccer coaches in Nigeria. <i>Asian Journal of Physical Education</i> , 14 (1), 83 – 88.	40	M	PRO	FT	TEAM Soccer	Nigeria	QUANT Survey	CS	MBI(N.S.) Freq. & Int.	No significant differences between successful and less successful coaches on emotional exhaustion and depersonalisation. Successful coaches (win-loss) scored significantly higher in personal accomplishment than less successful coaches.	Stress
32	Pastore, D. L., & Judd, M. R. (1993). Gender differences in burnout among coaches of women's athletic teams of 2-year college. <i>Sociology of Sport Journal</i> , 10, 205-212.	232	MIX F = 35% M = 65%	COLL	N.S	MIX Basketball Volleyball X-country Tennis	USA	QUANT Survey	CS	MBI-ES	A main effect for gender revealed females scored higher on emotional exhaustion than males. Female coaches were more burned out on all three burnout subscales than norms. Male coaches were less burned out than norms.	Not explicitly stated Reference to work life balance
33	Pastore, D. L. & Kuga, D. J. (1993). High school coaches of women's teams: an evaluation of burnout levels. <i>Physical Educator</i> , 50 (3), 123-131.	167	MIX F = 39% M = 61%	HS	N.S	MIX Softball Track	USA	QUANT Survey	CS	MBI-ES	Female coaches reported higher levels of emotional exhaustion, depersonalisation, and personal accomplishment than male coaches. The overall degree of burnout was average for males, and average to high for females.	Stress
34	Price, M. S., & Weiss, M. R. (2000). Relationships among coach burnout, coach behaviors, and athletes' psychological responses. <i>The Sport Psychologist</i> , 14, 391-409.	15 Coaches (15) + 193 MIX F = 5 M = 10		HS	PT Dual Role	TEAM Soccer	USA	QUANT Survey	CS	MBI-ES	Coaches higher in EE were perceived as providing less training and instruction and less social support and making fewer autocratic and democratic decisions. Athletes' perceptions of more training and instruction, social support, positive feedback, more democratic and less autocratic styles were related to more positive (perceived competence, enjoyment) and less negative (anxiety burnout) psychological consequences.	Leadership
35	Quigley, T. A., Slack, T., & Smith, G. J. (1987). Burnout in secondary school teacher coaches. <i>Alberta Journal of Educational Research</i> , 34, 260-274.	75 > 21	N.S.	HS	PT Dual Role	N.S	Canada	MIXED Survey Interview	CS/RET	MBI-C	Coaches had moderate levels of EE, lower personal accomplishment, and moderate depersonalisation compared to norms. More females in were in the upper phases of burnout than males and less experienced coaches appeared more prone to burnout. Size of School (smaller = greater burnout), Amount of Admin, Compensation, and recognition and reward all factors influencing burnout	Golembiewski's (1983) Phase Model of Burnout
36	Raedeke, T. D. (2004). Coach commitment and burnout: A one-year follow-up. <i>Journal of Applied Sport Psychology</i> , 16, 333-349.	141	MIX 141 F = 43.3% M = 56.7%	YS Age group swimmers	MIX PT = 61%	IND Swimming	USA	QUANT Survey	LONG 1 year	MBI-C EE Only (CBI)	Coaches with characteristics suggesting increased entrapment showed the largest increase in exhaustion. Those with decreased coaching interest had the lowest commitment.	Commitment
37	Raedeke, T. D., Granzky, T. L., & Warren, A. (2000). Why coaches experience burnout: A commitment perspective. <i>Journal of Sport & Exercise psychology</i> , 22, 85-105.	295	MIX F = 43% M = 57%	YS Age group swimmers	MIX FT = 35% PT = 65%	MIX Swimming	USA	QUANT Survey	CS	MBI-C EE Only (CBI)	Three clusters of coaches were identified (Commitment, Entrapment, Less Interested). Cluster differences explained 38% of variance in burnout and commitment scores. Entrapped coaches higher on burnout than other groups.	Commitment
38	Richards, K. A. R., Templin, T. J., Levesque-Bristol, C., & Blankenship, B. T. (2014). Understanding differences in role stressors, resilience, and burnout	413	MIX Teacher Coaches	MIX HS YS	MIX TC = 50.1% NTC = 49.9%	MIX Physical Education	USA	QUANT Survey	CS	MBI-ES	All participants reported low Role Ambiguity and depersonalisation, moderate levels of role conflict, emotional exhaustion, and high levels of role overload,	Role Theory

in teacher/coaches and non-coaching teachers. <i>Journal of Teaching in Physical Education</i> , 33(3), 383-402.			M = 21.3% F = 28.8% Non-Teacher Coaches F = 42.1% M = 7.8%							and personal accomplishment A small interaction effect found - emotional exhaustion lower for teacher coaches in non-core subjects.		
39	Short, S. E., Short, M. W., & Haugen, C. R. (2015). The Relationship Between Efficacy and Burnout in Coaches. <i>International Journal of Coaching Science</i> , 9(1), 37-49.	101	MIX T1 (101) F = 13.9% M = 86.1% T2 (68) F = 16.1% M = 83.9%	HS	MIX 97% employed outside coaching	TEAM Basketball	USA	QUANT Survey	LONG 1 season	CBQ	Coaches had lower coaching efficacy scores and higher burnout scores at post-season compared to pre-season. Correlations between coaching efficacy and burnout were negative at both time points. Low efficacy coaches were more burned out as time passed compared to high efficacy coaches.	Coaching Efficacy
40	Sisley, B. L., Capel, S. A., & Desertrain, G. S. (1987). Preventing burnout in teachers and coaches. <i>Journal of Physical Education, Recreation and Dance</i> , 58, 71-75.	235	MIX F = 7% M = 93%	HS	N.S (Head Coaches)	TEAM Basketball	USA	QUANT Survey	CS	MBI-HSS modified	None of the teacher coaches reported high levels of burnout, emotional exhaustion, depersonalisation, or low personal accomplishment.	Stress
41	Stebbing, J., Taylor, I. M., Spray, C. M., & Ntoumanis, N. (2012). Antecedents of perceived coach interpersonal behaviors: the coaching environment and coach psychological well-and ill-being. <i>Journal of Sport & Exercise Psychology</i> , 34(4), 481-502.	418	MIX 418 M = 73.2% F = 26.8%	MIX All levels	MIX FT = 14.4%	MIX 32 different sports	UK	QUANT Survey	CS	CBQ E/PE Only	Higher work-life conflict and fewer opportunities for professional development were associated with a distinct maladaptive process of thwarted psychological needs, psychological ill-being, and perceived controlling interpersonal behaviour.	SDT
42	Tashman, L. S., Tenenbaum, G., & Eklund, R. (2010). The effect of perceived stress on the relationship between perfectionism and burnout in coaches. <i>Anxiety, Stress, & Coping</i> , 23(2), 195-212.	177	MIX F = 35.5% M = 66.4%	COLL All levels	N.S.	MIX 12 different sports	USA	QUANT Survey	CS	MBI Adapted for use with coaches	Results indicated an indirect effect of self-evaluative perfectionism on burnout through perceived stress, as well as a significant direct link to burnout, accounting for 56% of its variance. Conscientious perfectionism did not impact burnout either directly or indirectly.	Stress Perfectionism
43	Vealey, R. S., Armstrong, L., Comar, W., & Greenleaf, C. A. (1998). Influence of Perceived Coaching Behaviors on Burnout and Competitive Anxiety in female College Athletes. <i>Journal of Applied Sport Psychology</i> , 10, 297-318.	12 + 149	Coaches MIX F = 11 M = 1	COLL NCAA Div. I = 7 Div. II = 2 Div. III = 3	N.S.	TEAM Basketball Softball	USA	QUANT Survey	CS	MBI-HSS Adapted for use with coaches	Coach burnout significantly related to perceived coaching styles/behaviour. Coaches higher in emotional exhaustion and depersonalisation were perceived by their athletes to use dispraise and an autocratic coaching style.	Stress
44	Vealey, R. S., Udry, E. M., Zimmerman, K., & Soliday, J. (1992). Intrapersonal and situational predictors of coaching burnout. <i>Journal of Sport & Exercise Psychology</i> , 14, 40-58.	848	MIX 848, F = 23.7% M = 75.5% NS = 0.8%	MIX HS & COLL	N.S.	MIX 10 different sports	USA	QUANT Survey	CS	MBI-HSS Adapted for use with coaches	Trait anxiety emerged as the strongest predictor of burnout. Several other cognitive perceptions of the coaching role (perceived overload of demands, control or autonomy, attainment of meaningful accomplishment, value, professional support, rewards, success, excitement) were also predictive of burnout	Stress
45	Wilson, V. E., & Bird, E. I. (1988). Burning out in coaching – Part two: Results from survey of national coaches. <i>Sport Science on Research and Technology in Sport</i> , 8(9).	144	MIX F = 13.2% M = 85.4%	N.S.	MIX FT = 65%	N.S.	Canada	QUANT Survey	CS	MBI-HSS	Coaching was reported to be stressful (although no indication of how this was measured is provided). Full-time coaches reported higher levels of burnout and 'stress related symptoms' than part-time coaches.	Stress

KEY:

LEVEL: HP = High Performance; PRO = Professional; AM = Amateur; COLL = Collegiate; HS = High-School; YS = Youth Sport.

STUDY DESIGN: CS = Cross Sectional; LONG = Longitudinal; RET = Retrospective

BO MEASURE*: MBI = Maslach Burnout Inventory; HSS = Human Services Survey; GS = General Survey; ES = Educators Survey; C = Adapted for use with coaches; EE = Emotional Exhaustion; CBQ = Coach Burnout Questionnaire

All categories: N.S. = Not Stated

*Some authors referred specifically to the MBI-C, while others referred to "adapted" or "modified" versions of other MBI questionnaires. We have attempted to capture the burnout measure used, as specifically described by the authors in each study.

Table 2: Summary of the sample characteristics of the studies included in this review

Demographic	n	% of sample
Country		
North America	24	53.3
<i>USA</i>	21	46.7
<i>Canada</i>	3	6.7
Scandinavia	9	20.0
<i>Sweden</i>	4	8.9
<i>Norway</i>	3	6.7
<i>Sweden & Norway</i>	2	4.4
Europe	9	20.0
<i>Greece</i>	4	8.9
<i>Germany</i>	2	4.4
<i>UK</i>	1	2.2
<i>Turkey</i>	1	2.2
<i>Lithuania</i>	1	2.2
Other	3	6.7
<i>China</i>	1	2.2
<i>Australia</i>	1	2.2
<i>Nigeria</i>	1	2.2
Gender of Coach		
Male	7	15.5
Female	1	2.2
Mixed male & female	34	75.6
Did not specify	3	6.7
Employment Status		
Full-time	8	17.8
Part-time (inc. dual role)	7	15.5
Mixed FT & PT	14	31.1
Did not specify	16	35.6
Sport Type		
Team	17	37.8
Individual	4	8.9
Mixed team and individual	20	44.4
Did not specify	4	8.9
Coaching Level		
"High Performance"	7	15.6
"Professional"	2	4.4
Collegiate	10	22.2
High-School	7	15.6
Collegiate and High School	3	6.7
Amateur	1	2.2
Youth Sport	2	4.4
Multiple performance levels	10	22.2
Did not Specify	3	6.7

Table 3: Study design characteristics of the 45 studies included in this review.

Study design characteristic	n	% of sample
Methodology		
Quantitative	38	84.45
Qualitative	5	11.1
Mixed methods	2	4.45
Design *		
Cross sectional	32	80
Longitudinal	8	20
Burnout Measure *		
MBI-HSS	12	30.0
MBI-GS	3	7.5
MBI-ES	10	25.0
MBI- C	5	12.5
MBI- version not stated	4	10.0
CBQ	5	12.5
Job Burnout Scale	1	2.5
*used in the 40 quantitative/mixed methods studies		

Appendix A: Publications excluded from the review***Book chapters***

Altfeld, S., & Kellmann, M. (2013). Burnout in coaches. In B. R. Doolittle (Ed.), *Psychology of burnout: New research* (pp. 193-207). New York, NY: Nova Science Publishers.

Kallus, K. W. & Kellmann, M. (2000). Burnout in athletes and coaches. In Y. L. Hanin (Ed.), *Emotions in sport* (pp. 209-230). Champaign, IL: Human Kinetics.

Odom, S. & Perin, T. (1985). Coach and athlete burnout. In L. Bunker, R. Rotella, & A. Reilly (Eds.), *Sport psychology: Psychological considerations in maximising sport performance* (pp. 213-222). Ann Arbor, MI: McDaught and Quinn inc.

Raedeke, T. D., & Kenttä, G. (2013). Coach burnout. In P. Potrac, W. Gilbert, & J. Denison (Eds.), *Handbook of sports coaching* (pp. 424-435). New York, NY: Routledge

Reviews

Dale, J., & Weinberg, R.S. (1990). Burnout in sport: A review and critique. *Applied Sport Psychology*, 2(1), 67-83.

Dimitrios, B., Athanasios, K., Eleni, Z., Maria, K., Labros, S., & Ioanna, B. (2013). Job satisfaction and job burnout of coaches – a review of the international literature. *International Journal of Human Resource Management and Research*, 3(3), 27-38.

Goodger, K., Gorely, T., Lavalley, D., & Harwood, C. (2007). Burnout in sport: A systematic review. *The Sport Psychologist*, 21(2), 127-151.

Professional practice

Giges, B., Petitpas, A.J., & Vernacchia, R.A. (2004). Helping coaches meet their own needs: Challenges for the sport psychology consultant. *The Sport Psychologist*, 18(4), 430-444.

Abstracts

Hunt, K. (1983). The relationship between occupational stressors and burnout among coaches.

Dissertation Abstracts International, 44(8)

Pease, D. G., Zapalac, R. K. & Lee, R. (2003). Role of selected variables in the burnout of high school basketball coaches. *Research Quarterly for exercise and Sport*, 74(1), Supple. A-66.

Limited/no burnout data

Altfeld, S., & Kellmann, M. (2014). Measurement of coaches burnout: reliability and validity of three burnout questionnaires. *German Journal of Sports Medicine*, 65(2), 43-49.

Bradford, S. H. & Keshock, C. M. (2009). Female coaches and job stress: A review of the literature. *College Student Journal*, 43(1), 196-200.

Dixon, M. A., & Bruening, J. E. (2007). Work-family conflict in coaching I: A top-down perspective. *Journal of Sport Management*, 21(3), 377.

Kellmann, M., Altfeld, S., & Mallett, C. J. (2015). Recovery–stress imbalance in Australian Football League coaches: A pilot longitudinal study. *International Journal of Sport and Exercise Psychology*, 14(3), 1-10.

Lundkvist, E., Stenling, A., Gustafsson, H., & Hassmén, P. (2014). How to measure coach burnout: An evaluation of three burnout measures. *Measurement in Physical Education and Exercise Science*, 18(3), 209-226.

Felder, D., & Wishnietsky, D. (1990). Role conflict, coaching burnout and reduction in the number of female interscholastic coaches. *The Physical Educator*, 47(2), 7-13.

Frey, M. (2007). College coaches' experiences with stress: Problem solvers have problems, too. *The Sport Psychologist*, 21(1), 38-57.

- 707 Hudson, J., Davison, G., & Robinson, P. (2013). Psychophysiological and stress responses to
708 competition in team sport coaches: An exploratory study. *Scandinavian Journal of*
709 *Medicine & Science in Sports*, 23(5), e279-e285
- 710 Sisley, B. L., & Capel, S. A. (1986). High school coaching filled with gender differences. *Journal*
711 *of Physical Education, Recreation and Dance*, 57(3), 39-43
- 712 ***Teachers/Physical Education***
- 713 Saiiari, A., Moslehi, M., & Valizadeh, R. (2011). Relationship between emotional intelligence
714 and burnout syndrome in sport teachers of secondary schools. *Procedia-Social and*
715 *Behavioral Sciences*, 15, 1786-179.
- 716