Understanding Burnout and Self-Regulation Capacity in Canadian Developmental and Elite Sport Coaches

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Thesis submitted to the Faculty of Graduate and Postdoctoral Studies

in partial fulfillment of the requirements

for the degree of Doctor in Philosophy in Human Kinetics

School of Human Kinetics

Faculty of Health Sciences

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Abstract

The overarching aims of this research were to advance knowledge of coach burnout and interventions addressing this syndrome by investigating (a) the associations between burnout, well-being, self-regulation capacity, and perceived stress in coaches, and (b) the perceived impact of a self-regulation intervention implemented with coaches experiencing moderate to high levels of burnout. A sequential mixed methods design was employed to collect quantitative and qualitative data in two separate phases. In Phase 1, an online survey was used to collect cross-sectional quantitative data from a sample of 260 Canadian developmental and elite sport coaches to assess associations between the variables of interest (i.e., burnout, well-being, self-regulation capacity, and perceived stress). Selected based on data from Phase 1, five coaches experiencing moderate to high levels of burnout then participated in a self-regulation intervention in Phase 2, which involved completing a workbook and a reflective journal and participating in a semi-structured intake and outtake interview before and after the intervention, respectively. Four studies were carried out to address the overall aims of this research.

Phase 1. The purposes of Study 1 were to identify profiles of psychological functioning within a sample of coaches based on burnout and well-being indices, and investigate whether coaches in these profiles differed in their capacity to self-regulate and their perceptions of stress. Findings of the two-stage cluster analysis revealed that 54% of the coaches were characterized by a "thriving" profile (i.e., relatively low burnout and relatively high well-being), while 14% of the coaches were characterized by a "depleted" profile (i.e., relatively high burnout and relatively low well-being). The remainder of coaches were characterized by an "at-risk" profile (i.e., relatively high burnout and moderate well-being), which suggests that experiencing symptoms of burnout may not necessarily preclude coaches from experiencing well-being. Moreover, thriving

coaches reported higher levels of self-regulation capacity and lower levels of perceived stress than coaches in the two more maladaptive profiles. Depleted coaches also reported higher levels of perceived stress than at-risk coaches. These findings speak to the salience of effective self-regulatory capacity and stress management skills in coaches' adaptive functioning. Finally, depleted coaches worked longer hours and were more likely to be remunerated for their coaching than thriving coaches, demonstrating the importance of monitoring these situational factors to ensure coaches' optimal functioning.

The purpose of Study 2 was to examine the associations between self-regulation capacity, perceived stress, and burnout in coaches, and more specifically, to test the intervening variable effect of perceived stress in the association between coaches' self-regulatory capacity and their emotional exhaustion, depersonalization, and personal accomplishment. Results of the structural equation modeling showed that coaches with greater self-regulatory competencies (i.e., self-control and self-observation) perceived less stress in their lives, and in turn, experienced less emotional exhaustion and depersonalization, and greater personal accomplishment (i.e., lower burnout). A direct association between these self-regulatory competencies and coaches' sense of accomplishment was also found. This indicates that effective self-control and self-monitoring competencies may enable coaches to feel more efficacious in their coaching, regardless of their perceptions of stress.

Phase 2. The purpose of Study 3 was to investigate coaches' subjective experiences of burnout in order to shed light on the complex emotional nature of this syndrome. To this end, idiographic, first-person narrative accounts of the five coaches' subjective experiences of burnout were provided. The narratives revealed that burnout was highly individualized and characterized by a variety of emotions (e.g., apathy, anger, dejection) linked to the dimensions of

burnout. Burnout had negative implications for the coaches' well-being (e.g., loss of enjoyment) and their coaching practice (e.g., yelling at athletes), and was associated with deficits in the coaches' self-regulatory capacity (e.g., resistance to healthy eating and exercise). These findings underscore the need for interventions to help coaches effectively manage their personal and professional life and their symptoms of burnout.

The purpose of Study 4 was to implement a self-regulation intervention with coaches experiencing moderate to high levels of burnout and examine the perceived impact of this intervention on their self-regulation capacity and experiences of burnout and well-being. A content analysis of the coaches' outtake interviews and five bi-weekly journals revealed that all five coaches learned to self-regulate more effectively by developing various competencies (e.g., self-monitoring) and strategies (e.g., task delegation) throughout the intervention. Four of the coaches also perceived improvements in their symptoms of burnout (i.e., felt less emotionally drained, more engaged with their work and/or accepting of their athletes, and more effective in their coaching) and their well-being (e.g., experienced more positive emotions, satisfaction with life, and autonomy).

Overall, the results of the current research shed light on important personal resources (i.e., self-regulation competencies) that can be strengthened to help coaches prevent or manage burnout and achieve greater well-being. This research also provides data on the first known empirical investigation of an intervention implemented with coaches experiencing burnout. As such, the findings from this dissertation make novel empirical and practical contributions to the literature on coach burnout.

Keywords: burnout, well-being, self-regulation, perceived stress, coaches, sport psychology intervention

Acknowledgements

I am truly grateful for the amazing people who supported me in this journey. First and foremost, to my thesis supervisors, Dr. Natalie Durand-Bush and Dr. Pierre-Nicolas Lemyre: thank you for your guidance, support, and tremendous patience throughout this process. Nat, I am blessed to have had you in my corner all these years. Your dedication to your students is unparalleled and I have learned and grown so much as a researcher and as a person under your supervision. Nicolas, thank you for all the insightful conversations we had along the way and for challenging me to step outside of my comfort zone, especially with my statistical analyses. I am grateful for the incredible opportunities and experiences I had in Oslo.

To my thesis committee members, Dr. Diane Culver and Dr. Tanya Forneris, I greatly appreciate all of your input in the project and your support throughout this process. To Dr. Audrey Giles, thank you for your mentorship and encouragement over the years, and for welcoming me to your writing group.

I feel privileged to have been part of the fantastic SEWP lab. Thank you to past students, Chris Simon, Nicole Dubuc-Charbonneau, Jamie Collins, and Marie-Claude Gagnon for setting the bar high and paving the way for me. To current students, Poppy DesClouds, Krista Van Slingerland, and Jonathan Lasnier, thank you for continuing to challenge me to grow as a researcher. I will cherish all of the fond memories of our time in the lab and at conferences.

I am also grateful for the many wonderful colleagues at the University of Ottawa and the Norwegian School of Sport Sciences who helped to make my graduate school experience so exceptional. Thank-you to Mélanie Perras for all the great conversations we had in your office. Gro Jordalen, your feedback, support, and most of all, friendship, have been invaluable to me all these years. I am thankful for the thoughtful discussions on burnout and self-regulation (and

life!) that we shared. Bård Solstad, it was a pleasure collaborating with you. Thank you for sharing your statistical expertise with me and encouraging me to see things in a different light. To Marte Bentzen, I greatly appreciate you sharing your insight on coach burnout with me.

I would like to acknowledge all of the coaches who participated in this research; in particular, the five coaches who took part in the intervention: thank you for your willingness to share your experiences and insight and for your engagement throughout the research process.

This dissertation would not have been possible without the unwavering support of my incredible family and friends. To my parents, Robin and Elizabeth, thank you for instilling a love of learning in me and for all your encouragement over the years. I am indebted to you, and to my wonderful in-laws, Francine and Jean-Pierre, for providing countless hours of childcare (and free meals!) so I could finish writing. A huge thank you to my brother, Tais, and sister-in-law, Katie, for all of your support. To my dear friends, Aleana, Anna, Celia, Rosemary, and Tatiana, thank you for being such positive forces in my life. I am eternally grateful for your encouragement all these years and for the laughs we have shared along the way. Last but not least, to my amazing husband, Justin: I could not have completed this dissertation without all of your love, support, and sacrifice. Thank you for believing in me even when I didn't believe in myself. And to my beloved daughter, Madeleine: you bring so much joy to our lives. Thank you for inspiring me to be at my best and accepting me when I wasn't.

Finally, support for the research project was provided through a doctoral research grant from the Social Sciences and Humanities Research Council of Canada [grant number 767-2011-1253] and the Ontario Ministry of Training, Colleges and Universities under an Ontario Graduate Scholarship.

Statement of Contribution

I, Kylie McNeill, was responsible for collecting and analyzing the data in the two phases of the research project. I was entirely responsible for writing the four articles that constituted this doctoral dissertation. Dr. Natalie Durand-Bush, the lead thesis supervisor, was directly involved in every aspect of the research. She contributed to the conceptualization of the project, co-developed the intervention workbook and reflective journal in Study 4, and debriefed regularly with me throughout the data collection and analysis stages of the research. In particular, she provided critical reflections on the narrative constructions in Study 3 and the data coding and interpretations in Study 4. Dr. Durand-Bush revised all four articles and reviewed all parts of the dissertation. Dr. Pierre-Nicolas Lemyre, the thesis co-supervisor, contributed to the conceptualization of the research, notably the analytical approaches used in Studies 1 and 2, and he provided general feedback on the articles in the dissertation. As such, Dr. Durand-Bush and Dr. Lemyre are co-authors on all articles emerging from this research. In Study 2, Dr. Bård Erlend Solstad (post-doctoral fellow at the Norwegian School of Sport Sciences) assisted with the statistical analyses and interpretation of the results and edited the manuscript. He is therefore a co-author on Article 2. Dr. Gro Jordalen (Norwegian School of Sport Sciences) provided editorial feedback on the organization of the statistical data in Article 2. Thesis committee members, Dr. Diane Culver and Dr. Tanya Forneris, provided conceptual feedback during the thesis proposal stage. Dr. Culver also offered guidance on the demographic/coaching questionnaire items in the survey in Phase 1. Dr. Nicole Dubuc-Charbonneau (recent doctoral graduate of Dr. Durand-Bush) and Ms. Poppy DesClouds (current doctoral candidate of Dr. Durand-Bush) served as critical colleagues to enhance the trustworthiness of the results in Study 4. Specifically, they each independently coded approximately 10% of the meaning units and

offered feedback on the data analysis and interpretations. Dr. Dubuc-Charbonneau also conducted the bracketing interview with me and provided feedback on some sections of Article 4. Ethics approval for the research project was obtained from the Research Ethics Board of the Office of Research Ethics and Integrity at the University of Ottawa prior to data collection.

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PART I

Introduction

Burnout is a psychological syndrome arising from exposure to chronic work-related stress (Maslach, Schaufeli, & Leiter, 2001). While the topic of coach burnout has been studied for over 30 years, the empirical base remains relatively small (Lundkvist, Gustafsson, & Davis, 2015). Importantly, the literature is marked by few qualitative studies and thus a description of coaches' subjective experiences of burnout, including the implications this syndrome has for their well-being and coaching practice, is largely missing (Raedeke & Kenttä, 2013). Moreover, although coaches are considered particularly prone to burnout given the stressors they face in their roles (Hjälm, Kenttä, Hassmén, & Gustafsson, 2007), not all coaches burn out in response to their demands (Bentzen, Lemyre, & Kenttä, 2015a). Therefore, individual factors play an important role in the development of this syndrome, yet there is limited understanding of the personal resources and competencies that may help protect coaches from developing it (Raedeke & Kentta, 2013). Taken together, these gaps in the evidence base pose a challenge for the development of sound interventions to address coach burnout (Goodger, Gorely, Lavallee, & Harwood, 2007). Indeed, a critical gap in the literature is the absence of interventions designed to help coaches manage this syndrome (Raedeke & Kentta, 2013).

One personal resource that may play a protective role in the development of burnout (Mattern & Bauer, 2014) and can be strengthened through interventions is coaches' self-regulation capacity (Durand-Bush, McNeill, & Collins, 2015). Self-regulation reflects the capacity to plan, generate, evaluate, and adjust thoughts, feelings, and actions in line with one's preferred standards and personal goals (Carver & Scheier, 1998; Zimmerman, 2000). Effective self-regulatory capacity enables individuals to adapt to their changing environments (e.g.,

external stressors, Zimmerman, 2000) and thus plays an important role in one's psychological functioning (Sanders & Mazzucchelli, 2012), including one's burnout and well-being (Gagnon, Durand-Bush, & Young, 2016; Mattern & Bauer, 2014). While the association between self-regulation capacity and burnout has yet to be examined in coaches, Dubuc-Charbonneau and Durand-Bush (2015) recently found that participating in a self-regulation intervention led to reduced burnout and stress, and improved well-being in Canadian athletes experiencing burnout. Therefore, examining how coaches' self-regulatory capacity is associated with burnout and related variables, such as well-being and stress, is warranted, as is investigating the perceived impact of a self-regulation intervention implemented with coaches experiencing burnout. These constituted the aims of the current research.

Literature Review

The following section will present an overview of the literature pertaining to coaches' stress, burnout, and well-being in order to provide a holistic understanding of burnout as a stress-related syndrome in coaches. Research on self-regulation and self-regulation interventions is also reviewed to lay the empirical and conceptual groundwork for the intervention conducted with coaches experiencing burnout in this research project. The section concludes with the rationale for conducting the current research and an overview of the dissertation aims, including the specific purposes fulfilled and theoretical frameworks guiding the four studies presented in Part III.

Coaching Stress

While coaches report deriving numerous benefits from their work, such as forming bonds with their athletes, enjoying seeing their athletes succeed, and making a contribution to their sport and community (Frey, 2007; Lorimer, 2009), coaching can also be a demanding and

challenging pursuit (Raedeke, 2004). Coaches often operate within complex and contentious work environments where they must perform in the face of considerable pressure and uncertainty (McLean & Mallett, 2012; Thompson, Potrac, & Jones, 2015). For instance, a recent study involving a broad sample of over 500 Canadian coaches revealed that job-related factors such as unclear contract expectations, lack of agreed upon evaluation criteria, lack of social support, and the expectation to work more than 40 hours per week, were all associated with higher levels of perceived stress (Knight, Reade, Selzler, & Rodgers, 2013).

Moreover, findings from a number of qualitative studies conducted with high-level coaches (i.e., American NCAA coaches, Frey, 2007; elite UK coaches, Olusoga, Butt, Hays, & Maynard, 2009; Thelwell, Weston, Greenlees, & Hutchings, 2008; developmental and high performance Canadian coaches; Durand-Bush, Collins, & McNeill, 2012) have shown that coaches face numerous and diverse demands in their roles. Many of these stressors stem from their athletes (e.g., communication problems, commitment and professionalism issues, lack of control over their athletes; Frey, 2007; Olusoga et al., 2009), while others are performance-related (e.g., development of athletes, preparation for major competitions, achievement of results, Thelwell et al., 2008; Olusoga et al., 2009) or organizational in nature (e.g., lack of financial resources, numerous roles and responsibilities, conflict within the organization, Frey, 2007; Olusoga et al., 2009). Moreover, beyond external sources of stress, such as familial responsibilities (Durand-Bush et al., 2012), coaching demands also emanate from internal sources, including self-imposed expectations and high personal standards (Durand-Bush et al., 2012; Olusoga et al., 2009).

While these findings shed light on the volume of demands faced by coaches, they do not indicate the intensity or severity of stress experienced by coaches (Knight et al., 2013). That said,

researchers have explored coaches' responses to these stressors, building on earlier studies wherein stress was found to be detrimental to coaches' ability to execute requisite behaviours (Kellman & Kallus, 1994) and contribute to coaches' decisions to leave the profession (Pastore, 1991). For instance, in her investigation of NCAA coaches, Frey (2007) found that for some coaches who were unable to manage their stress levels effectively, their ability to focus and make decisions was impaired and they were more likely to experience emotional outbursts. Several maladaptive responses to stress were also identified by the developmental and high-performance female Canadian coaches in Durand-Bush and colleagues' (2012) study, including withdrawal from interactions with their athletes, autocratic decision-making, reduced patience, inadequate preparation, and diminished confidence.

Coaches therefore need to be equipped with appropriate psychological skills and strategies to effectively cope with their demands (Gould, Guinan, Greenleaf, & Chung, 2002; Olusoga et al., 2009). Qualitative studies have shown that coaches utilize an array of coping strategies, most of which can be classified as problem-focused (i.e., strategies directed towards stressors, Fletcher & Scott, 2010), including preparation, focus on the coaching process rather than outcomes, external help and support, and workload reduction (Durand-Bush et al., 2012; Frey, 2007; Levy, Nicholls, Marchant, & Polman, 2009; Olusoga, Butt, Maynard, & Hays, 2010). Emotion-focused coping (i.e., strategies to deal with one's emotional responses to stressors, Fletcher & Scott, 2010) appeared less frequently in these studies, although coaches did report using strategies such as positive self-talk, perspective taking, and focus on the intrinsic value of coaching (Durand-Bush et al., 2012; Frey, 2007; Levy et al., 2009) to cope with stress. Unfortunately, little is known about the effectiveness of coaches' coping strategies (Norris, Didymus, & Kaiseler, 2017). However, in a diary study with an elite UK aquatic sport coach,

Levy and colleagues (2009) found that perceived coping effectiveness declined over the 28-day study period, while the frequency of stressors increased. This highlights that coaches must employ coping strategies *proactively*, as well as evaluate and adapt their coping strategies *reactively*, in order to successfully manage stressors and prevent stress-related strain, including burnout (Durand-Bush et al., 2012).

Coach Burnout

Burnout results from prolonged exposure to work-related stressors, wherein individuals perceive that they lack sufficient resources to effectively cope with their demands over an extended period of time (Maslach et al., 2001). Burnout is more than a stress response, however; it is a multidimensional psychological syndrome, consisting of three core dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach, Jackson, & Leiter, 1996). For coaches experiencing burnout then, the syndrome may be manifested in (a) a feeling of being depleted and overextended (emotional exhaustion), (b) a cynical attitude towards and subsequent detachment from athletes with whom they work (depersonalization), and (c) a decreased sense of achievement and efficacy in their coaching roles (reduced personal accomplishment, Kelley, 1994).

Within the sport and coaching literature, burnout has primarily been conceptualized using Smith's (1986) Cognitive-Affective Stress-Based Burnout Model (CASBBM; see Figure 1, Appendix A; Gustafsson, Hancock, & Côté, 2014). The CASBBM is a stress-based process model wherein burnout results from situations in which there is a prolonged imbalance between one's environmental demands (e.g., role conflict, Capel, Sisley, & Desertrain, 1987) and one's resources (e.g., hardiness, Kelley, Eklund, & Ritter-Taylor, 1999; social support, Kelley & Gill, 1993). This imbalance is mediated by one's cognitive appraisal of the situation (i.e., of one's

demands, available resources, consequences of not meeting those demands, and meaningfulness of those consequences). If the imbalance is perceived as threatening (e.g., perceived overload, lack of perceived control; Vealey, Udry, Zimmerman, & Soliday, 1992), physiological responses (e.g., anxiety, frustration; Durand-Bush et al., 2012) ensue, and one may be unable to mobilize his or her resources. Finally, burnout results in maladaptive behavioural responses (e.g., strained social relationships, decreased performance, psychological or physical withdrawal; Smith, 1986), that are enacted to reduce undesired physiological states. Smith (1986) also posited that motivational and personality variables influence the development of burnout, for example, by predisposing an individual to appraise his or her situations as threatening. However, with its narrow focus on *physiological* responses, an important limitation of the CASBBM is that it fails to sufficiently account for how emotions are associated with burnout and thus downplays the highly emotional nature of this syndrome (Shirom, 2003).

That said, researchers have found support for the CASBBM (Smith, 1986) in studies of American coaches, in particular, for the central role of cognitive appraisals in this process (e.g., Kelley, 1994; Kelley & Gill, 1993; Kelley et al., 1999; Tashman, Tenenbaum, & Eklund, 2010; Vealey et al., 1992). Vealey and colleagues (1992) found that specific cognitive appraisals were important negative (e.g., perceived rewards) and positive (e.g., perceived overload) predictors of burnout in their sample of American high school and collegiate coaches. Moreover, both situational (e.g., win-loss record, coaching issues, Kelley, 1994) and personal (e.g., gender, Kelley et al., 1999; maladaptive perfectionism, Tashman et al., 2010) variables were found to influence collegiate coaches' perceptions of stress, which in turn were linked to burnout. In further support of the CASBBM, some personality variables (i.e., hardiness, Kelley et al., 1999; perfectionism, Tashman et al., 2010) were also directly associated to burnout, beyond their

associations with coaches' appraisals of stress. Aside from these personality variables, however, little is known about the individual factors, including personal resources, that would directly influence the stress process and help protect coaches from experiencing stress-related strain and burnout (Fletcher & Scott, 2010).

Researchers have relied almost exclusively on quantitative methods to study burnout in coaches, including its prevalence (e.g., Hjälm et al., 2007; Karabatsos, Malousaris, & Apostolidis, 2006), its correlates (e.g., commitment, Raedeke, Granzyk, & Warren, 2000; gender, Pastore & Judd, 1993; leadership style, Ryska, 2009; workload, Bentzen, Lemyre, & Kenttä, 2016), and to a lesser extent, its outcomes (e.g., turnover intentions, Kilo & Hassmén, 2016; controlling coaching behaviours; Stebbings, Taylor, Spray, & Ntoumanis, 2012). Unfortunately, qualitative investigations of this phenomenon are largely missing from the literature (Lundkvist et al., 2015). As a result, there is limited knowledge regarding the holistic, subjective experience of burnout in coaches, including the consequences of this syndrome for coaches' performance, retention, and overall well-being (Goodger et al., 2007; Raedeke & Kenttä, 2013).

However, in two recent studies, elite Scandinavian coaches' experiences of burnout were explored using qualitative methods (Bentzen, Lemyre, & Kenttä, 2015b; Lundkvist, Gustafsson, Hjälm, & Hassmén, 2012). Based on retrospective interviews with four coaches, Bentzen and colleagues (2015b) found that contextual factors within the coaches' work environments (e.g., lack of resources, high workload, conflict within the organization) undermined their psychological needs, which over time led to burnout. The coaches in Lundkvist and colleagues' (2012) study also described contextual stressors within their sport environments (e.g., media scrutiny, performance pressures), yet, for some of the coaches, burnout resulted from sources of

strain outside of their coaching (e.g., interference of work in their personal lives, balancing secondary employment with coaching). In both of these studies, burnout manifested itself in a wide variety of affective (e.g., depressed mood, anger), social (e.g., lack of empathy, social withdrawal), cognitive (e.g., rumination, lack of concentration), physical (e.g., disturbed sleep, panic attacks), behavioural (e.g., outbursts, passivity), and motivational (e.g., apathy, loss of meaning) symptoms, which support the physiological and behavioural consequences of burnout identified in the CASBBM (Smith, 1986). Given the salience of the findings of these two studies, more qualitative research with different samples of coaches is needed; idiographic accounts, in particular, would contribute meaningfully to the literature by presenting a rich description of coaches' unique experiences of burnout (Lundkvist et al., 2015).

The aforementioned studies also suggest that a more holistic approach to studying and addressing coach burnout is needed, as its symptoms may have negative implications for athlete outcomes and coaches' own well-being. In support of this, quantitative studies have demonstrated that athletes of American collegiate and high school coaches who scored high on burnout perceived that their coaches were less empathetic, provided less training, instruction, and social support, and that they withdrew from coach-athlete interactions (Price & Weiss, 2000; Vealey, Armstrong, Comar, & Greenleaf, 1998). More recently, Stebbings and colleagues (2012) found that indices of ill-being, including burnout (i.e., emotional exhaustion), were associated with a controlling interpersonal coaching style (i.e., intimidation of athletes through criticism or punishment, pressure on athletes to think and behave in a certain way, Stebbings et al., 2012) in a large, diverse sample of coaches. Beyond its potential negative impact on athletes' sport experiences (Goodger et al., 2007), burnout arguably has consequences for coaches' personal lives, physical health, and overall well-being (Bentzen et al., 2015b; Durand-Bush et al., 2012;

Lundkvist et al., 2012). Therefore, there is a need to develop and evaluate interventions to help coaches who are experiencing burnout.

Unfortunately, despite calls for intervention strategies in previous reviews (e.g., Dale & Weinberg, 1990; Goodger et al., 2007), the literature is marked by an absence of studies investigating interventions to address coach burnout (Lundqvist et al., 2015). Outside of sport, research on interventions for occupational burnout remains relatively scarce (Maslach & Leiter, 2016), with mixed results in terms of effectiveness being reported (Le Blanc, Hox, Schaufeli, Taris, & Peeters, 2007). That is, while typical interventions for burnout (i.e., those employing cognitive-behavioural and relaxation techniques) are associated with reductions in emotional exhaustion, they are generally less effective for improving one's sense of depersonalization/cynicism or personal accomplishment (see Maricutoiu, Sava, & Butta, 2014 for a recent meta-analysis). As such, it has been recommended that researchers should look past solely alleviating the symptoms of burnout and focus on fostering individuals' well-being to strengthen the effectiveness of burnout interventions (Bentzen et al., 2015a; Maslach, Leiter, & Jackson, 2012; Van Dierendonck, Garssen, & Visser, 2005).

Well-Being

The viewpoint that burnout interventions should explicitly address features of well-being is consistent with a comprehensive understanding of psychological functioning, which recognizes that well-being is not merely the absence of ill-being (e.g., burnout) but rather the presence of positive features of functioning in one's life (Keyes, 2002). There has been considerable debate over how best to conceptualize well-being in the field of positive psychology (see Ryan & Deci, 2001 for a review). Much of this debate is based on two contrasting philosophical positions that underpin well-being research: hedonia and eudaimonia

(Ryan & Deci, 2001). Within the hedonic perspective, well-being reflects subjective happiness, pleasure or positive emotions, and satisfaction with life. On the other hand, eudaimonic well-being represents the fulfillment of human potentials and the experience of meaning in life (Keyes & Annas, 2009). However, it has been argued that a more complete conceptualization of well-being includes aspects of both traditions (Lundqvist, 2011). In line with this, Keyes (2002) put forth an integrated conceptualization, defining subjective well-being as being comprised of: (a) emotional (i.e., positive affect and satisfaction with life), (b) psychological (e.g., experience of self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others); and (c) social (e.g., sense of social contribution, coherence, actualization, acceptance, and integration) dimensions of well-being (see Table 1, Appendix B for a description). As such, a combination of happiness and satisfaction with life (i.e., hedonic well-being) and positive psychological and social functioning (i.e., eudaimonic well-being) is said to contribute to one's overall well-being (Westerhof & Keyes, 2010).

Keyes (2002) further proposed in his Dual-Continua Model of Mental Health (DCMMH) that well-being (i.e., positive mental health) and ill-being (i.e., malfunction or impairment, such as burnout; Stebbings & Taylor, 2017) do not represent opposite ends of the same continuum, but rather two separate continua. From the DCMMH, optimal functioning is characterized as a "complete state" wherein an individual experiences high levels of subjective well-being along with an absence of malfunction or ill-being. However, given that ill-being and well-being are conceptualized as separate factors in one's overall functioning, one of the implications of this model is that the experience of ill-being does not prevent individuals from experiencing well-being (Westerhof & Keyes). This perspective is therefore empowering for those living with any type of impairment. The DCMMH has yet to be applied in coaching studies, however,

researchers in the field of coaching have endorsed the viewpoint that ill-being and well-being are distinct, but related facets of coaches' functioning (e.g., Bentzen et al., 2015a; Stebbings, Taylor, & Spray, 2015). For example, the negative correlations between indices of ill-being (e.g., negative affect, burnout) and well-being were only low to moderate in some studies of coaches (Alcaraz, Torregrosa, & Viladrich, 2015; Bentzen et al., 2015b; Stebbings et al., 2012).

Placing burnout within a larger framework of coaches' overall psychological functioning therefore requires equally investigating their well-being. Overall, studies examining coaches' well-being in line with a positive psychology perspective are still in their infancy and have been almost exclusively quantitative in nature (see Neil, McFarlane, & Smith, 2017 for a review). Specifically, findings reveal that indices of well-being are linked to variety of antecedents in this population such as high quality coach-athlete relationships, satisfaction of coaches' basic psychological needs (i.e., autonomy, competence, and relatedness; Deci & Ryan, 2000) and self-determined motivation (Alcaraz et al., 2015; Bentzen et al., 2015a; Lafrenière, Jowett, Vallerand, Donahue, & Lorimer, 2008; Stebbings, Taylor, & Spray, 2011; Stebbings et al., 2012).

At the situational level, opportunities for professional development, job security, the absence of work-life conflict, and autonomy support from one's organization were positively related to well-being. On the other hand, an increase in coaches' workload negatively predicted their vitality (Bentzen et al., 2015b; Stebbings et al., 2012). Furthermore, Stebbings and colleagues found that indices of hedonic well-being (i.e., positive affect) and eudaimonic well-being (i.e., psychological integration, vitality) were associated with the provision of autonomy-supportive coaching (e.g., acknowledgement of athletes' feelings and opportunities for athlete input; Stebbings et al., 2012). Furthermore, these indices were either unrelated to coaches' controlling behaviour (Stebbings, Taylor, & Spray, 2015) or negatively predicted their use of

controlling behaviour (Stebbings et al., 2011). These studies highlight that coaches who experience greater well-being are more likely to engage in adaptive coaching practices (Stebbings & Taylor, 2017).

Clearly, as both individuals and key social agents in sport, it is important for coaches to be psychologically well and functioning optimally in their roles (Allen & Shaw, 2009). In their qualitative investigation of eight Canadian female coaches, however, Durand-Bush and colleagues (2012) found that the part-time and full-time coaches did not hold high personal standards for their own well-being, and instead prioritized the needs of their athletes. Moreover, they often neglected their well-being needs during periods of high stress, which reportedly contributed to symptoms of burnout in six of the eight coaches. Similarly, a longitudinal quantitative study revealed that German full-time coaches, but not part-time coaches, developed a maladaptive lifestyle at the end of their season. Despite experiencing increased stress and burnout, they invested more time in their coaching, neglected to take care of themselves, and their sense of meaningfulness and well-being decreased (Altfeld, Mallett, & Kellmann, 2015). These studies suggest that optimizing well-being may be particularly important for coaches who are experiencing burnout or who are at-risk of becoming burnt-out. A worthy line of future research would be to investigate the personal resources and competencies that could enable coaches to achieve and sustain adequate levels of well-being, in spite of their high demands, stressors, and symptoms of ill-being (i.e., burnout).

Self-Regulation

One personal resource that may help coaches achieve well-being in the face of high demands and stress-related strain is self-regulation (Durand-Bush, McNeill, Harding, & Dobransky, 2015). Self-regulation involves generating thoughts, feelings, and behaviours that are

planned and cyclically adapted towards the attainment of personal goals in one's changing environment (Zimmerman, 2000). In essence, it refers to the regular exercise of control over oneself in order to adjust to external demands and bring oneself in line with one's preferred standards (e.g., how one wants to think, feel, and behave, Carver & Scheier, 1998; Vohs & Baumeister, 2004) and goals (Zimmerman, 2000). Self-regulation capacity rests on a series of competencies (e.g., goal-setting, self-control, self-evaluation) that are employed to effectively manage one's environment, as well as the ability to enact these competencies across relevant contexts, such as one's coaching and one's personal life (Durand-Bush, McNeill, & Collins, 2015; Zimmerman, 2000). Given that coaches face numerous demands emanating from various sources (Norris et al., 2017), self-regulation capacity is arguably an important personal resource to foster in this population (Durand-Bush, McNeill, & Collins, 2015).

Zimmerman (2000) summarized the competencies and processes inherent to self-regulation capacity in his Social-Cognitive Model of Self-Regulated Learning and Performance (SCMSRLP). The SCMSRLP conceptualizes self-regulation as a cyclical process enacted over three phases (see Figure 2, Appendix C). Briefly, the *forethought (i.e., preparation) phase* involves establishing one's personal standards, setting personal goals, and then forming strategic plans to meet them. The *performance (i.e., execution) phase* consists of implementing skills (e.g., focus, self-talk) to successfully carry out one's plans and monitor one's performance. Finally, the *self-reflection (i.e., evaluation) phase* involves evaluating data from the performance phase with respect to one's personal standards and goals and making adaptations in order to improve subsequent self-regulatory attempts (Durand-Bush, McNeill, & Collins, 2015; Zimmerman, 2000; 2008).

To illustrate the SCMSRLP (Zimmerman, 2000), a coach possessing effective self-regulatory competencies would set realistic personal standards, goals, and outcome expectations based on the task she wishes to perform and how she wants to feel, think, and behave in the process. When performing the task, she would monitor her performance against these self-defined standards; upon detecting a discrepancy, she would activate goal-directed actions under volitional control and draw upon a diverse repertoire of skills (e.g., focusing, engaging in self-instruction or imagery, Zimmerman, 2000) to change or realign her performance. This coach would be self-reflective and capable of adequately evaluating her performance against her set goals, personal standards, and outcome expectations; she would also derive positive affect and intrinsic feelings of satisfaction from her performance and make adaptive decisions (i.e., inferences) in order to maintain or enhance her self-efficacy beliefs to keep learning and meet future challenges (Sanders & Mazzucchelli, 2012; Zimmerman, 2000; 2008).

Based on this example, one can observe that self-regulation capacity plays an adaptive role in an individual's psychological functioning (Baumeister, Gailliot, DeWall, & Oaten, 2006; Sanders & Mazzucchelli, 2012) and may have positive implications for one's levels of burnout, well-being, and stress. For instance, Mattern and Bauer (2014) found that German teachers' ability to effectively self-regulate while working on tasks outside of school hours was negatively related to emotional exhaustion and positively related to job satisfaction (i.e., an indicator of work-related well-being). In studies of physicians/medical residents (Gagnon et al., 2016) and university students (Durand-Bush, McNeill, et al., 2015), self-regulation capacity was not only negatively associated with ill-being indices (i.e., stress and burnout), it also accounted for a significant proportion of variance in the respondents' levels of psychological well-being (e.g., 30.4% of variance across different dimensions of psychological well-being; Durand-Bush,

McNeill, et al., 2015). To advance the literature on the role of self-regulation in psychological functioning, researchers should examine the mechanism through which self-regulation capacity may be associated with burnout (Mattern & Bauer, 2014), such as through its influence on one's perceptions of stress (Smith, 1986).

Coaches' self-regulatory capacity remains largely unexplored, although being able to effectively regulate thoughts, feelings, and actions is essential for successful coaching (Donoso-Morales, Bloom, & Caron, 2017). However, in one study of 430 NCAA coaches, coaches' emotion regulation, a self-regulatory competency related to self-control, was linked to burnout, wherein less adaptive regulation (i.e., suppression of negative emotions) was positively associated with coaches' emotional exhaustion (Lee & Chelladurai, 2016). Moreover, Durand-Bush and colleagues (2012) qualitatively investigated burnout, well-being, self-regulation, and stress in a sample of eight Canadian female developmental and high-performance coaches. Grounded in the CASBBM (Smith, 1986) and the SCMSRLP (Zimmerman, 2000), the authors found that the female coaches employed self-regulatory strategies to not only cope with stress reactively, when it arose (e.g., self-evaluate to determine the best course of action after facing a stressor), but also proactively, by preparing to meet and manage their coaching demands (e.g., reduce workload). The CASBBM does not include proactive anticipatory responses, which highlights the value of integrating the SCMSRLP in studies of burnout in coaches (Durand-Bush et al., 2012). It stands to reason that coaches with effective self-regulatory competencies may be better able to manage their demands, and as such, experience less stress and burnout and greater well-being. However, research is needed to investigate the associations between these variables in coaches to substantiate these hypotheses. The importance of such investigations is further reinforced by the fact that self-regulatory competencies are dynamic and can be learned and

enhanced through systematic interventions (Schunk & Zimmerman, 2003; Zimmerman, 2000), which could be empowering for coaches.

Self-regulation interventions. Given its association with enhanced well-being and reduced burnout (Gagnon et al., 2016, Mattern & Bauer, 2014), self-regulatory capacity represents a relevant intervention target for coaches who may be feeling depleted, withdrawn, and inefficacious (i.e., burnt-out, Kelley, 1994). Indeed, strengthening self-regulatory competencies is consistent with a number of strategies that have been put forth in the literature to address coach burnout. These include emotional regulation (Lee & Chelladurai, 2016; Stebbings & Taylor, 2017), goal-setting (Kelley, 1994), cognitive reappraisal of coaching as a meaningful pursuit (Vealey et al., 1992), self-monitoring of physical and emotional states (Raedeke & Kenttä, 2013), and self-reflection to increase one's self-awareness (e.g., Altfeld, Schaffran, Kleinert, & Kellmann, 2018; Giges, Petipas, & Vernacchia, 2004). However, researchers have yet to apply these strategies to coaches experiencing burnout. Although not designed to address burnout, Longshore and Sachs (2015) found that an intervention promoting mindfulness (i.e., a construct related to self-regulation that reflects greater present-moment awareness and acceptance, Baer, 2003) led to decreased anxiety and negative emotions in their sample of 20 NCAA coaches. Qualitative data showed that the coaches also perceived greater emotional control, awareness, and work-life balance, as well as reduced stress from participating in the intervention. This suggests that coaches can develop self-regulation competencies to help manage negative psychological states and achieve greater well-being (Longshore & Sachs, 2015).

For several years, Durand-Bush and colleagues have implemented and studied self-regulation interventions both within (Arcand, Durand-Bush, & Miall, 2007; Callary & Durand-

Bush, 2008; Collins & Durand-Bush, 2010; Doell, Durand-Bush, & Newburg, 2006; Dubuc-Charbonneau & Durand-Bush, 2018; Lussier-Ley & Durand-Bush, 2009), and outside (Guérin, Arcand, & Durand-Bush, 2010; Simon & Durand-Bush, 2009) the context of sport, with the aim of enhancing participants' performance and well-being. Grounded in the Resonance Performance Model (RPM; Dubuc-Charbonneau & Durand-Bush, 2015, see Figure 3, Appendix D), participants in these studies learned to self-regulate by (a) proactively preparing to feel the way they wanted, (b) developing strategies to feel the way they wanted more consistently, (c) identifying obstacles that inhibited their desired felt experiences, and (c) developing strategies to reconnect with how they wanted to feel in order to effectively respond to obstacles. Through participating in multiple person-centered intervention sessions and engaging in ongoing self-reflection (e.g., through journaling), participants reported improved self-awareness, self-regulatory capacity, performance, and well-being (see review by Durand-Bush, McNeill, & Collins, 2015).

The aforementioned interventions were all implemented with relatively healthy and efficacious individuals (Durand-Bush, McNeill, & Collins, 2015), except for Dubuc-Charbonneau and Durand-Bush (2015; 2018) who investigated the impact of a season-long person-centred self-regulation intervention with eight Canadian varsity athletes experiencing burnout. Findings demonstrate that learning self-regulatory competencies (e.g., goal-setting, self-monitoring, self-reflection) by participating in six to eight individual intervention sessions with a trained facilitator led to decreased levels of stress and burnout and increased levels of well-being and self-regulation capacity (Dubuc-Charbonneau & Durand-Bush, 2015). Moreover, the athletes described heightened self-awareness, self-efficacy, autonomy, and motivation as a result of the intervention (Dubuc-Charbonneau & Durand-Bush, 2018). As such, implementing a similar

intervention with coaches experiencing burnout is warranted, especially given recommendations that burnout interventions should address positive aspects of functioning as well (e.g., Maslach et al., 2012; Van Dierendonck et al., 2005).

A similar format involving individual and/or group intervention sessions was used in previous self-regulation interventions (Durand-Bush, McNeill, & Collins, 2015). Therefore, studies are needed to examine whether self-regulation competencies can be effectively learned using different intervention formats or mediums. In the applied sport psychology literature, researchers have used educational workbooks to teach a variety of psychological skills, such as self-talk (McCormick, Meijen, & Marcora, 2018), goal-setting (McCarthy, Jones, Harwood, & Davenport, 2014), and proactive coping (Devonport & Lane, 2014) in intervention studies. Given that coaches work long hours and have demanding schedules, a workbook containing exercises to help them develop and implement self-regulatory competencies offers a convenient intervention delivery method for this population. With less reliance on face-to-face sessions with a facilitator, workbooks also increase the accessibility of interventions (McCarthy et al., 2010), in addition to providing consistency in terms of the specific competencies to which the participants are exposed. Moreover, having the intervention material available to refer back to at any point may be particularly useful for coaches who experience fluctuations in their burnout and well-being, and who could therefore benefit from having access to resources when needed (McCarthy et al., 2010). These considerations helped to inform the format of the self-regulation intervention used in the present study.

Rationale for the Current Research

In summary, coaches face numerous and diverse demands in their roles, putting them at risk of burnout (Hjälm et al., 2007). In spite of this, we know little about how burnout is

subjectively experienced by coaches or the consequences this syndrome has for coaches or for the athletes in their care (Raedeke & Kenttä, 2013). Moreover, in line with the CASBBM (Smith, 1986), a greater understanding of the personal resources that may help coaches to effectively manage their demanding environments to prevent experiencing burnout is needed (Fletcher & Scott, 2010). As articulated in the SCMSRLP (Zimmerman, 2000), self-regulation capacity is an important personal resource that enables individuals to adapt to their changing (i.e., stressful) environments. Thus, examining how self-regulation capacity is associated with burnout and related variables (i.e., well-being and perceived stress) in coaches would contribute importantly to the literature. Indeed, it could help support the development of sound interventions to alleviate coach burnout, which are absent from the literature (Goodger et al., 2007; Lundqvist et al., 2015). Interventions targeting coaches' burnout symptoms should address indices and dimensions of not only stress and burnout, but also well-being, as suggested by the DCMMH (Keyes, 2002). Thus, building on Dubuc-Charbonneau and Durand-Bush's (2015; 2018) findings demonstrating that a self-regulation intervention can significantly reduce stress and burnout, and enhance well-being in athletes experiencing burnout, implementing a self-regulation intervention tailored to the realities of coaches is warranted. This constituted the rationale for the current research project, which was grounded in the aforementioned well-supported theoretical frameworks (i.e., the CASBBM, Smith, 1986; the SCMSRLP, Zimmerman, 2000; the RPM, Dubuc-Charbonneau, 2015; and the DCMMH; Keyes, 2002) in order to comprehensively address the research aims, described below.

Purpose

With the aforementioned considerations in mind, the overarching aims of this research were to advance knowledge of coach burnout and interventions addressing this syndrome by

investigating (a) the associations between burnout, well-being, self-regulation capacity, and perceived stress in coaches, and (b) the perceived impact of a self-regulation intervention implemented with coaches experiencing moderate to high levels of burnout. To address the overall aims of the dissertation, four studies were conducted and their specific purposes are outlined below:

(a) The purposes of Study 1 were to identify profiles of psychological functioning within a sample of coaches based on burnout and well-being indices, and investigate whether coaches in these profiles differed in their capacity to self-regulate and their perceptions of stress.

(b) The purpose of Study 2 was to examine the associations between self-regulation capacity, perceived stress, and burnout in coaches, and more specifically, to test the intervening variable effect of perceived stress in the association between coaches' self-regulatory capacity and their emotional exhaustion, depersonalization, and personal accomplishment.

(c) The purpose of Study 3 was to investigate coaches' subjective experiences of burnout in order to shed light on the complex emotional nature of this syndrome.

(d) The purpose of Study 4 was to implement a self-regulation intervention with coaches experiencing moderate to high levels of burnout and examine the perceived impact of this intervention on their self-regulation capacity and experiences of burnout and well-being.

PART II

Supplemental Methods

The following section serves as a supplement to the methods sections included in the four articles in Part III of the dissertation. Given the constraints of journal page limits, certain details regarding the research methods employed in these studies were not discussed, such as the research paradigm and mixed methods design that informed the current research. Moreover, greater detail is provided on the intervention, including the recruitment process, content of specific workbook sections, and the researcher who facilitated the intervention. This section also outlines the chronological order of the data collection procedures, in order to describe the two-phased, mixed methods design and explain how the data collected during these phases were integrated in each of the four studies.

Pragmatic Paradigm

The current research was guided by the pragmatic paradigm, which is associated with a needs-based practical approach to selecting one's research methods (Doyle, Brady, & Byrne, 2009). Specifically, in response to the contention that qualitative and quantitative methods are incompatible on the basis of their underlying epistemologies (e.g., post-positivism vs. constructivism), researchers subscribing to this worldview argue that research methods should be judged on their practical merit and what they can accomplish instead (Pearce, 2012). From this pluralist perspective, then, combining both qualitative and quantitative research methods is justified on the basis of "what works" best in terms of addressing one's research purposes (Doyle et al., 2009; Hanson, Creswell, Plano-Clark, Petska, & Creswell, 2005; Karasz, 2011).

Pragmatists generally favour practical considerations over philosophical ones (Gibson, 2016). However, two epistemological stances informed the set of beliefs about the research process in the current project: post-positivism and constructivism. According to the post-positivism stance, reality is governed by predictable laws and thus can be reliably and objectively studied (Gibson, 2016). This perspective is well-suited to quantitative research, wherein phenomena are studied in a probabilistic fashion (Creswell, 2013). Therefore, Study 1 and Study 2 were guided by post-positivism, as the research purposes were related to making inferences and generalizations about the relationships between variables (Ponterotto, 2005). On the other hand, the purposes of Study 3 and Study 4 related to the coaches' subjective experiences (i.e., of burnout) and perceptions (i.e., of the impact of participating in the intervention). These studies were grounded in a constructivist stance, in which reality is believed to be constructed by the "meaning-making activity of the individual mind" (Schwandt, 1994, p. 127). Constructivism aligns itself well with researchers who seek to uncover how experiences and meaning are constructed by the participants in their study using qualitative methods (Ponterotto, 2005), as was the case in Study 3 and Study 4.

Mixed Methods Design

Guided by the pragmatic paradigm, both quantitative and qualitative data were collected over two separate phases in the current research to sufficiently address the overall research aims and capture the complexity of the phenomena (e.g., burnout, self-regulation) being studied (Vergeer & Lyle, 2007). Specifically, a sequential explanatory mixed methods design (Ivankova, Creswell, & Stick, 2006) was employed with equal priority given to the quantitative and qualitative data, as they addressed different research purposes. In Phase 1, quantitative methods were employed to broaden our understanding of the cross-sectional associations between the

study variables (i.e., Study 1 and Study 2). Data from Phase 1 were also used for criterion sampling (Sandelowski, 2000) in order to select sufficiently information-rich participants (i.e., experiencing moderate to high burnout; Patton, 2002) for Phase 2. In Phase 2, qualitative research methods were employed, which are valuable for deepening an understanding of a particular phenomenon, especially one that is not well understood (Smith & Sparkes, 2016), such as coach burnout (Raedeke & Kenttä, 2013). In this way, qualitative methods were used to explore coaches' idiographic, subjective experiences of burnout in Study 3 and provide a rich description of the coaches' perceptions of the impact of the self-regulation intervention to alleviate burnout in Study 4.

In the current research, mixed methods were used in parallel (i.e., separately in each of the four studies), rather than integrated within each of the studies, for the purpose of complementarity (Gibson, 2016). That is, in line with the overall aims of the research, the goal was to generate a more comprehensive understanding of burnout in coaches and how this phenomenon is related to their well-being, self-regulation capacity, and perceived stress. As such, convergence between the quantitative and qualitative methods is provided within the discussion in Part IV of the dissertation, as the qualitative findings from Studies 3 and 4 are integrated with the quantitative findings from Studies 1 and 2 to provide complementary evidence and a greater understanding of the experiences of, and relationships between, the study variables (Gibson, 2016; Hanson et al., 2005).

Data Collection

Data were collected in two phases. In Phase 1, a cross-sectional survey design was employed to collect quantitative data between December 2013 and March 2014. Phase 2 began

in February 2014[1] and ended in August 2014, and involved collecting qualitative data across three timepoints: (a) pre-intervention, (b) intervention, and (c) post-intervention (see Figure 1).

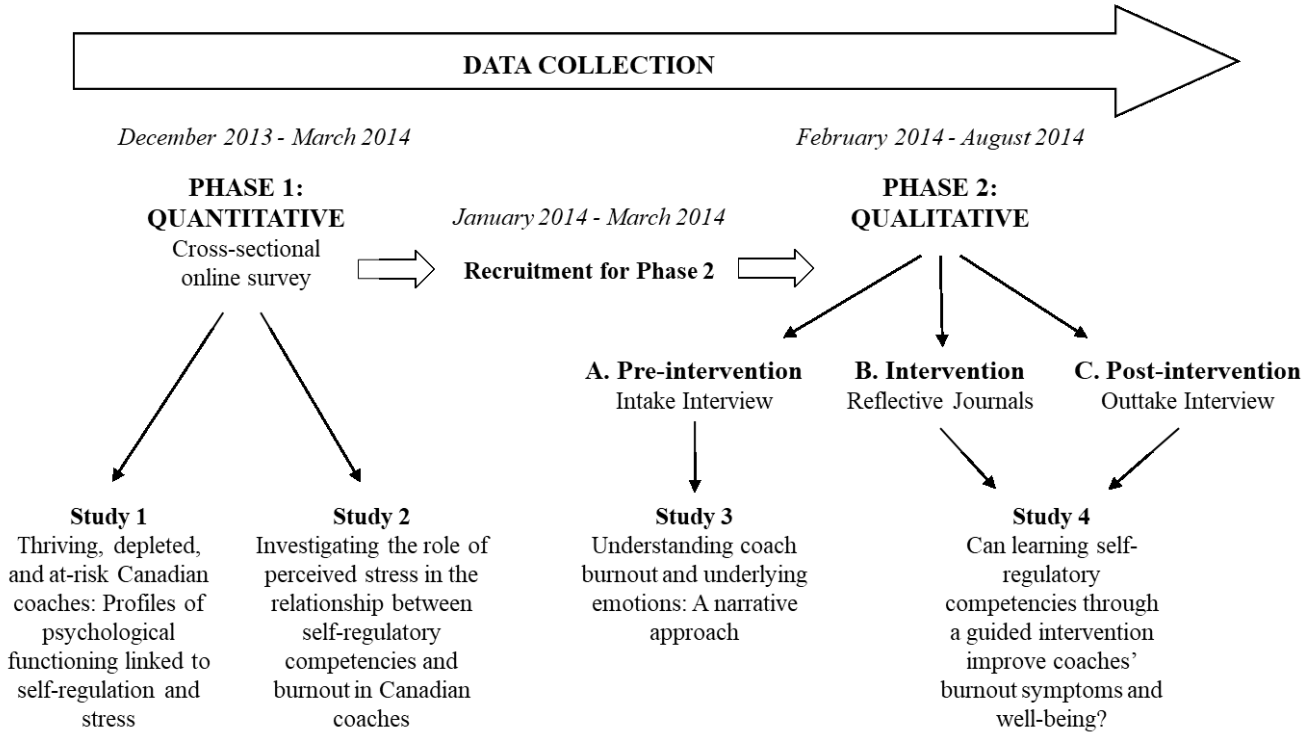

Figure 1. Timeline of data collection.

Phase 1: Quantitative

Procedure. After ethical approval was received from the university's Research Ethics Board, various local, provincial, and national sport and coaching organizations (N=86) were sent an information letter (Appendix E) between December 2013 and January 2014 asking for their help to recruit high level coaches within their organizations. For the purposes of the current research, "high level" referred to coaches working in the developmental and elite sport contexts

[1] Coaches were recruited for Phase 2 during the course of Phase 1.

(see Participants section below for definitions). Eighteen organizations agreed to forward the study invitation (Appendix F) to their coaches, which included a link to the online survey hosted on the secure website SurveyMonkey. The sport organizations did not provide any data on how many coaches were contacted, thus it was not possible to determine the response rate.

Coaches who clicked the link were asked to provide their informed consent (Appendix G) online before gaining access to five questionnaires: (a) a demographic and coaching questionnaire (see Appendix H), (b) the Maslach Burnout Inventory – Educator's Survey (MBI-ES; Maslach et al., 1996, see Appendix I), (c) the Mental Health Continuum – Short Form (MHC-SF; Keyes, Wissing, Potgieter, Temane, Kruger, & van Rooy, 2008, see Appendix J), (d) the short version of the Self-Regulation Questionnaire (SSRQ; Carey, Neal, & Collins, 2004, see Appendix K), and (e) the 10-item Perceived Stress Scale (PSS-10; Cohen et al., 1983, see Appendix L). A description of these measures, including their psychometric properties, is provided in Article 2 and Article 3. To test the clarity of the survey items and the functionality of the online platform, the survey was piloted with two graduate students, who were also developmental sport coaches. Both of them felt the survey was user-friendly and the items were clear; however, a minor change to the wording of one question in the demographic/coaching questionnaire (i.e., "do you intend to continue coaching next season?") was made based on one student's suggestion. As recommended by Maslach and colleagues (1996), all of the study documentation (i.e., invitation letter, recruitment text, and consent form) made reference to stress, and not burnout, in order to prevent sensitizing participants to the concept of burnout before completing the MBI-ES.

Participants. The convenience sample consisted of 260 Canadian coaches (149 men, 111 women) who worked within the developmental and elite sport coaching contexts. Using Gilbert

and Trudel's (2006) description of coaching contexts, coaches at the developmental level were defined as those providing specialized sport-specific training and a more formal competitive structure, compared to recreational coaches (who were not targeted in the current research). Coaches and athletes at this level also have increasing commitment, stable relationships, and athletes are selected based on skill tryouts. Coaches at the elite level have the highest levels of commitment, as do their athletes. They engage in intensive preparation and highly structured and formalized competitions, and their performance objectives are made public. Coaches use restrictive athlete selection criteria and typically work full-time in their role (Gilbert & Trudel, 2006).

The coaches ranged in age from 18 to 75 years old (M = 43.32; SD = 12.31) and had between 1 and 52 years of coaching experience (M = 17.46, SD = 10.68). They worked primarily with youth athletes (i.e., 12-21 years old) competing in a variety of different sports (n = 35), at the regional (10%, including high school), collegiate (4%), provincial (24%), national (25%), and international (37%) level. The most represented sports were track and field (18.8%), figure skating (10%), swimming (9.6%), and synchronized swimming (8.9%). The majority of the sample (55.2%) were paid coaches and 36.5% worked as full-time coaches, without secondary employment. At the time of the survey, 63.8% were in their competitive season in which they coached an average of 28.93 (SD = 21.18) hours per week. Of note, ten coaches were excluded from Study 2 because they did not complete the MHC-SF and could not be included in the main analyses (see below).

Data Analyses. In Study 1, a person-centered approach (i.e., investigation of how variables group across individuals) was employed to identify distinct profiles of burnout and well-being within the sample. Specifically, a two-stage cluster analysis (Hair, Black, Babin, &

Anderson, 2010) was performed with the MBI-ES and the MHC-SF subscales as the clustering variables. In order to examine how the profiles differed based on the coaches' capacity to self-regulate and their perceptions of stress, a MANOVA was conducted with the SSRQ and PSS-10 as the two dependent variables. Profile group differences on relevant demographic variables (e.g., gender, coaching experience, hours worked during competitive season) were also examined, using a MANOVA and a series of chi-squared tests of association.

Based on the significant associations between the different profiles and the coaches' levels of self-regulation capacity and perceived stress in Study 1, a variable-centered approach (i.e., investigation of unique relationships between variables) was employed in Study 2 to investigate the relationships between burnout, self-regulation capacity, and perceived stress in greater depth. Structural equation modeling (SEM; Kline, 2011) with bias-corrected bootstrapping was used to examine the direct associations between coaches' self-regulation capacity and burnout dimensions, as well as the indirect effect of perceived stress in these relationships. Prior to their inclusion in the structural model, confirmatory factor analyses were performed on the study measures to determine their factorial structure (Kline, 2011). The data analyses are described in greater depth in Articles 1 and 2 in Part III.

Validity. To maximize the validity and reliability of the quantitative findings in the current research, scales that had demonstrated acceptable psychometric properties in previous studies were used in Phase 1. Moreover, the internal consistency of these measures was assessed in Study 1 and their factorial structure was investigated in Study 2. In Study 1, analyses were undertaken to assess potential confounds for the profiles (i.e., demographic and coaching variables that may have provided alternative explanations for the findings). Finally, bias-corrected bootstrapping was employed in Study 2, which is considered the most trustworthy

method of testing indirect effects in structural models because of its high statistical power (Hayes & Scharkow, 2013).

Phase 2: Qualitative.

Recruitment. The data from Phase 1 served as screening data to recruit coaches for Phase 2. A total of 164 coaches provided their informed consent in Phase 1 to be contacted for Phase 2. Between January and March 2014, the demographic/coaching and MBI-ES data from these coaches were examined to recruit eligible coaches for the intervention. Specifically, the eligibility criteria included: (a) moderate to high scores on the emotional exhaustion and depersonalization subscales of the MBI-ES[2] (Maslach et al., 1996), which are considered to be the two core dimensions of burnout (Demerouti, Bakker, Friedhelm, & Schaufeli, 2001); (b) ability to speak, read, and write in English, which was the language in which the intervention was delivered; (c) actively coaching (i.e., in pre-season or competitive season) during the intended intervention period (e.g., 10 weeks) to account for the possible seasonal nature of burnout (Kelley, 1994) and to enable the coaches to apply the intervention content to their coaching, and (d) full-time paid coaching position, without secondary employment, to examine high coaching demands (Altfeld et al., 2015).

A total of 10 coaches met the eligibility criteria. Over the course of the 2-month recruitment period, these coaches were recruited on a first-come first served basis as their Phase 1 data were collected and analyzed. This was in line with the ethical approval obtained for the research project. Five of the coaches were contacted in February, wherein they were sent an

[2] Using normative data from the MBI-ES (Maslach et al., 1996), emotional exhaustion scores ≥ 27 are classified as "high" and those between 17-26 are considered "moderate". Depersonalization scores ≥ 14 are classified as "high" and those between 9-13 are considered "moderate". Thus, coaches needed to score ≥ 17 and ≥ 9 on the emotional exhaustion and depersonalization subscales, respectively, to be included in Phase 2.

email invitation to participate in the study. This invitation contained a link to the online consent form for Phase 2 (Appendix M). The remaining five coaches were contacted in March. As in Phase 1, the consent form did not mention "burnout", given that this term can be associated with negative connotations and varying interpretations (Raedeke & Smith, 2001). During Phase 2, however, the burnout syndrome was addressed in an exploratory fashion during the intake interview (described in pre-intervention subsection below). Ethical approval for this partial disclosure was obtained for the research project. In total, seven coaches provided their informed consent to participate, however, two of these coaches subsequently withdrew from the study. One coach withdrew after providing her informed consent because she lost her coaching job. The other coach withdrew after participating in the intake interview because she did not feel she had enough time to devote to the intervention. As such, her data was not used in the current research. The remaining three coaches who were contacted did not respond to the email reminders. As such, the final sample was limited to five coaches who consented to and completed Phase 2.

Participants. The five Canadian coaches who participated in Phase 2 were identified using pseudonyms in Study 3 and by chronological order in which they started the intervention (i.e., Coaches A-E) in Study 4. Within the dissertation, they will be identified as Coaches A to E. Their demographic and coaching information are summarized in Table 1.

Table 1

Participants' Demographic and Coaching Information

	Coach A (Molly)	Coach B (Gordon)	Coach C (Brooke)	Coach D (Michael)	Coach E (Andy)
Demographic					
Gender	Woman	Man	Woman	Man	Man
Age	26	37	36	34	29

Marital Status	Common law	Relationship	Married	Married	Relationship
Dependents	None	None	One child	None	None
Education	Bachelor's degree	College diploma	High School diploma	Bachelor's degree	Bachelor's degree
Coaching					
Sport	Figure Skating	Tennis	Figure Skating	Swimming	Track
Context	Elite	Developmental	Developmental	Elite	Elite
Experience	4 years	15 years	16 years	18 years	11 years

Procedure. The data were collected across three timepoints: (a) pre-intervention, (b) intervention, and (c) post-intervention. Specifically, semi-structured interviews were conducted with the coaches before they started the intervention (i.e., intake interview) and after they completed the intervention (i.e., outtake interview). Qualitative data were also collected through reflective journals the coaches completed during the intervention. Figure 2 provides a summary of the data collection process, wherein codes such as "W1" and "J1" denote specific workbook sections and journals, respectively (described in intervention subsection below).

Pre-intervention. After providing their informed consent to participate in Phase 2, an individual intake interview was scheduled with each of the coaches at a day and time that was convenient for them. Three of the coaches participated in face-to-face interviews at a location of their choice, while the remaining two took place over Skype. Online interviewing (e.g., using Skype) is considered an appropriate method when geographic location precludes face-to-face interviews (Smith & Sparkes, 2016). The coaches were advised that confidentiality could not be guaranteed over Skype and they consented to this (see Appendix M for Phase 2 consent form). The interviews were semi-structured and facilitated by an interview guide (Appendix N) containing a series of main and follow up questions (Rubin & Rubin, 2005).

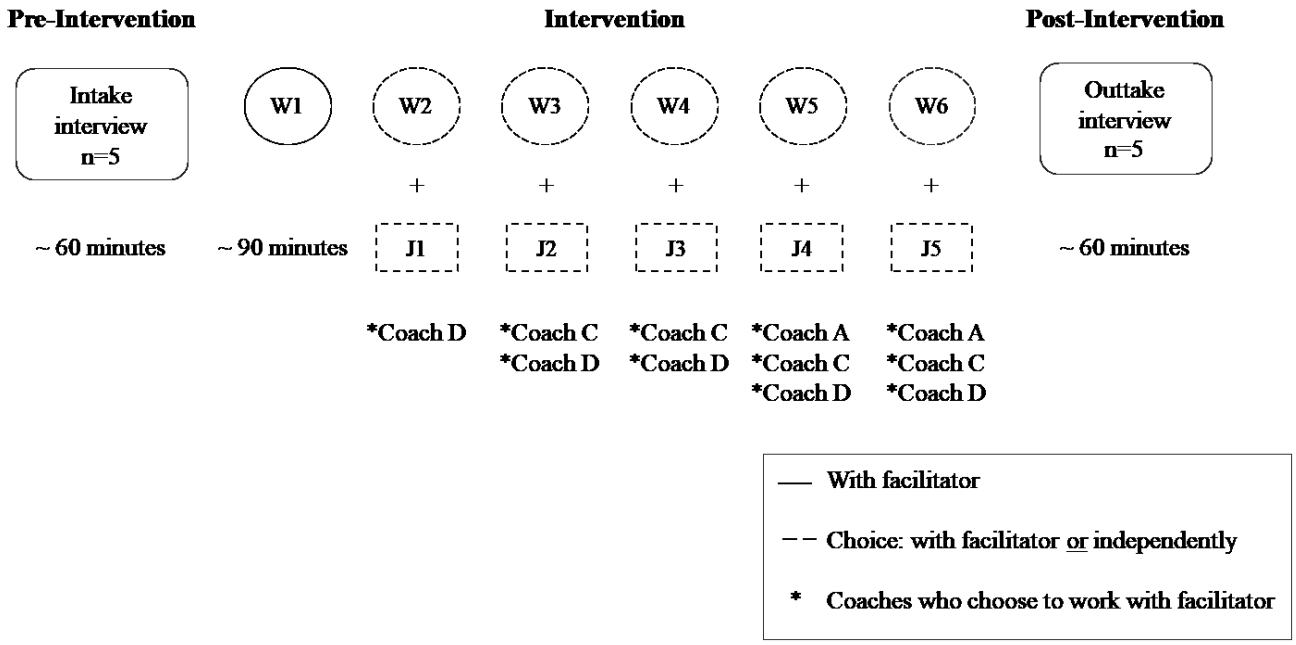

Figure 2. Summary of Phase 2 data collection.

The interview guide was developed based on the theoretical frameworks guiding the research: the CASBBM (Smith, 1986), the DCMMH (Keyes, 2002), the SCMSRLP (Zimmerman, 2000), and the RPM (Dubuc-Charbonneau & Durand-Bush, 2015), as well as Maslach and colleagues' (1996) conceptual definition of burnout (see literature review for a description).

The purpose of the intake interview was to explore the coaches' perspectives and experiences of burnout, well-being, self-regulation, and stress. The interview began with an opening question about the participants' current coaching situation and experiences (e.g., "To begin, would you mind telling me a bit about your coaching?"). Next, the coaches were asked about their experiences of stress and burnout, informed by the CASBBM (i.e., questions were asked about their demands, resources, appraisals, physiological/emotional responses, and coping responses; Smith, 1986). To gain an in-depth understanding of the coaches' lived experience of burnout, experiential (e.g., "What does burnout feel like?") and contextual (e.g., "How have you

been feeling lately?") questions were also asked, including follow-up questions about their felt experiences of burnout in line with the RPM (Dubuc-Charbonneau & Durand-Bush, 2015; e.g., "What does burnout feel like, emotionally? What about physically?") and the consequences of burnout for the coaches (e.g., "Has burnout had an influence on your coaching?"). The next section of the interview contained questions about the coaches' well-being (e.g., "What does well-being mean to you?"), with probing questions addressing different facets of well-being congruent with the DCMMH (Keyes, 2002), if needed. Finally, the coaches were asked about their perspectives and experiences of self-regulation (e.g., "How would you describe your ability to self-regulate/self-manage in your coaching and daily life?"), based on the SCMSRLP (Zimmerman, 2000). To conclude, the facilitator offered the coaches an opportunity to add any additional information they wished and then explained the process of the intervention (described below). All interviews were digitally-recorded and lasted an average of 70 minutes.

Intervention. Approximately one week after the intake interview, the coaches began the individual, person-centered self-regulation intervention. The intervention involved completing six sections of a workbook either independently or during scheduled sessions with the facilitator on a bi-weekly basis. Five of the workbook sections also contained a structured reflective journal. Details regarding the facilitator, workbook, and journals are provided in the following subsections. The intervention was intended to take 10 weeks and Coaches B, C, and E completed it within that time frame. However, Coach A and Coach C needed considerably more time (i.e., 20 weeks and 22 weeks, respectively) to complete it. More specifically, after starting the intervention, both coaches moved to new clubs and thus faced additional demands that made it difficult to complete the intervention requirements as scheduled. They opted for a different format in order to adapt to their workload (see Format section below).

Facilitator. Each coach's individual intervention was facilitated by the researcher. Having co-developed the workbook with the lead thesis supervisor (Dr. Durand-Bush), the facilitator had in-depth knowledge of the intervention content. She had also acquired relevant training from her undergraduate degree in psychology and Master's level courses in counselling skills and mental skills training. Over the course of the intervention, she debriefed regularly with the lead supervisor and made reflective notes after interviews, intervention sessions, and also after providing coaches with feedback (e.g., her own thoughts, feelings, and actions, observations regarding coaches' challenges and successes implementing self-regulatory competencies).

Workbook. As previously mentioned, the intervention involved the completion of a workbook, which served to facilitate the coaches' learning. It contained written exercises to develop self-regulatory competencies, which were divided across six different sections. The workbook was based on an integrated model of self-regulation that included both the SCMSRLP (Zimmerman, 2000) and the RPM (Dubuc-Charbonneau & Durand-Bush, 2015). Specifically, exercises related to competencies from SCMSRLP were presented across the three following phases: forethought (e.g., goal-setting, strategic planning), performance (e.g., self-control, self-observation), and self-reflection (e.g., self-evaluation, adaptation). However, in order to make the intervention content more accessible to coaches, the forethought, performance, and self-reflection phases were renamed (a) preparation, (b) execution, and (c) evaluation. Self-regulatory competencies from the RPM that were not addressed in the SCMSRLP were integrated within the preparation phase. For instance, the coaches completed exercises to (a) establish their preferred standards (i.e., how one wants to feel), (b) develop their preparation strategies (i.e., to feel the way they wanted more consistently), (c) anticipate obstacles, and (d) plan their responses to obstacles (i.e., to reconnect with how they wanted to feel). The concept of "gold standards"

was used throughout the workbook to describe the coaches' preferred standards (Durand-Bush, McNeill, & Collins, 2018) in more relatable language. While the workbook is described in great detail in a published chapter pertaining to the self-regulation of sport coaches (Durand-Bush, McNeill, & Collins, 2015), an overview of the main content addressed in each section of the workbook is provided in Table 2 below.

Table 2

Summary of the Intended Outcome and Content of Each Workbook Section

Section	Intended Outcome	Exercises
Section 1: Introduction to Self-Regulation Phases	To introduce the phases of self-regulation and develop a personal self-regulation model	• Identify important areas of one's life • Establish gold standards for each of these important areas • Set SMARTEST goals for one's (a) coaching and (b) well-being • Develop an action plan to achieve one's goals and gold standards • Anticipate obstacles and one's responses to these obstacles • Identify strategies to regulate and monitor one's FAST (i.e., feelings, actions, sensations, and thoughts) • Establish methods to evaluate one's performance (i.e., toward goals and gold standards) • Identify indicators of successful performance
Section 2: Preparation	To reflect further on one's gold standards and goals, as well (a) resources to achieve these goals and (b) strategies to feel the way one wants more consistently	• Revisit goals and action plan • Reflect on goal progress and assess self-efficacy and motivation • Identify internal and external resources • Identify physical, cognitive, social, emotional, spiritual, and/or organizational strategies to meet gold standards • Complete breathing and/or confidence-building exercise
Section 3: Self-Control	To further develop the ability to use specific self-	• Revisit strategies to regulate one's FAST

	control strategies (e.g., self-talk, focus, imagery)	• Complete self-talk, focus, and/or imagery exercise
Section 4: Self-Observation	To further develop the ability to effectively observe and track one's performance and the conditions that surround it	• Identify typical observations made during one's performance (e.g., FAST) • Establish daily check points to engage in self-observation, including what to observe about (a) oneself and (b) one's environment • Identify strategies to realign oneself to meet gold standards if a discrepancy is observed • Develop self-recording method (e.g., video or audio recording)
Section 5: Self-Evaluation	To further develop the ability to self-reflect in order to effectively evaluate one's performance	• Evaluate performance and progress toward meeting goals and gold standards • Make sound attributions that explain performance outcomes
Section 6: Self-Reaction	To further engage in self-reflection in order to make adaptive decisions regarding one's performance to sustain it or continue improving it	• Reflect on graphs of one's rating scale data from preceding weeks' journals provided by the facilitator • Assess satisfaction with one's performance • Review attributions and top strategies employed during intervention and draw conclusions on how to adapt action plan going forward

Although the workbook provided structure and exposed the coaches to the same self-regulatory competencies, the coaches were offered a menu of exercises to complete within the workbook. For instance, in Section 3, the coaches could choose which of the three self-control techniques (i.e., self-talk, imagery, or attentional focusing) they wanted to focus on. Moreover, the personal strategies they developed and applied during the intervention (i.e., to feel the way they wanted more consistently and achieve their goals) were self-generated. That is, the coaches were not prescribed set strategies, but were prompted to reflect on what would be meaningful and useful for them (e.g., based on what had worked for them in the past) and adapt their

personal strategies (e.g., delegate coaching tasks, practice gratitude) over the course of the intervention as needed.

Journal. Sections 2 through 6 of the workbook each began with a structured journal that served to promote the coaches' self-reflection (see Appendix O for a sample journal). The journal was composed of numerical rating scales and open-ended questions to prompt the coaches to reflect on the past two weeks, including their experiences of stress/burnout, well-being, and self-regulation (e.g., "What has been your experience of well-being over the past two weeks? Please explain below") and their implementation of self-regulatory competencies (e.g., "On a scale of 0-100%, how effective have you been at 'checking in' [i.e., observing your feelings, actions, sensations, thoughts, and your environment] over the past two weeks?").

Each journal contained the same core questions about the coaches' stress/burnout, well-being, and self-regulation capacity, and their action plan for the new two weeks (e.g., what they wanted to implement or change going forward). New questions that built progressively from the exercises in the previous section of the workbook were included. For instance, in the journal from Section 5, coaches were asked to reflect on their self-recording efforts, a competency that they had learned in Section 4 of the workbook. This enabled the coaches to reflect on their application of self-regulatory competencies in their coaching and personal life. Additionally, the facilitator created and integrated into Section 6 of the workbook a series of graphs representing each coach's numerical rating scale data from the preceding four journals regarding (a) their experiences of stress/burnout, well-being, and self-regulation capacity, and (b) their goal progress and goal progress satisfaction. These graphs were provided to the coaches to facilitate their self-evaluation (e.g., of their progress toward goals and gold standards).

Format. Section 1 of the workbook introduced the coaches to the three self-regulation phases and laid the groundwork for the intervention (e.g., the coaches set a coaching and a well-being goal for the intervention). As such, it was completed during an intervention session with the facilitator either in-person at a convenient location (n=3) or over Skype (n=2). This digitally recorded intervention session lasted an average of 88 minutes and proceeded in the form of a semi-structured interview. Specifically, in order to guide the completion of the workbook, the facilitator posed questions from the workbook exercises (e.g., "What barriers can prevent you from achieving your gold standards and goals?") to which the coaches responded orally. When needed, probing questions were used to elicit greater reflection (e.g., "What has worked in the past?", if a coach struggled to come up with preparation strategies) or to seek clarification from the coaches. In some instances, the questions led to more elaborate discussions, for instance, about how much importance coaches placed on their different areas of their lives and the discrepancy between their actual and their ideal situation. Building from previous self-regulation interventions (Callary & Durand-Bush, 2008; Dubuc-Charbonneau & Durand-Bush, 2018), these discussions were grounded in a person-centered approach wherein the facilitator explored the coaches' experiences in a non-directive manner and reflected observations back to the coaches in order to encourage greater self-awareness. After each session, the facilitator transcribed the digital recordings and inputted the content of the coaches' transcripts into their respective workbook section, which she then emailed back to the coaches. The coaches were asked to check that the transcribed content was accurate (i.e., that it reflected their responses to the workbook exercises) and they were encouraged to make any changes they sought fit.

The remaining five sections of the workbook were individually sent as Word documents to the coaches via email every other week, which the coaches were to complete within one

week's time. In keeping with the person-centered nature of the intervention, the coaches decided if they wanted to complete these sections on their own or with the help of the facilitator during scheduled intervention sessions. Regardless of the chosen format, all coaches were offered the opportunity to check in with the facilitator over Skype at the midpoint of the intervention (i.e., between Section 3 and 4 of the workbook), however, none of them elected to do so.

Coach B and Coach E completed the five sections, including their journals, independently, by typing their responses into the Word document and emailing it back to the facilitator, who then read their responses. These coaches indicated that they spent approximately 30-45 minutes on each section of the workbook, including the reflective journal. The other three coaches elected to work with the facilitator during scheduled Skype (n=2) or phone (n=1) sessions to complete some or all of the workbook sections (see Figure 2 for an overview). These scheduled coach-facilitator intervention sessions (n=11) lasted on average 57 minutes, were digitally recorded, and followed the same format as in Section 1 (i.e., the facilitator guided the coaches through the content orally, transcribed the digital recordings of the sessions, and then inputted the content of the transcripts into the coaches' workbook sections, which were sent back to them for member-checking; Burke, 2016).

Coach D elected to work with the facilitator from the outset, as it offered him the accountability he needed to ensure he completed the exercises. However, he chose to complete the reflective journals on his own, which he emailed to the facilitator shortly before each intervention session. Coach A and Coach C initially worked independently, but they both decided to work with the facilitator in the latter part of the intervention (from Section 4 and Section 3 onward, respectively; see Figure 2). After starting the intervention, both of these coaches faced increased demands, largely associated with planning and then moving to new

clubs. As a result, they had difficulty sustaining their motivation in the intervention and both required additional accountability and support from the facilitator to complete the remaining workbook sections in a timely fashion. During these intervention sessions, Coach A and Coach C also completed their journals orally with the facilitator.

Feedback. For each section of the workbook, the facilitator provided the coaches with written feedback on their responses (including their reflective journals), regardless of the format in which the workbook section was completed. This feedback was inserted as comments in the Word document, which the facilitator sent back to the coaches within a few days of receiving their workbook by email or conducting the session. This gave the coaches time to read her comments (and intervention session transcripts, if applicable) before receiving the next section of the workbook. The purpose of the feedback was to support the coaches' learning and encourage greater reflection, for example, on their goals (e.g., "Are these goals still realistic, given your demands? Will these goals [like getting to bed early] help you hit your gold standards more consistently?" [Feedback provided to Coach E in his journal from Section 5]). It was also an opportunity to provide support and additional resources or exercises when needed. For instance, Coach B wrote that he had difficulty managing his thoughts when practicing the breathing technique in Section 2 of the workbook; thus, in her feedback on that section, the facilitator included additional tips related to mindful breathing.

Post-intervention. Approximately two weeks after completing the final section of the workbook, the coaches participated in a semi-structured individual interview with the facilitator over Skype (n=4) or the telephone (n=1). The outtake interview was facilitated by an interview guide (Appendix P), which was grounded in the DCMMH (Keyes, 2002), the SCMSRLP (Zimmerman, 2000), and the RPM (Dubuc-Charbonneau & Durand-Bush, 2015). The CASBBM

(Smith, 1986) was not explicitly addressed in the outtake interview, as the focus of the interview was not on the development of burnout, but on the burnout syndrome itself. Thus, Maslach and colleagues' (1996) conceptual definition was used to guide the interview. The goal of the outtake interview was to explore the coaches' overall experiences in the study, as well as perceived changes in burnout, well-being, self-regulation capacity, and stress as a result of participating in the intervention (e.g., "Do you feel that participating in this process had an influence on your feelings of burnout?"). The coaches' feedback on the intervention (e.g., "Do you have any feedback on the study overall, including the workbooks?") and the format they selected (e.g., "Can you speak to your experiences completing the workbooks over Skype as opposed to working independently?") was also sought. The outtake interview concluded with the facilitator asking the coaches if they had anything to add and then thanking them for their continued engagement throughout in the intervention. The interviews lasted an average of 53 minutes and were digitally recorded.

Data Analysis. All of the digitally recorded interviews (n=10) and scheduled intervention sessions (n=11) were transcribed verbatim. In Study 3, a narrative analysis of the coaches' intake interview data was conducted to investigate the coaches' subjective experiences of burnout, with an emphasis on their emotions. Specifically, following procedures put forth by Carless and Sparkes (2008), the researcher first conducted an inductive content analysis (Hseih & Shannon, 2005) to identify broader themes (e.g., emotional exhaustion, apathy) within each coach's interview transcript. Using these themes, non-fictional short stories were then constructed to provide a rich, idiographic account of their unique, emotional experiences of burnout. In Study 4, the data from the coaches' outtake interviews and their reflective journals (including those completed during intervention sessions [n=6]) were analyzed. To examine the

perceived impact of the intervention on the coaches' experiences of stress/burnout, well-being, and self-regulation, a content analysis (Hseih & Shannon, 2005) was performed deductively, using guiding theoretical frameworks (i.e., the DCMMH [Keyes, 2002], the SCMSRLP [Zimmerman, 2000], and the RPM [Dubuc-Charbonneau & Durand-Bush, 2015]) and Maslach and colleagues' (1996) conceptual definition of burnout. Data were also analyzed inductively to capture new categories (e.g., work-life balance) that emerged. To facilitate data coding, a coding tree was developed in which codes were organized into a hierarchical structure. Of note, the workbook sections completed by the coaches were not included in the data analyses since they were meant to be a personal 'work in progress' resource. However, the data from the workbooks were addressed in the coaches' journals. For example, content from the journals highlighted what the coaches experienced during the intervention and the competencies and strategies they applied to self-regulate and improve their burnout and well-being. The data analyses are described in greater depth in Articles 3 and 4 in Part III.

Trustworthiness. Several steps were taken to enhance the trustworthiness of the findings in Phase 2. First, the researcher completed requisite undergraduate and graduate courses to gain knowledge and skills to conduct self-regulation interventions. She also gained experience interviewing coaches by conducting a pilot interview with a developmental sport coach in another study on coach stress and self-regulation (Durand-Bush et al., 2012). Prior to the start of Phase 2, the researcher took part in a bracketing interview (Rolls & Relf, 2006) with her colleague, who had experience conducting bracketing interviews and expertise in burnout and self-regulation interventions. The purpose of the bracketing interview was to explore potential expectations or biases that the researcher may have held, particularly in light of her prior experience as a novice recreational youth soccer coach (e.g., parental pressure as a source of

stress for coaches). As such, the researcher had the opportunity to reflect on how she could guard against the potential negative influence of these pre-conceived assumptions during data collection and interpretation (Rolls & Relf, 2006).

Moreover, to promote reflexivity, the researcher took reflective notes (Maxwell, 2002) on her role (e.g., ways to improve communication, such as how to reflect observations back to participants) and the coaches' experiences during the intervention (e.g., reflections on situations where coaches did not take action, despite increased self-awareness of the need for change). The coaches were recruited based on their MBI-ES scores in Phase 1, which ensured that the sample was sufficiently information-rich (i.e., experiencing burnout; Patton, 2002). The structured workbook sections, journals, and intake and outtake interview guides were developed based on sound theoretical/conceptual frameworks. All interview and intervention session transcripts were sent to coaches to engage them in member-checking, ensuring their data accurately represented their perceptions and experiences (Burke, 2016). The coaches were also encouraged to make any changes they sought fit. Overall, no changes were suggested except in one instance, where a coach asked that his wife's name be removed from the transcript to ensure anonymity.

In Study 3, the lead thesis supervisor provided critical reflections on the narrative accounts in order to ensure the coherence and comprehensiveness of the non-fictional short stories. Although authorial presence (Carless & Sparkes, 2008) was employed by the researcher and lead supervisor, each narrative presented in Article 3 is comprised of over 90% of the coaches' own words. Given that this form of representation is novel in the coaching literature (Callary, et al., 2012), specific reflective questions were put forth to further help the reader evaluate the trustworthiness of the study findings (e.g., "Do these stories contribute to our understanding of coach's subjective experiences of burnout and emotions in a significant way?";

see Article 3). In Study 4, the researcher enlisted two critical colleagues to encourage greater reflection on the interpretations of the data (Smith & McGannon, 2017). The colleagues, a doctoral candidate and a recent Ph.D. graduate, were each sent 35 selected meaning units (approximately 10% of the total number) and a copy of the coding tree. The critical colleagues then independently coded the meaning units and offered feedback on the analysis (e.g., provided alternative interpretations of the data). Convergence between the researcher and the critical colleagues was achieved for 89% and 94% of the meaning units. Based on discussions with these colleagues, the researcher made minor revisions to the coding and the coding tree. For instance, discussions with one colleague helped the researcher to refine how she coded for adaptive inferences, a component of the self-reflection phase of the SCMSRLP (Zimmerman, 2000). Finally, the convergence between multiple sources of data (i.e., the coaches' outtake interviews and reflective journals) helped to provide a more trustworthy account of the coaches' experiences during the intervention (Yin, 2009).

Part III

Results

In the following section, the results of the current research are presented in four separate articles, of which main findings are summarized in Figure 3. Study 1 shows the interaction between burnout and well-being indices within distinct profiles of psychological functioning identified in a sample of coaches, and further, how self-regulation capacity, perceived stress, and certain demographic/coaching variables were associated with these profiles. Study 2 reveals the role of perceived stress in the relationships between coaches' self-regulatory competencies and their emotional exhaustion, depersonalization, and personal accomplishment, as well as how self-regulatory competencies were directly associated with these burnout dimensions in coaches. Study 3 presents an idiographic, first-person narrative account of five coaches' emotional, lived experiences of burnout. Lastly, Study 4 depicts the perceived impact of a self-regulation intervention, including changes in five coaches' capacities to self-regulate and their experiences of burnout and well-being as a result of participating in the intervention. The articles are formatted according to the specifications of the journals in which they have been published (Article 3), accepted for publication (Article 1), accepted with minor revisions (Article 4) or submitted for review (Article 2).

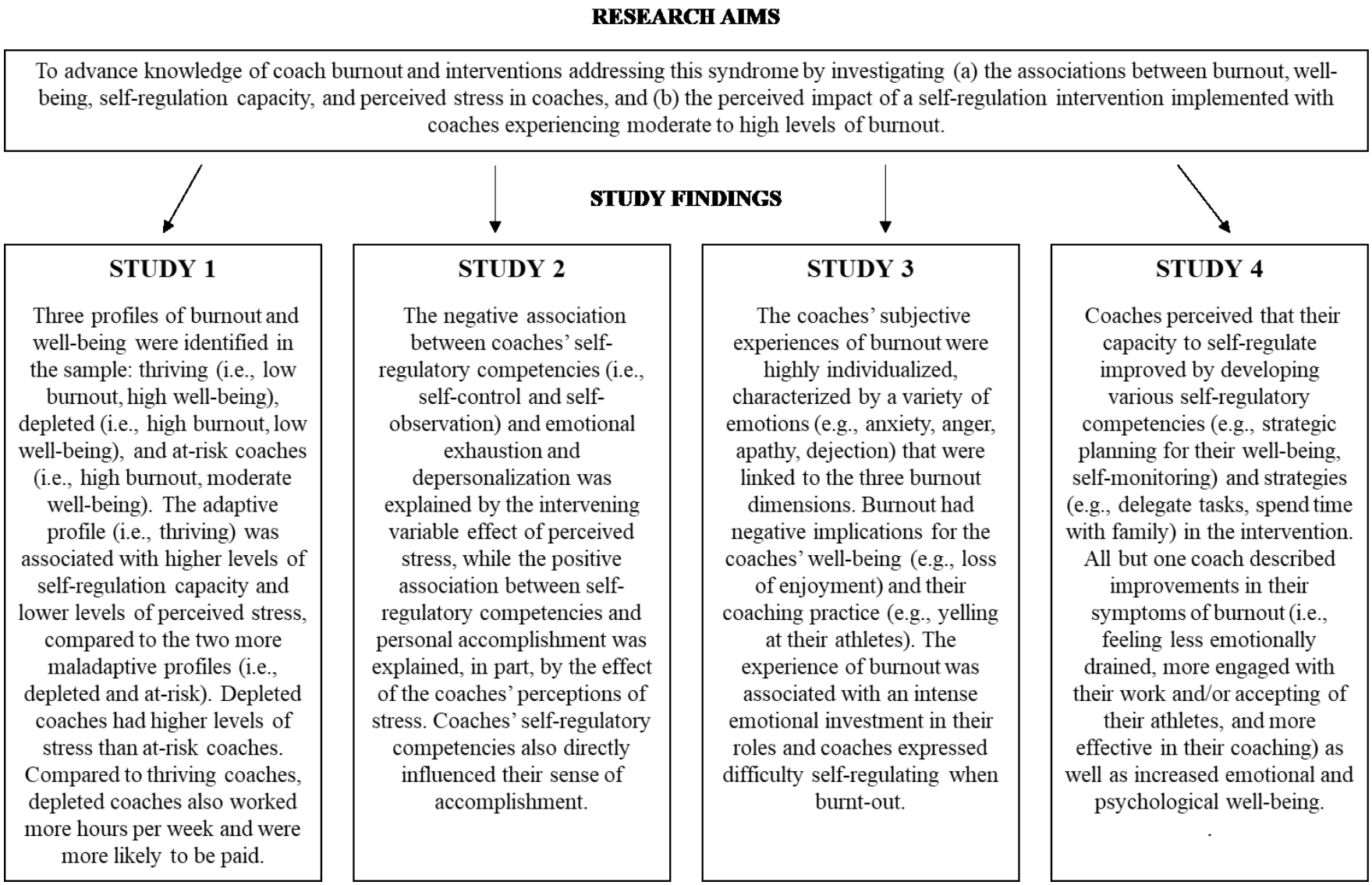

Figure 3. Overview of the main findings of Studies 1 to 4.

Article 1: Thriving, Depleted, and At-Risk Canadian Coaches: Profiles of Psychological Functioning Linked to Self-Regulation and Stress

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Manuscript accepted for publication in the *International Sport Coaching Journal*

Abstract

The purposes of this study were to (a) identify profiles of psychological functioning based on burnout and well-being indices within a sample of 250 Canadian developmental and high performance sport coaches, and (b) investigate whether coaches in these profiles differed in their capacity to self-regulate and their perceptions of stress. Using a two-stage cluster analysis , three profiles of psychological functioning were identified: (a) thriving (n = 135, characterized by relatively low burnout and relatively high well-being), (b) depleted (n = 36, characterized by relatively high burnout and relatively low well-being), and (c) at-risk (n = 79, characterized by relatively high burnout and moderate well-being). Follow-up analyses revealed that coaches within the thriving profile reported significantly higher self-regulation capacity and lower perceived stress than coaches in the at-risk and depleted profiles, while depleted coaches reported significantly higher perceived stress than at-risk coaches. Moreover, longer coaching hours and remuneration for one's coaching also differentiated depleted from thriving coaches. Findings are discussed in light of the dual-continua model of mental health and practical recommendations are put forth to help coaches strengthen their capacity to self-regulate and manage their perceptions of stress to optimize psychological functioning.

Keywords: burnout, well-being, cluster analysis

Thriving, Depleted, and At-Risk Canadian Coaches: Profiles of Psychological Functioning Linked to Self-Regulation and Stress

Coaches' psychological functioning is becoming an increasingly popular research topic. This is due, in part, to the recognition that coaches can have a positive or negative impact on athletes' psychological experiences and must be psychologically well to function optimally in their roles (Stebbings & Taylor, 2017). Most studies on coaches' psychological functioning have focused on indicators of ill-being (e.g., burnout, stress-related strain; Fletcher & Scott, 2010), which makes sense when one considers that coaches face numerous and complex demands in their roles (Olusoga, Butt, Hays, & Maynard, 2009). Indeed, based on this body of literature, it has been argued that burnout, a negative work-related syndrome resulting from exposure to chronic stress (Kelley, 1994), represents "a salient feature of modern-day coaches' lives" (Fletcher & Scott, 2010, p. 132).

Burnout is defined as a multidimensional psychological syndrome comprised of three key features: (a) emotional or physical depletion (emotional exhaustion), (b) a negative or detached attitude towards the recipients (i.e., athletes) of one's work (depersonalization), and (c) a sense of inefficacy or lack of achievement in one's role (reduced sense of personal accomplishment; Maslach, Jackson, & Leiter, 1996). Conceptualized as the end consequence of a prolonged inability to effectively cope with one's demands (Smith, 1986), burnout is considered to be relatively enduring once experienced (Raedeke & Kenttä, 2013). Recent qualitative studies in the coaching literature paint the picture of burnout as a maladaptive state that manifests in a variety of emotional (e.g., depressed mood), social (e.g., lack of empathy), cognitive (e.g., rumination), physical (e.g., disturbed sleep), behavioural (e.g., outbursts), and motivational (e.g., apathy) symptoms, which in turn have negative implications for coaches' performance and well-being

(Bentzen, Lemyre, & Kenttä, 2014; Lundkvist, Gustafsson, Hjälm, & Hassmén, 2012; McNeill, Durand-Bush, & Lemyre, 2017). Moreover, athletes whose coaches report elevated burnout scores perceive that their coaches are more autocratic, less empathetic, and poorer communicators, and that their coaches withdraw from coach-athlete interactions and provide less training, instruction, and social support (Price & Weiss, 2000; Vealey, Armstrong, & Comar, 1998). As such, coach burnout can have consequences for the quality of athletes' sport experiences (Goodger, Gorely, Lavallee, & Harwood, 2007).

While the literature on coach burnout has provided valuable insight into the negative states coaches may experience, a more comprehensive understanding of their psychological functioning requires investigating positive elements of functioning as well, such as their well-being (Bentzen, Lemyre, & Kenttä, 2015). This is because well-being does not represent the absence of ill-being or impairment, but rather the presence of positive features in one's life (Ryan & Deci, 2001). Contemporary well-being theories are underpinned by two contrasting philosophical traditions: hedonia and eudaimonia. Within the hedonic perspective, well-being reflects happiness, pleasure or positive emotions, and satisfaction with life. Within the eudaimonic perspective, well-being represents the fulfilment of human potential and the experience of meaning in life (see Ryan & Deci, 2001 for a review). That said, well-being is most aptly conceptualized as a phenomenon that includes aspects of both philosophical traditions (Lundqvist, 2011). In the present study, we adopted Keyes' (2002) integrated conceptualization of well-being, defined as a combination of emotional, social, and psychological well-being. As such, emotional well-being (i.e., feeling happy, satisfied, and interested in life) taps into hedonic qualities of well-being, while social (e.g., experiencing social acceptance) and psychological

(e.g., having purpose in life) well-being capture eudaimonic dimensions of well-being (Keyes, 2002).

Research examining well-being in coaches is still in its infancy; however, recent studies have demonstrated that a combination of hedonic and eudaimonic indices of well-being (i.e., positive affect, vitality, satisfaction with work) in coaches are associated with motivational (e.g., self-determined motivation, Alcaraz, Torregrosa, & Viladrich, 2015) and situational (e.g., workload, Bentzen et al., 2015) variables. Moreover, a series of studies by Stebbings and colleagues (Stebbings, Taylor, & Spray, 2011; Stebbings, Taylor, Spray, & Ntoumanis, 2012; Stebbings, Taylor, & Spray, 2015) have shown that coaches who report higher levels of hedonic (i.e., positive affect) and eudaimonic (i.e., psychological integration, vitality) well-being are more likely to engage in autonomy-supportive coaching, an interpersonal style associated with more adaptive coaching practices. Beyond these studies, some researchers have examined coaches' well-being in relation to burnout. For instance, developmental and high performance Canadian coaches in McNeill and colleagues' (2017) qualitative study described how their experiences of burnout depleted their emotional well-being. This is congruent with findings from longitudinal quantitative studies in which European coaches reported an overall negative association between their well-being and burnout scores over the course of their competitive season (Altfeld et al., 2015; Bentzen et al., 2015).

Researchers have argued that ill-being (e.g., burnout) and well-being represent distinct, albeit related, dimensions of coaches' psychological health and functioning (Stebbings & Taylor, 2017). These results are supported by the dual-continua model of mental health, in which Keyes (2002) postulates that rather than representing opposite ends of the same continuum, ill-being and well-being represent two separate continua. Within this framework, optimal functioning is

characterized as a ‘complete state’, wherein one is experiencing high levels of well-being with concomitantly low levels of ill-being (Keyes, 2002). However, an important implication of this model is that the experience of dysfunction does not necessarily preclude individuals from experiencing well-being in their lives (Westerhof & Keyes, 2010). As such, there is value in examining the interaction between indices of ill-being and well-being in order to identify distinct patterns of psychological functioning in coaches. One way to do this is by employing a person-centered approach (i.e., investigating how variables group across individuals, such as through cluster analyses). This would be novel, as researchers have typically examined indices of ill-being and well-being separately using variable-centred analyses (i.e., investigating unique relationships between variables, such as through regression analyses), and could reveal important information about how ill-being and well-being co-exist to varying degrees within a sample of coaches.

Moreover, there is a need to investigate variables associated with optimal patterns of functioning in coaches if we are to develop sound interventions to help this population achieve a ‘complete state’. One variable that plays an important role in one’s psychological functioning (Mattern & Bauer, 2014) and that is amenable to interventions (e.g., Callary & Durand-Bush, 2008; Collins & Durand-Bush, 2010; Dubuc-Charbonneau & Durand-Bush, 2015) is self-regulation. Self-regulation reflects one’s capacity to generate, manage, and adapt one’s thoughts, feelings, and actions towards the attainment of personal goals within one’s changing environment (Zimmerman, 2000). In the context of sport, Dubuc-Charbonneau and Durand-Bush (2015) found that increased self-regulation capacity was associated with reduced burnout and increased well-being in varsity student-athletes. Similarly, in other settings, higher self-regulatory capacity was linked to lower levels of burnout and/or higher levels of well-being in

teachers (Mattern & Bauer, 2014), university students (Durand-Bush, McNeill, Harding, & Dobransky, 2015), and physicians/medical students (Gagnon, Durand-Bush, & Young, 2016). While a qualitative study of developmental and high performance women coaches revealed that self-regulation strategies were employed to prevent and cope with stress (Durand-Bush, Collins, & McNeill, 2012), the association between self-regulation capacity and indices of psychological functioning such as burnout and well-being has yet to be quantitatively investigated in coaches. This was addressed in the present study.

Another variable associated with coaches' psychological functioning is perceived stress. According to Lazarus and Folkman (1984), stress occurs when individuals perceive their demands to outweigh their coping resources. Therefore, perceived stress reflects the degree to which individuals appraise their life as unpredictable, uncontrollable, or overloading (Cohen, Kamarck, & Mermelstein, 1983). Within sport, Smith (1986) theorized in his stress-based model of burnout that maladaptive appraisals (e.g., high overload, low perceived control, low predictability) lead to the development of burnout. In support of this, perceived stress has been found to mediate the relationship between personal / situational (e.g., hardiness, coaching issues) factors and coaches' emotional exhaustion, depersonalization, and reduced sense of personal accomplishment (Kelley, 1994; Kelley, Eklund, & Ritter-Taylor, 1999), and has been consistently linked to burnout in this population (see Goodger et al., 2007 for a review). The relationship between perceived stress and well-being in coaches has received less research attention. However, Altfeld and Kellmann (2015) found that coaches who perceived their demands to exceed their resources reported reduced well-being, and a qualitative study revealed that coaches perceived their well-being to be compromised during periods of high stress (Durand-Bush et al., 2012). To further our understanding of the relationships between perceived

stress and ill- and well-being in coaches, it would be useful to examine how perceived stress varies across different patterns of psychological functioning. This would also provide greater insight into whether modifying coaches' perceptions of stress through interventions may help them reduce their burnout and enhance their well-being (Dubuc-Charbonneau & Durand-Bush, 2018; Vealey, Udry, Zimmerman, & Soliday, 1992).

In summary, there is a need to investigate ill-being and well-being together to provide a more holistic understanding of coaches' psychological functioning (DeFreese & Smith, 2014). By adopting a person-centered approach, we could meaningfully extend our knowledge of coaches' psychological functioning by examining how indices of ill-being (e.g., burnout) and well-being interact. This is particularly relevant given data supporting Keyes' (2002) dual-continua model, which highlights that individuals can experience differing levels of ill-being and well-being simultaneously (Westerhof & Keyes, 2010). Moreover, identifying distinct profiles of psychological functioning in a sample of coaches could also help identify subgroups for whom interventions could then be tailored (Bentzen, Lemyre, & Kenttä, 2016). With this in mind, it is important that we identify variables, such as self-regulation capacity and perceived stress, that are associated with optimal psychological states in coaches to enable the development of relevant interventions for this population.

Based on the aforementioned considerations, the purposes of the present study were to (a) investigate profiles of psychological functioning within a sample of coaches, using indices of both ill-being (i.e., burnout) and well-being, and (b) examine whether coaches in these profiles could be differentiated based on their capacity to self-regulate and their perceptions of stress. In line with previous studies (e.g., Dubuc-Charbonneau & Durand-Bush, 2015; Gagnon et al., 2016; Mattern & Bauer, 2014), it was hypothesized that adaptive profiles characterized by lower

burnout and higher well-being would be associated with higher levels of self-regulation capacity and lower levels of perceived stress, while maladaptive profiles characterized by higher burnout and lower well-being would be associated with lower levels of self-regulation capacity and higher levels of perceived stress.

Method

Participants

The convenience sample consisted of 250 Canadian developmental and high performance sport coaches. The coaches (57% men and 43% women) had a mean age of 43.39 (*SD* = 12.34) years and possessed on average 17.60 (*SD* = 10.76) years of coaching experience. The coaches worked primarily with youth athletes competing in a variety of different sports at the regional (10%, including high school), collegiate (4%), provincial (24%), national (25%), and international (37%) level. The majority (56%) were paid and 37% were full-time coaches with no secondary employment. At the time of the survey, 64% of the coaches were in their competitive season and 90% intended to return to their primary coaching position the following season.

Procedure

After institutional ethical approval was obtained, various local, provincial, and national sport and coaching associations (N = 86) were contacted and asked if they would be willing to assist in the recruitment of coaches within their organization. Consenting associations (N = 18) were then provided with an email invitation to send to their coaches on behalf of the researchers. Snowball sampling was also employed as the authors sent email invitations to their personal contacts who were invited to forward the link within their own networks. The email invitation

contained a link to an online survey hosted by a secure website, where coaches were able to provide informed consent and complete the survey containing five questionnaires.

Measures

Demographics. The survey contained a demographic questionnaire to collect personal (e.g., gender, age, employment) and coaching (e.g., coaching experience, coaching hours, paid vs. unpaid positions) information from participants.

Burnout. Burnout was assessed using the Maslach Burnout Inventory - Educators Survey (MBI-ES; Maslach et al., 1996). The MBI-ES consists of 22 items factored into three subscales: emotional exhaustion (nine items; e.g., "I feel emotionally drained from my work"), depersonalization (five items; e.g., "I don't really care what happens to some athletes"), and personal accomplishment (eight items; e.g., "I have accomplished many worthwhile things in this job"). Items are rated using a seven-point Likert scale ranging from *never* (0) to *everyday* (6) and a total score is calculated for each of the three subscales separately, where higher emotional exhaustion and depersonalization and lower personal accomplishment are indicative of the burnout syndrome. In keeping with previous research on coach burnout, the MBI-ES was modified such that *students* were replaced with *athletes*, where applicable (Kelley, 1994; Hjälm, Kenttä, Hassmén, & Gustafsson, 2007). In previous coaching studies, he MBI-ES demonstrated acceptable psychometric properties with these adaptations, with internal consistency coefficients ranging from .70 to .92 across the three subscales (Kelley, 1994; Price & Weiss, 2000).

Well-Being. The Mental Health Continuum-Short Form (MHC-SF; Keyes, Wissing, Potgieter, Temane, Kruger, & van Rooy, 2008) was used to measure coaches' well-being. In accordance with Keyes' (2002) conceptualization, the 14-item scale consists of three separate subscales that assess emotional (three items), social (five items), and psychological (six items)

well-being, and thus includes aspects of both hedonic and eudaimonic well-being. Using a 6-point Likert scale from *never* (0) to *everyday* (5), respondents indicate how frequently they have experienced different facets of well-being during the last month. Examples of items include: "during the past month, how often did you feel happy?" (emotional well-being), "during the past month, how often did you feel that you had something important to contribute to society?" (social well-being), and "during the past month, how often did you feel that your life has a sense of direction or meaning to it?" (psychological well-being). While the MHC-SF has not been used in the coaching context, previous studies employing the MHC-SF have found that the scale has excellent internal consistency and construct and criterion validity (e.g., Perugini, de la Iglesia, Solano, & Keyes, 2017) and the three-factor structure of the MHC-SF has been confirmed in nationally representative samples (see Keyes, 2009).

Self-Regulation Capacity. Coaches' capacity to self-regulate was measured using the short version of the Self-Regulation Questionnaire (SSRQ; Carey, Neal, & Collins, 2004). The SSRQ is intended to be used as a unidimensional measure of global self-regulation capacity (Carey et al., 2004) and assesses various self-regulatory processes such as goal-setting (e.g., "I set goals for myself and keep track of my progress"), self-control (e.g., "I am able to resist temptation"), and self-reflection (e.g., "I learn from my mistakes"). Respondents are asked to rate their level of agreement with each of the 31 items using a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). In samples of university students, the SSRQ has demonstrated excellent internal consistency (e.g., $\alpha > .92$; Bravo, Prince, & Pearson, 2016; D'Lima, Pearson, & Kelley, 2012). While the SSRQ has not been used with coaches, it has been employed to measure global self-regulation capacity in university student-athletes (Dubuc-Charbonneau & Durand-Bush, 2015).

Perceived Stress. Coaches' perception of stress was assessed using the 10-item Perceived Stress Scale (PSS-10; Cohen et al., 1983). The PSS-10 items are designed to measure the perception that one's life is unpredictable, uncontrollable, or overloading by asking respondents *how often* during the past month they experienced thoughts and feelings of stress. Sample items include "in the last month, how often have you felt that you were unable to control the important things in your life?" and "in the last month, how often have you found that you could not cope with all the things that you had to do?". Items are scored using a 5-point Likert scale from *never* (0) to *very often* (4). In previous studies with coaches, the PSS-10 demonstrated acceptable internal consistency (e.g., Malinauskas, Malinauskiene, & Dumciene, 2010) and a recent confirmatory factor analysis revealed excellent fit for the data in a sample of developmental coaches (CFI = .982; Alcaraz et al., 2015).

Data Analysis

We imputed missing data using expectation maximization and screened the data for univariate and multivariate outliers and inspected for normality. We then conducted preliminary analyses to assess internal consistency reliability estimates (i.e., Cronbach's α) for each scale. Descriptive statistics (i.e., means, standard deviations) and bivariate correlations were calculated to describe the sample and assess the relationships between all main variables, respectively.

Next, we performed a two-stage cluster analysis to identify profiles of psychological functioning (i.e., burnout and well-being) within the sample using standardized *z*-scores for the three subscales of the MBI-ES and the three subscales of the MHC-SF. Following procedures outlined by Hair, Black, Babin, and Anderson (2010), and employed in previous sport psychology studies (e.g., Martinent, Nicolas, Gaudreau, & Campo, 2013; Rottensteiner, Konttinen, & Laakso, 2015), step one involved a hierarchical cluster analysis using Ward's

method of linkage and the squared Euclidean distance measure to evaluate the optimal cluster solution emerging from the data. In step two, we conducted a non-hierarchical *k* means cluster analysis using simple Euclidean distance and specifying the number of clusters determined from the hierarchical analysis. In line with Hair and colleagues' (2010) recommendation, cases were randomly reordered within the dataset and the *k* means cluster analysis was rerun to assess the stability of the cluster solution.

To examine the tenability of the cluster solution and to confirm if the clusters differed significantly on the six clustering variables, we performed a one-way between-subjects MANOVA with cluster membership as the independent variable and the three burnout and three well-being dimensions as the dependent variables. To examine how the clusters differed in self-regulation capacity and perceived stress, we ran a one-way between subjects MANOVA with the independent variable of cluster membership and the SSRQ and the PSS as the two dependent variables. To further describe the profiles of psychological functioning and provide external validity for the cluster solution, we explored differences between cluster groups on demographic variables previously examined in studies of coaches' psychological functioning (Knight, Reade, Selzler, & Rodgers, 2013; Schaffran, Altfeld & Kellmann, 2016). Specifically, we ran a one-way between subjects MANOVA with cluster membership as the independent variable and coaching experience and coaching hours during the competitive season as the two dependent variables. We also performed a series of chi-squared tests of association for the categorical variables of gender, full-time (with no secondary employment) or part-time (with secondary employment) positions, paid or unpaid positions, and highest competitive level. For each of the MANOVAs, significant multivariate effects were followed up with one-way ANOVAs and Tukey's HSD post hoc tests were used to examine group comparisons. A Bonferroni correction ($p < .008$ for clustering

variables; $p < .025$ for external and for demographic variables) was employed to protect against Type 1 error rates for multiple comparisons, and effect sizes were assessed using partial eta squared (η^2). All analyses were performed using SPSS 22.0.

Results

Descriptive Statistics

Preliminary screening analyses did not detect any variables as non-normal. Nine unique univariate outliers and two unique multivariate outliers were identified, and since outliers can significantly influence the results of cluster analyses (Hair et al., 2010), the main analyses were run with the outliers retained and with the 11 unique outliers removed. As the results were consistent across both analyses, the outliers were retained, which is preferable in terms of sample representation (Hair et al., 2010).

Reliability coefficients, descriptive statistics, and bivariate correlations are presented in Table 1. All measures demonstrated acceptable internal consistency (i.e., Cronbach's $\alpha > .70$; Nunnally, 1978). An inspection of the means suggests that the coaches were faring well psychologically as a whole, with low levels of emotional exhaustion and depersonalization and high levels of personal accomplishment (i.e., low levels of burnout), and high levels of emotional, social, and psychological well-being (i.e., scores above the midpoint on the MHC-SF subscales). Moreover, coaches reported high self-regulation capacity and low perceived stress overall.

(Insert Table 1)

Correlations between the variables were all significant ($p < .01$) and in the expected directions. Emotional exhaustion, depersonalization, and perceived stress were negatively associated with personal accomplishment, emotional well-being, social well-being,

psychological well-being, and self-regulation capacity. The magnitudes of these correlations were small to moderate for emotional exhaustion and depersonalization, and moderate to large for perceived stress (Cohen, 1988). Moderate to large positive correlations were found between the three well-being subscales and self-regulation capacity, and between emotional exhaustion, depersonalization, and perceived stress (see Table 1).

Profiles of Psychological Functioning

The agglomeration schedule coefficients generated from the hierarchical cluster analysis were examined in order to determine the appropriate number of clusters within the data. Specifically, using the percentage change in coefficient to assess increases in heterogeneity between cluster stages (Hair et al., 2010), a noticeable increase was observed when moving from a one to a two, and from a two to a three, cluster solution. When considering these two options, a three-cluster solution was deemed the best fit because of cluster interpretability and sample representation within each cluster (Martinent et al., 2013). For instance, within the two-cluster solution, the more "adaptive" profile, which comprised 65% of the sample, exhibited moderate *z*-scores across the clustering variables and was therefore less interpretable than the more adaptive profile within the three-cluster solution. Additionally, moving from a two-cluster to a three-cluster solution provided a more nuanced understanding of the coaches' psychological functioning, as 32% of the sample were reclassified from a more adaptive (11%) and a more maladaptive (21%) profile to a mixed "at-risk" profile (described below). This offers greater insight into the variability of coaches' psychological functioning than a dichotomous description of a more adaptive and a more maladaptive profile.

A *k* means cluster analysis specifying the three-cluster solution obtained from the hierarchical cluster analysis was then performed. The stability of the three clusters was assessed

by re-running the analysis with a randomly reordered dataset. Cross-classification of cluster membership between the two solutions revealed a stable solution, as 80% of the sample retained their cluster membership when the cases were reordered (Hair et al., 2010). Moreover, although the magnitude of the cluster centres demonstrated some variability, the pattern of cluster centres was consistent across both analyses, which provided additional validity to the resultant cluster profiles (Hair et al., 2010).

Descriptive statistics for the three clusters of psychological functioning are provided in Table 2.

(Insert Table 2)

Following guidelines from previous studies, a *z*-score criterion of +/- .5 was used to delineate relatively high and relatively low scores on the burnout and well-being scales, with scores falling between -.5 and +.5 defined as moderate (e.g., Martinent et al., 2013; Rottensteiner et al., 2015). Based on this, descriptive labels were generated for the three clusters in order to facilitate interpretation of the results; however, as these labels are based upon the *relative* distribution of scores within the sample (i.e., *z*-scores), they are not intended to describe the profiles in absolute terms (Smith, Ullrich-French, Walker, & Hurley, 2006). The first cluster was labelled *thriving* (*n* = 135, 54% of total sample) as it was characterized by an adaptive profile of relatively low emotional exhaustion, moderate depersonalization (on the verge of low), and relatively high personal accomplishment, emotional well-being, social well-being, and psychological well-being. The *depleted* cluster (*n* = 36, 14% of total sample) was so labelled because coaches exhibited a maladaptive profile of relatively high emotional exhaustion, moderate depersonalization, and relatively low personal accomplishment, emotional well-being, social well-being, and psychological well-being. The final cluster (*n* = 79, 32% of the total

sample) was mixed, in that the coaches reported relatively high emotional exhaustion and depersonalization, relatively low personal accomplishment, and moderate emotional, social, and psychological well-being. Coaches in this profile were labelled *at-risk*, as their well-being could potentially be further weakened by relatively high burnout scores. Figure 1 provides a visual representation of the three profiles.

(Insert Figure 1)

Results of the one-way between subjects MANOVA yielded a significant multivariate effect on the three burnout and three well-being subscales, F (12, 486) = 41.95, $p < .001$ (Pillai's trace = 1.02; $\eta^2 = .51$). Follow up ANOVAs with a Bonferroni correction ($p < .008$) revealed that the three clusters were significantly different on all six clustering variables, thus providing support for the tenability of the cluster solution (Hair et al., 2010). For descriptive purposes, results of the group comparisons using Tukey HSD post hoc tests are presented in Table 2; however, these F tests should be interpreted with caution, as the independent variable has been selected to maximize group differences during the cluster analysis (Martinent et al., 2013).

Profile Group Differences on Self-Regulation Capacity and Perceived Stress

We found a significant main effect for the MANOVA examining differences across the three clusters on self-regulation capacity and perceived stress, F (4, 490) = 32.86, $p < .001$ (Pillai's trace = .42; $\eta^2 = .21$). After a Bonferroni correction ($p < .025$), the follow up ANOVAs indicated a significant univariate effect for both variables, with large effect sizes. Post hoc Tukey's HSD comparisons revealed significant profile group differences in the expected directions. That is, coaches in the thriving profile had significantly higher levels of self-regulation capacity and significantly lower perceived stress than those in the at-risk and depleted

profiles. Additionally, the at-risk coaches reported significantly lower levels of perceived stress than the depleted coaches (see Table 3).

(Insert Table 3)

Profile Group Differences on Demographic Variables

Results of the MANOVA examining profile group differences on years of coaching experience and coaching hours during the competitive season were significant, F (4, 484) = 2.77, $p < .05$ (Pillai's trace = .05; $\eta^2 = .02$). After a Bonferroni correction ($p < .025$), follow-up ANOVAs revealed that only the number of coaching hours differed significantly across clusters. Group comparisons using Tukey HSD post hoc tests revealed that during the competitive season, coaches in the depleted profile worked significantly more hours per week in their coaching (M = 35.25) than those in the thriving profile (M = 25.71).

Findings from the series of chi-squared tests of association showed that the number of paid versus unpaid coaches was significantly different across the clusters ($\chi^2 = 9.95$, $df = 2$, $p <$ .01), with 74% of coaches in the depleted profile being paid, and 53% of the coaches in the thriving profile being unpaid. No significant differences were found for gender, full-time versus part-time positions or highest competitive level.

Discussion

In the present study, we sought to identify profiles of psychological functioning within a sample of Canadian developmental and high performance sport coaches and to examine whether coaches in these profiles could be distinguished based on their capacity to self-regulate and their perceptions of stress. With respect to the first aim, three profiles of psychological functioning were observed: (a) an adaptive profile of thriving coaches, characterized by relatively low emotional exhaustion, moderate depersonalization (on the verge of low), and relatively high

personal accomplishment, emotional well-being, social well-being, and psychological well-being, (b) a maladaptive profile of depleted coaches, characterized by relatively high emotional exhaustion, moderate depersonalization, and relatively low personal accomplishment, emotional well-being, social well-being, and psychological well-being, and (c) a mixed profile of at-risk coaches, characterized by relatively high emotional exhaustion and depersonalization, relatively low personal accomplishment, and moderate emotional, social, and psychological well-being. The negative relationship between burnout and well-being in the thriving and depleted profiles was supported in previous research with coaches (Bentzen et al., 2015). The at-risk profile, however, is novel and demonstrates individual variation in the relationship between these variables. In this way, concurrently examining indices of ill-being and well-being using a person-centered approach allowed for a more nuanced understanding of coaches' psychological functioning.

Results of the present study substantiate that ill-being and well-being represent distinct dimensions of functioning (Lundqvist & Raglin, 2015; Stebbings et al., 2012), yet, they also reinforce that these dimensions are not mutually exclusive (Westerhof & Keyes, 2010). Specifically, while descriptively, the at-risk and depleted coaches could not be differentiated based on their burnout scores, they differed significantly in their well-being scores. Interestingly, coaches in the at-risk group were able to maintain moderate levels of emotional, social, and psychological well-being in spite of levels of emotional exhaustion, depersonalization, and reduced personal accomplishment comparable to those reported by coaches in the depleted profile. Congruent with the dual-continua model (Keyes, 2002), these findings suggest that experiencing symptoms of burnout may not necessarily preclude coaches from feeling good (i.e.,

happy, satisfied with life) and from functioning well socially and psychologically in their lives (Keyes et al., 2008).

Studies involving North American student-athletes corroborate this (DeFreese & Smith, 2014; Van Slingerland, Durand-Bush, & Rathwell, in press). For instance, DeFreese and Smith (2014) reported that "burnout perceptions may be extremely detrimental to the well-being of some of athletes while conversely contributing less negatively to the well-being of others" (p. 627). Similarly, burnout in the present study had a stronger negative impact on the emotional, social, and psychological well-being of depleted coaches than it did for at-risk coaches. Ultimately though, it could be argued that coaches in the at-risk profile may be vulnerable to becoming depleted over time, especially since coaches' well-being is often neglected or compromised during periods of chronic stress and burnout (Altfeld et al., 2015; Durand-Bush et al., 2012; McNeill et al., 2017). Since optimal functioning is conceptualized as a 'complete state' of high well-being and low dysfunction (Keyes, 2002), the observation of two maladaptive or 'incomplete' profiles in the present study reinforces the need for strategies to help coaches achieve an optimal psychological state (Stebbings & Taylor, 2017).

It is therefore important to identify factors that are associated with coaches' adaptive functioning if we are to help this population meet their own psychological needs and perform optimally in their roles. In regards to the second aim of our study, we found that the profiles of psychological functioning could be differentiated based on self-regulation capacity and perceptions of stress, which lends additional criterion validity to the cluster solution in our sample (Hair et al., 2010). Specifically, in support of our expectations, coaches in the adaptive (i.e., thriving) profile reported significantly higher levels of self-regulation capacity and lower levels of perceived stress compared to those in the maladaptive profiles. Depleted coaches also

reported significantly higher levels of perceived stress than those in the at-risk profile. The large effect sizes reinforce the salience of these two variables, with 22% and 38% of the variance in the profiles explained by the coaches' capacity to manage themselves and their perceptions of stress, respectively.

These findings support those from studies with athletes (Dubuc-Charbonneau & Durand-Bush, 2015; Van Slingerland et al., in press), university students (Durand-Bush, McNeill, Harding, & Dobransky, 2015), and physicians and medical students (Gagnon et al., 2016), in which self-regulatory capacity was linked to positive psychological outcomes, such as high well-being and low burnout. They also extend the findings of previous studies demonstrating that self-regulatory skills represent important coping resources for coaches (Durand-Bush et al., 2012) and that nurturing coaches' capacity to self-regulate can have a positive influence on their symptoms of burnout and experiences of well-being (Durand-Bush, McNeill, & Collins, 2015). While it has been argued that self-regulation capacity may protect against reduced well-being when experiencing dysfunction or impairment (Durand-Bush, McNeill, et al., 2015), such as burnout, this was not observed in the current cross-sectional study; the at-risk and depleted coaches did not differ in their levels of self-regulation capacity, even though coaches in the at-risk profile reported significantly higher well-being levels.

Instead, it appears that how coaches appraise stress may have influenced the relationship between burnout and well-being, as at-risk coaches reported significantly lower levels of perceived stress than depleted coaches. As such, the perception that one's life is uncontrollable, unpredictable, and overloaded (Cohen et al., 1983) may represent a risk factor for developing a more depleted state (i.e., compromised emotional, social, and psychological well-being) among coaches experiencing symptoms of burnout. Interestingly, while a positive association between

perceived stress and burnout among coaches has been consistently demonstrated (Goodger et al., 2007; Raedeke & Kenttä, 2013), coaches in the depleted profile did not manifest higher levels of burnout than coaches in the at-risk profile. Yet, depleted coaches reported significantly lower well-being, which supports associations between perceived stress and impaired well-being in coaches (Altfeld & Kellmann, 2015; Durand-Bush et al., 2012).

Finally, remuneration and the number of hours that coaches worked during their competitive season played a role in their psychological functioning. Specifically, depleted coaches worked an average of nine hours more per week in their coaching role than thriving coaches and they were also more likely to hold a paid coaching position than thriving coaches. These findings support those of Knight and colleagues (2013) who showed that receiving a salary was related to greater perceived stress among Canadian coaches, as was the expectation to work more than 40 hours per week. Longer coaching hours and higher perceived workload have also been linked to higher levels of emotional exhaustion in Australian (Kilo & Hassmén, 2016) and Scandinavian coaches (Bentzen et al., 2015). Unlike previous studies in which full-time coaches reported higher exhaustion and lower well-being than part-time coaches (Altfeld & Kellmann, 2015), the profiles in the present study did not differ significantly based on their full or part-time coaching status. However, certain conditions surrounding being paid for one's coaching (e.g., expectations and norms; Knight et al., 2013; McNeill et al., 2017) may have contributed to higher levels of burnout and lower levels of well-being among depleted coaches, thus further research is warranted to corroborate this.

Practical Implications

From a practical standpoint, results of the present study highlight the value of jointly assessing indices of ill-being and well-being so that program administrators and sport

psychology practitioners working with coaches can tailor interventions to coaches' unique patterns of psychological functioning. Furthermore, the findings demonstrate the importance of strengthening coaches' capacity to self-regulate and manage perceptions of stress in order to achieve optimal functioning. Drawing on recent interventions with vulnerable coaches (Durand-Bush, McNeill, & Collins, 2015) and university student-athletes (Dubuc-Charbonneau & Durand-Bush, 2018), as well as suggestions put forth in the coaching literature, the following recommendations are proposed.

First, as part of their preparation or planning, coaches should adopt high but realistic internal standards regarding their own well-being and identify potential self-regulation obstacles that could make it challenging to prioritise their psychological health (e.g., lack of energy and time; Durand-Bush et al., 2012). In setting clear well-being-related goals and employing various self-control strategies (e.g., facilitative self-talk) to achieve them and to respond to obstacles, coaches would be in a better position to sustain ideal states, even when depleted (McNeill et al., 2017). Moreover, ongoing self-monitoring is an important self-regulatory process (Dubuc-Charbonneau & Durand-Bush, 2018) that could help coaches manage fluctuations in their emotional states in order to minimize their negative effects on their interactions with athletes (Stebbings & Taylor, 2017) and their well-being (McNeill et al., 2017). Finally, coaches should be encouraged to become more self-aware to be in a better position to adapt their thoughts, feelings, and behaviours (e.g., get more hours of sleep to feel more energized) as needed to maximize their learning and success (Durand-Bush, McNeill, & Collins, 2015). This could be achieved by engaging in systematic journaling (Dubuc-Charbonneau & Durand-Bush, 2018).

With regards to managing perceptions of stress, cognitive restructuring represents a technique through which coaches can learn to modify their cognitive appraisals in order to

prevent feelings of overload (Dubuc-Charbonneau & Durand-Bush, 2015). For instance, coaches could shift their thoughts to appraise an imbalance between their demands and resources as facilitative rather than threatening (Lazarus & Folkman, 1984), and to construe their coaching as a meaningful rather than a depleting pursuit (Vealey et al., 1992). However, given the demanding environments in which coaches operate, preventing stress is not always possible; therefore, it is crucial that coaches build in sufficient recovery (e.g., sleep, exercise, time with family and friends; Altfeld et al., 2015) and monitor their coaching hours to avoid becoming depleted. Moreover, coaches should be supported in developing effective emotion-focused coping strategies (e.g., seek social support; Fletcher & Scott, 2010) to help attenuate the negative impact of perceived stress when it arises.

Finally, at the situational level, a growing body of evidence suggests that organizational support (Bentzen et al., 2015; Kilo & Hassmen, 2016; Stebbings et al., 2012) is linked to reduced burnout and enhanced well-being in coaches and is thus a worthwhile target for interventions as well (Neil, McFarlane, & Smith, 2016). Indeed, it has been argued that changing both the individual and the organizational setting represents the most effective approach to combating burnout (Maslach, Schaufeli, & Leiter, 2001). If sport organizations want to promote positive psychological functioning in their coaches, results of the present study point to the importance of guarding coaches' working hours (Bentzen et al., 2015; 2016) and monitoring expectations placed on coaches who are remunerated (Knight et al., 2013). Sport organizations can also provide relevant training opportunities (e.g., emotional regulation, Stebbings & Taylor, 2017; self-reflection, Neil et al., 2016) to help coaches develop effective self-regulatory and stress management skills (Durand-Bush, McNeill, & Collins, 2015), and ensure coaches have sufficient resources (e.g., integrated support team) to meet demands (Durand-Bush et al., 2012).

Limitations and Future Directions

The cluster analysis performed in the current study permitted the exploration of multivariate profiles of ill-being and well-being in coaches. However, a limitation of this type of analysis is that it provides a sample-specific solution (Martinent et al., 2013). As such, findings cannot be generalized beyond the sample. Although the validity and stability of the emergent cluster solution was supported through consistency across two clustering methods and repeated analyses (Hair et al., 2010), future studies are required to replicate these clusters of psychological functioning among other samples of coaches. Moreover, the lack of clinically-relevant cut-off scores for the MBI-ES makes it difficult to assess the severity of burnout symptoms experienced by the coaches in absolute terms (Lundkvist, Stenling, Gustafsson, & Hassmén, 2014). That said, an examination of the profiles' raw burnout scores reveals that the depleted and at-risk coaches reported higher emotional exhaustion, lower personal accomplishment, and similar depersonalization, when compared to previous samples of coaches (Kelley et al., 1999; Price & Weiss, 2000).

The cross-sectional design is another limitation of the present study as we cannot draw causal inferences regarding the direction of the relationships between psychological functioning and self-regulation capacity and perceived stress. It is possible, for instance, that the higher levels of burnout exhibited by depleted and at-risk coaches impaired their ability to effectively self-regulate and cope with stress (Koole, Jostmann, & Baumann, 2012). Additionally, the higher levels of emotional, social, and psychological well-being reported by thriving and at-risk coaches may have represented a personal resource that influenced how they appraised stress in their lives. As such, future research adopting a variable-centered approach (e.g., structural equation modeling) is needed to disentangle the associations between these variables and determine the

process through which they interact. Furthermore, longitudinal studies would enable the investigation of how profiles of psychological functioning change over time, including whether or not coaches in a mixed (i.e., at-risk) profile progress to a more depleted state throughout a demanding season.

Additionally, consistent with previous research on coach burnout, the present study is subject to survival bias (Hjälm et al., 2007; Kilo & Hassmén, 2016), as the coaches in the sample were still actively coaching. It is plausible that coaches with more pronounced burnout had already withdrawn from coaching, which may explain why our sample reported overall low burnout scores and further speaks to the concern about studying burnout in low-burnout samples in general (Bentzen et al., 2016). The generalizability of the study findings is also limited by the reliance on a convenience sample, which may not be representative of the broader coaching population (Altfeld et al., 2015).

Finally, in the present study, we used self-report measures to assess indices of coaches' psychological functioning. In future studies, it would be valuable for researchers to examine whether coaches' self-report data triangulate with data from other sources, such as from athletes or from systematic observation (e.g., using the Assessment of Coach Emotions; Allan, Turnnidge, Vierimaa, Davis, & Coté, 2016), in order to shed light on potential outcomes (e.g., coaching behaviours) associated with different profiles of psychological functioning. We also employed a global measure of well-being and a context-specific measure of ill-being (i.e., burnout) in the present study. This enabled us to examine the interaction between coaches' burnout related to their coaching and their overall well-being outside of coaching. The use of a coaching-specific indicator of well-being (e.g., satisfaction with work; Bentzen et al., 2015) in future studies would further our understanding of the relationship between burnout and well-

being, as specifically related to coaching, while examining more global indices of ill-being, such as depression, would contribute meaningfully to the literature on coaches' psychological functioning.

Conclusion

In conclusion, the contribution of the present study is a more comprehensive description of coaches' psychological functioning through the observation of three distinct profiles, that is, thriving, at-risk, and depleted, within a sample of Canadian developmental and high performance sport coaches. By investigating indices of ill-being and well-being together, we were able to demonstrate individual variation in the relationship between burnout and well-being within our sample, lending support to the argument that ill-being and well-being represent distinct facets of overall functioning (Keyes, 2002). Furthermore, an increased understanding of the variables associated with more adaptive and maladaptive patterns of psychological functioning is vital for the development of interventions, and for the identification of coaches who are likely to thrive versus decline in the face of increased demands (Lundqvist & Raglin, 2015). In the present sample, a more adaptive profile of psychological functioning was associated with higher self-regulatory capacity and lower perceived stress. As such, intervention-based research is needed to examine how fostering coaches' self-regulation and stress management competencies may help to prevent or alleviate burnout and enhance well-being within this population. Moreover, coaching longer hours and being remunerated differentiated between more adaptive and maladaptive profiles, which demonstrate the importance of monitoring these situational factors to optimize coaches' functioning.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada under a Joseph-Bombardier Canada Graduate Scholarship [grant number 767-2011-1253]; and the Ontario Ministry of Training, Colleges and Universities under an Ontario Graduate Scholarship.

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Table 1

Internal Reliability, Correlations, and Descriptive Statistics for Study Variables

	Variable	1	2	3	4	5	6	7	8
1	Emotional exhaustion	*.90*	.62**	-.29**	-.39**	-.29**	-.37**	-.22**	.49**
2	Depersonalization		*.72*	-.29**	-.24**	-.27**	-.26**	-.21**	.34**
3	Personal accomplishment			*.79*	.38**	.39**	.44**	.47**	-.40**
4	Emotional well-being				*.87*	.61**	.72**	.44**	-.63**
5	Social well-being					*.86*	.69**	.37**	-.49**
6	Psychological well-being						*.82*	.53**	-.64**
7	Self-regulation capacity							*.92*	-.48**
8	Perceived stress								*.88*
	Possible range	0-54	0-30	0-48	0-15	0-25	0-30	31-155	0-40
	Observed range	0-44	0-20	18-48	3-15	0-25	10-30	94-155	2-33
	n	250	250	250	250	250	250	250	248
	M	14.77	3.81	40.07	11.85	16.98	23.47	125.87	14.66
	SD	10.25	4.18	6.15	2.63	5.31	4.68	13.14	5.93

Note. ** $p < .01$. Internal consistency reliability coefficients (Cronbach's α) presented on the diagonal, correlation coefficients above the diagonal.

Table 2

Means, Standard Deviations, Standardized Scores, and Pairwise Comparisons for Profile Group Differences on Burnout and Well-Being

	Profiles							
	(1) Thriving (n = 135)		(2) Depleted (n = 36)		(3) At-risk (n = 79)		F	Tukey's HSD
Variables	M (SD)	z	M (SD)	z	M (SD)	z		
Emotional exhaustion	9.51 (6.65)	-.52	22.43 (9.08)	.74	20.29 (10.80)	.53	56.95	2>1*** 3>1***
Depersonalization	1.77 (1.88)	-.49	5.38 (4.37)	.35	6.62 (5.06)	.64	50.06	2>1*** 3>1***
Personal accomplishment	43.64 (3.36)	.57	35.35 (6.23)	-.76	36.05 (6.27)	-.64	79.17	2>1*** 3>1***
Emotional well-being	13.30 (1.57)	.55	7.36 (2.26)	-1.71	11.42 (1.57)	-.16	180.06	1>2*** 1>3*** 3>2***
Social well-being	19.93 (3.65)	.56	10.09 (4.10)	-1.30	15.09 (4.33)	-.36	101.92	1>2*** 1>3*** 3>2***
Psychological well-being	26.22 (2.93)	.59	15.93 (3.45)	-1.59	22.16 (3.19)	-.27	167.38	1>2*** 1>3*** 3>2***

Note. ***$p < .001$

Table 3

Means, Standard Deviations, and Pairwise Comparisons for Profile Group Differences on Self-Regulation Capacity and Perceived Stress

	Profiles								
	(1) Thriving (n = 135)		(2) Depleted (n = 36)		(3) At-risk (n = 79)		F	η^2	Tukey's HSD
Variables	*M*	*SD*	*M*	*SD*	*M*	*SD*			
Self-regulation capacity	131.43	11.72	116.75	12.74	120.53	11.04	34.30	.22	1>2*** 1>3***
Perceived stress	11.47	4.64	20.94	5.05	17.32	4.66	75.46	.38	2>1*** 2>3** 3>1***

Note. $^{**}p < .01$; $^{***}p < .001$

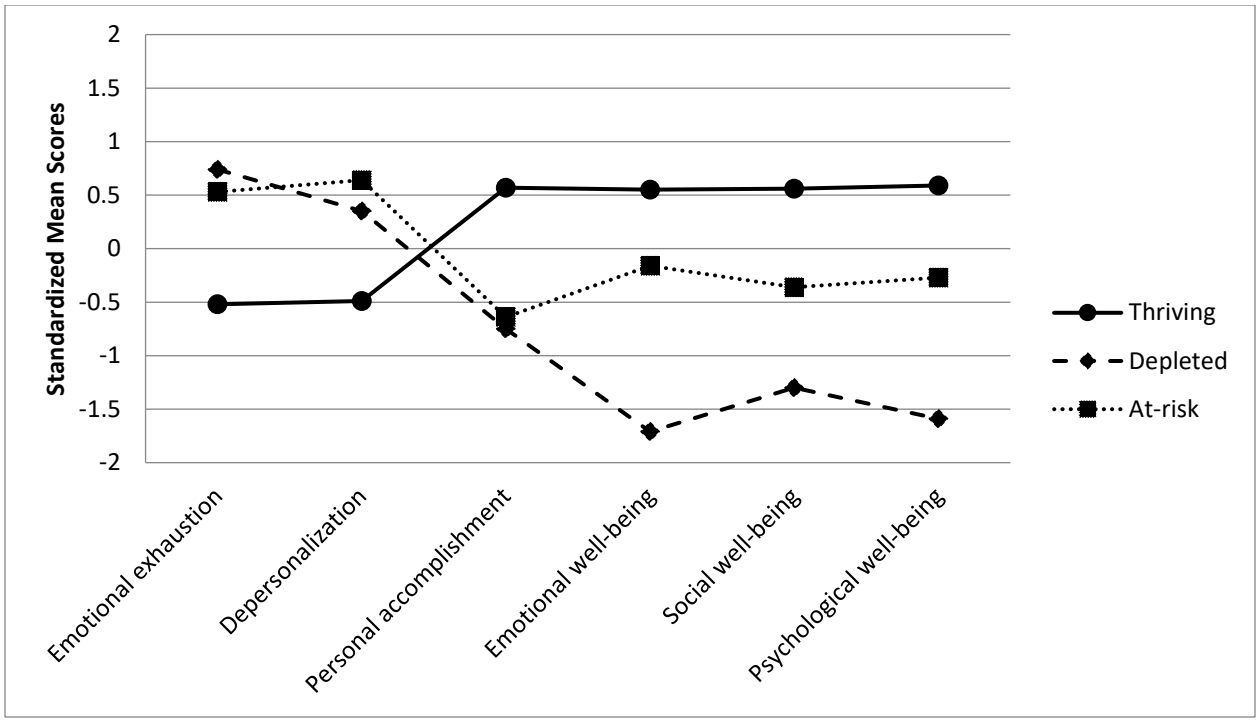

Figure 1. Coaches' profiles of psychological functioning ($N = 250$).

Article 2: Investigating the Role of Perceived Stress in the Relationship Between Self-Regulatory Competencies and Burnout in Sport Coaches

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Manuscript under review

Abstract

While coaches may be prone to burnout, few studies have investigated the personal resources, such as self-regulation competencies, that may help protect them from the experience of burnout (Raedeke & Kenttä, 2013). In this cross-sectional study, structural equation modeling (Kline, 2011) was used to examine the association between self-regulation and burnout in coaches, and more specifically, to test the intervening variable effect of perceived stress in this relationship. The sample consisted of 260 Canadian competitive sport coaches. Results supported the indirect effect of perceived stress in the association between self-regulation competencies (i.e., self-control and self-observation) and the three burnout dimensions (i.e., emotional exhaustion, depersonalization, and personal accomplishment). Additionally, a direct association was found between these self-regulatory competencies and personal accomplishment. Findings highlight that the mechanism by which self-regulation may influence coach burnout is through lowering their levels of perceived stress. Practical implications are discussed in light of these results.

Keywords: burnout, perceived stress, self-regulation competencies, structural equation modeling

Investigating the Role of Perceived Stress in the Relationship Between Self-Regulatory Competencies and Burnout in Sport Coaches

While coaching competitive athletes can be gratifying and rewarding, it can also be an emotionally and interpersonally demanding pursuit (McNeill, Durand-Bush, & Lemyre, 2017). Moreover, the workload typically associated with coaching (e.g., long working hours, performance expectations) is often compounded by work-home interference and insufficient recovery (Olugosa & Kenttä, 2017). As a result, coaches are considered particularly prone to stress-related strain, including burnout (Hjälm, Kenttä, Hassmén, & Gustafsson, 2007), a syndrome characterized by emotional exhaustion (i.e., depletion), depersonalization (i.e., detachment from one's athletes), and reduced personal accomplishment (i.e., perceived inefficacy; Maslach, Jackson, & Leiter, 1996). Despite the potentially stressful nature of coaching, not all coaches experience burnout in response to their coaching demands (Bentzen, Lemyre, & Kenttä, 2015). As such, individual factors play an important role in the development of burnout; yet, we know little about the personal resources that may protect coaches against burnout (Goodger, Gorely, Lavallee, & Harwood, 2007).

One personal resource that may play a role in coaches' experiences of burnout is self-regulation capacity (Durand-Bush, McNeill, & Collins, 2015). Self-regulation refers to coaches' regular exercise of control over themselves in order to bring their thoughts, feelings, and behaviours in line with their personal goals, preferred standards, and changing environment (Durand-Bush et al., 2015; Zimmerman, 2000). From a social-cognitive perspective, effective self-regulation involves implementing a network of competencies (e.g., strategic planning, self-observation, self-evaluation) over three phases: forethought (i.e., preparation), performance (i.e., execution) and self-reflection (i.e., evaluation; Zimmerman, 2000). For instance, in order to be

successful in their self-regulatory efforts, coaches must have sound self-control competencies to resist temptation and distractions and stay focused on their goals during execution (Durand-Bush et al., 2015; Zimmerman, 2000). Moreover, given coaches' numerous demands and rapidly changing contexts (Olugosa & Kenttä, 2017), they must be able to effectively self-monitor (i.e., self-observe) and adapt their performance as necessary (Durand-Bush et al., 2015; Kirschenbaum, 1984; Zimmerman, 2000).

A number of recent studies have shown associations between self-regulation and burnout in individuals working in demanding environments. For instance, in a study of Canadian medical residents and physicians, Gagnon, Durand-Bush, and Young (2016) found that these performers' capacity to self-regulate was negatively associated with emotional exhaustion and depersonalization, and positively associated with personal accomplishment. In another context, German teachers' ability to engage in effective self-regulation while working on tasks outside of school hours was negatively associated with emotional exhaustion (Mattern & Bauer, 2014). Similarly, the use of self-regulation strategies was associated with lower risk of burnout among Finnish school principals (Tikkanen, Pyhältö, Pietarinen, & Soini, 2017). In an athletic context, Jordalen, Lemyre, and Durand-Bush (2016) found that, in combination with self-determined forms of motivation, self-control was negatively associated with physical and emotional exhaustion in Norwegian junior elite athletes.

While these findings have yet to be substantiated in the coaching context, preliminary evidence suggests that deficits in self-regulatory competencies may be involved in coach burnout. For instance, in a sample of 430 NCAA coaches, Lee and Chelladurai (2016) found that maladaptive emotion regulation (i.e., suppression of negative emotions) was positively associated with emotional exhaustion in coaches. Recent qualitative studies (e.g., Olusoga &

Kenttä, 2017; McNeill et al., 2017) showed that coaches' burnout experiences are characterized by deficits in their capacity to manage their cognitions (e.g., rumination), emotions (e.g., anger), and behaviours (e.g., self-care). Therefore, investigating the role of self-regulation in coach burnout is warranted, as this could shed light on important competencies that coaches should prioritize to reduce their risk of developing this syndrome.

One way that self-regulation capacity may be associated with burnout in coaches is through its influence on stress perceptions. Dominant theoretical perspectives on burnout in sport (i.e., Smith, 1986; Kelley, 1994) highlight the critical link between the cognitive appraisal of stress and an increased risk of burnout. Indeed, the degree to which coaches appraise their lives as stressful is linked to their experiences of burnout (see Goodger et al., 2007 for a review of quantitative and qualitative studies). Moreover, in a sample of American collegiate coaches, Kelley, Eklund, and Ritter-Taylor (1999) found that, in addition to directly influencing burnout, personal (e.g., hardiness) and situational (e.g., social support) variables had indirect effects on burnout through perceived stress. Similarly, Tashman, Tenenbaum, and Eklund (2010) found that maladaptive perfectionism led to greater perceptions of stress and, in turn, higher levels of emotional exhaustion and depersonalization, and lower levels of personal accomplishment.

It stands to reason then that coaches who can successfully monitor, control, and adapt their thoughts, feelings, and actions in pursuit of their personal goals and standards (Zimmerman, 2000) may be less vulnerable to burnout, in part, because they perceive less stress in their lives. That is, when coaches with effective self-regulatory competencies encounter stressors, they may perceive that they have greater personal resources to cope with these stressors and appraise them as less threatening (Durand-Bush, Collins, & McNeill, 2012; Hanton, Wagstaff, & Fletcher, 2012). Additionally, coaches who exert effort, stay on task, and resist temptation through sound

self-control skills may be more likely to engage in appropriate recovery by activating behaviours (e.g., rest, exercise) to reduce their stress (Jordalen et al., 2016). Furthermore, effective self-monitoring may enable coaches to adapt to their situational demands by prompting more proactive and adaptive coping strategies (e.g., task-oriented coping; Huflejt-uksasik & Czarnota-Bojarska, 2006). Therefore, research is warranted to investigate how perceived stress may influence the relationship between self-regulation and burnout in competitive sport coaches.

Purpose of the Study

A cross-sectional design was employed in this study to examine the associations between self-regulation capacity, perceived stress, and burnout in a sample of Canadian competitive sport coaches, using structural equation modeling (SEM; Kline, 2011) to test the hypothesized relationships. More specifically, we tested the intervening variable effect (Geiser, 2013; Kline, 2015) of perceived stress in the association between coaches' self-regulatory capacity and their emotional exhaustion, depersonalization, and personal accomplishment. Based on theoretical (Kelley, 1994) and empirical (Mattern & Bauer, 2014) arguments, we hypothesized that higher levels of self-regulation capacity would be related to lower levels of perceived stress, which in turn would lead to reduced levels of emotional exhaustion and depersonalization, and higher levels of personal accomplishment (i.e., lower levels of burnout). We also anticipated that self-regulation capacity would demonstrate a negative direct association to both emotional exhaustion and depersonalization, and a direct positive association to personal accomplishment.

Method

Participants

The sample consisted of 260 (*M*age = 43.32; *SD* = 12.31; 149 men, 111 women) Canadian competitive sport coaches who had, on average, 17.46 (*SD* = 10.68) years of coaching

experience. The coaches worked with athletes competing in a variety of sports at a regional (10%, including high school), collegiate (4%), provincial (24%), national (25%), and international (37%) level. Fifty-five percent of the coaches were remunerated and 37% worked as full-time coaches without secondary employment. At the time of the survey, 64% of the coaches were in-season, devoting an average of 28.93 (*SD* = 21.18) hours a week to coaching.

Measures

Self-Regulation. The short version of the Self-Regulation Questionnaire (SSRQ; Carey, Neal, & Collins, 2004) was used to measure the coaches' self-regulatory capacity. The SSRQ provides a unidimensional measure of general self-regulation capacity, encompassing various self-regulatory competencies such as goal-setting, self-control, self-observation, and self-reflection (Carey et al., 2004). Respondents rated their level of agreement with each of the 31 items using a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). While the SSRQ demonstrated excellent internal consistency in studies of university students (e.g., Bravo, Prince, & Pearson, 2016; Carey et al., 2004), it has yet to be used with sport coaches.

Perceived Stress. Coaches' perception of stress was assessed using the 10-item Perceived Stress Scale (PSS-10; Cohen et al., 1983). The PSS-10 measures the extent to which respondents perceive that their lives are unpredictable, uncontrollable, or overloading by asking them *how often* during the past month they experienced thoughts and feelings of stress. Respondents scored the items on a 5-point Likert scale ranging from *never* (0) to *very often* (4). In a recent coaching study, the PSS-10 demonstrated excellent model fit for the data (Alcaraz, Torregrosa, & Viladrich, 2015).

Burnout. Burnout was assessed using the Maslach Burnout Inventory - Educators Survey (MBI-ES; Maslach et al., 1996). The MBI-ES comprises three subscales that correspond to the

core dimensions of burnout: emotional exhaustion (nine items), depersonalization (five items), and personal accomplishment (eight items). The 22-items are rated on a 7-point Likert scale ranging from *never* (0) to *everyday* (6) and a total score is calculated for each of the three subscales. Higher emotional exhaustion and depersonalization and lower personal accomplishment scores are indicative of burnout. In keeping with previous studies of coach burnout, the MBI-ES was modified such that the word *students* was replaced with *athletes*, where applicable (Kelley, 1994; Hjälm et al., 2007). The MBI-ES demonstrated acceptable internal consistency with these adaptations in previous studies of coaches (Kelley, 1994).

Procedure

After receiving institutional ethical approval, we recruited Canadian coaches through local, provincial, and national sport and coaching organizations who forwarded a study invitation to their coaches on our behalf. Coaches were also recruited through snowball sampling, as we sent email invitations to coaches within our own networks. The study invitation contained a link to an online survey where the measures were administered. Coaches provided their informed consent and answered basic demographic and coaching questions before completing the SSRQ, PSS-10, and the MBI-ES. The online survey took approximately 15 minutes to complete.

Results

Preliminary Analyses and Measurement Models

We conducted preliminary data screening and descriptive statistics in SPSS 22.0. There were no concerns over non-normality as univariate skewness and kurtosis values were within acceptable ranges (e.g., skewness < 3.0 and kurtosis < 10.0; Kline, 2011) for all study variables. To handle missing data, we applied the Full Information Maximum Likelihood estimation (FIML), in combination with the robust likelihood estimation method (i.e., the MLR estimator),

in M*plus* version 8 (Muthén & Muthén, 1998-2016). We then analysed the data using SEM and relied on several Goodness-of-fit (GOF) indices to determine model fit (Kline, 2011): the chi-square test (χ^2), the standardized root-mean-square residual (SRMR), the root-mean-square error of approximation (RMSEA) combined with its 90% confidence interval (CI), and the Comparative Fit Index (CFI). Threshold values were established using traditional cut-off criteria to indicate acceptable fit (i.e., SRMR ≤ .08, RMSEA ≤ .08, and CFI ≥ .90; Little, 2013).

Before inclusion in our hypothesized structural model, we performed Confirmatory Factor Analyses (CFA) on each of our study measures to determine their factorial structure (Kline, 2011). Results revealed that the SSRQ performed poorly in our sample, χ^2 (434) = 1038.24, $p < .000$, SRMR = .07, RMSEA = .07 (90% CI = .07 to .08), CFI = .71. First, we observed that the error covariance between six pairs of items represented strongly misspecified parameters in the model due to redundancy in content (e.g., between Item 1 "I usually keep track of my progress towards my goals" and Item 21 "I set goals for myself and keep track of my progress"; see Byrne, 2012). As such, we removed one of each of these pairs of items (i.e., items 2, 13, 19, 21, 26, 29). After removing these items, the scale demonstrated inadequate factor structure and 12 items (i.e., items 1, 4, 5, 7, 8, 12, 14, 15, 23, 24, 28) were deleted due to poor factor loading (i.e., < .50; Kline, 2011). An examination of the remaining items revealed that they primarily measured key competencies associated with the performance phase of self-regulation (i.e., self-control [e.g., "I am able to resist temptation"] and self-observation [e.g., "When I'm trying to change something, I pay a lot of attention to how I'm doing"]; Zimmerman, 2000). To ensure the measure was parsimonious and unidimensional, we removed six items (i.e., items 6, 9, 11, 16, 25, 30) that did not fit conceptually with these performance phase competencies. The measurement model using the seven retained items yielded a good fit to the

data: χ^2 (14) = 32.31, $p < .004$, SRMR = .05, RMSEA = .07 (90% CI = .04 to .10), CFI = .93. As such, rather than measuring global self-regulatory capacity, we assessed performance-related self-regulatory competencies (i.e., self-control and self-observation).

With regards to the PSS-10, we observed one error covariance with a large modification index (Byrne, 2012) between Item 1 ("How often have you been upset because of something that happened unexpectedly?" and Item 9 ("How often have you been angered because of things that happened that were outside of your control?"). Given the redundancy in content (Byrne, 2012), we removed Item 9 from the model because it reflected a more specific emotional response (i.e., anger). The measurement model for the modified scale yielded an unacceptable fit, χ^2 (35) = 106.80, $p < .000$, SRMR = .06, RMSEA = .09 (90% CI = .07 to .11), CFI = .90. Based on these fit indices, we deleted items 4 and 5 (Byrne, 2012) as both reflected positive beliefs (i.e., "How often have you felt confident about your ability to handle your personal problems?", Item 4; "How often have you felt that things were going your way?", Item 5) rather than perceptions of stress. After these revisions, the model for perceived stress yielded a good fit to the data: χ^2 (14) = 35.95, $p < .001$, SRMR = .04, RMSEA = .08 (90% CI = .05 to .11), CFI = .95.

Finally, we evaluated the measurement model for the MBI-ES. Three items (i.e., items 12, 15, 16) showed poor factorial loadings (i.e., < .50; Kline, 2011) and were therefore removed. The revised MBI-ES showed some degree of misfit, χ^2 (206) = 471.86, $p < .000$, SRMR = .08, RMSEA = .07 (90% CI = .06 to .08), CFI = .85. The modification index representing the covariance between Item 1 ("I feel emotionally drained from my work") and Item 2 ("I feel used up at the end of the working day") from the Emotional Exhaustion subscale was the largest. Item 2 was removed as it explained less variance, and the resulting model yielded a good fit to the data: χ^2 (132) = 239.06, $p < .000$, SRMR = .06, RMSEA = .06 (90% CI = .04 to .07), CFI = .92.

Overall, after the aforementioned modifications were made, all study measures demonstrated acceptable fit in support of their factorial structure. Reducing variables in this manner is justifiable, as we retained the intended unidimensional factor structure of the scales (i.e., SSRQ, PSS-10, MBI-ES subscales) while using the best-performing items (Hofmann, 1995). Moreover, deleting items that loaded poorly arguably increased the quality of the measures (Raykov, 2009).

Scale Reliabilities and Descriptive Statistics

We employed latent variable modeling to evaluate scale reliability (Rho [ρ]; Raykov, 2009), as it has been argued that this procedure offers a more accurate reflection of reliability than Cronbach's alpha (Raykov, 2009). All scales demonstrated acceptable reliability; moreover, their factor scores were all above the recommended values (i.e., .80 for the antecedent variable and .90 for the intervening and outcome variables; Brown, 2006, see Table 1). Means, standard deviations, and correlations between the study variables are presented in Table 1. Of note, there were no concerns over multicollinearity as all correlations were below .90 (Tabachnick & Fidell, 2007, p. 90).

Indirect and Direct Effects in the Structural Model

The structural equation model was specified in accordance with the hypothesized model described above. Specifically, we tested an indirect effect of perceived stress in the association between self-regulatory competencies and emotional exhaustion, depersonalization, and reduced personal accomplishment, in addition to direct effects of self-regulatory competencies on the three burnout dimensions, respectively. Thus, we specified a total of seven paths in our model.

Of note, rather than testing a mediation model, we examined indirect and direct effects in our hypothesized model, as our data were cross-sectional (for details see Jose, 2016). Recently,

the value of testing mediation models using cross-sectional data has been debated (Jose, 2016; Kline, 2015; Little, 2013). For instance, Kline (2015) argues that "the term 'mediation' should be reserved for research designs with formal elements that directly support causal inference" (p. 205). As such, testing for mediation requires data collected from more than one time-point (Little, 2013). Additionally, Thoemmes (2015) contends that in cross-sectional research, one cannot provide preference for one structural model over another because they are part of the same equivalence class. Therefore, reversing the direction of relationships between variables in alternative models does not allow a researcher to infer which one is better. As a result, we tested only one model in this cross-sectional study; however, the temporal ordering of variables within our model was theoretically (Kelley, 1994) and empirically based (Mattern & Bauer, 2014).

In order to calculate indirect and direct effects, we employed a bias-corrected bootstrapping model. Bootstrapping is a statistical resampling technique that treats the sample as a pseudo-population from which multiple samples are drawn and confidence intervals are constructed to test for an indirect effect (Geiser, 2013; Jose, 2016). We derived parameter estimates from 10,000 bootstrap samples and an indirect effect was deemed significant when the upper and lower bounds of the bootstrap-generated 95% CI did not contain zero.

The bootstrap model yielded an acceptable fit to the data: χ^2 (454) = 739.626, $p < .000$, SRMR = .06, RMSEA = .05 (90% CI = .04 to .06), CFI = .90, and is presented in Figure 1.

(Insert Figure 1)

The standardized parameter estimates revealed that there was a negative indirect association between self-regulatory competencies and emotional exhaustion (ß = -.31, 95% CI = -.48 to -.18) and between self-regulatory competencies and depersonalization (ß = -.20, 95% CI = -.39 to -.07) through perceived stress. Coaches' self-regulatory competencies demonstrated

positive associations with personal accomplishment, both directly (ß = .31, 95% CI = .14 to .47) and indirectly (ß = .14, 95% CI = .06 to .26) via perceived stress. There was no direct association between self-regulatory competencies and the other two burnout dimensions (see Table 2). In sum, coaches' perception of stress was an intervening variable in the association between their capacity to engage in key self-regulatory competencies (i.e., self-control and self-observation) and their experiences of burnout. Moreover, greater self-regulatory competencies were directly associated with an increased sense of personal accomplishment in one's coaching.

Discussion

The purpose of this cross-sectional study was to employ SEM to examine the associations between self-regulation capacity, perceived stress, and burnout in competitive sport coaches. Results of the CFA for the SSRQ prevented us from assessing coaches' overall self-regulatory capacity. However, the revised scale measured performance-related self-regulation competencies, that is, self-control and self-observation, which are vital for effective self-regulation (Kirschenbaum, 1984; Durand-Bush et al., 2015). Within our structural model, we tested the direct effects of these self-regulatory competencies on the burnout dimensions of emotional exhaustion, depersonalization, and personal accomplishment, as well as the intervening variable effect of perceived stress in these associations. These relationships have yet to be empirically tested in a sport coaching sample.

In support of our hypotheses regarding *indirect* relationships, the negative associations between self-regulatory competencies and emotional exhaustion and depersonalization were explained by the intervening variable effect of perceived stress, while the positive association between self-regulatory competencies and personal accomplishment was explained, in part, by the effect of the coaches' perceptions of stress. That is, coaches who reported greater self-

regulatory competencies perceived lower stress in their lives, which in turn was associated with reduced emotional exhaustion and depersonalization, and greater personal accomplishment. These findings are supportive of stress-based theoretical perspectives on burnout in sport, which highlight the central role of stress appraisals in the development of this syndrome (Kelley, 1994; Smith, 1986). To advance our understanding of this relationship, researchers should qualitatively examine the specific cognitive appraisals that coaches make (e.g., using Stress Appraisal Logs; Hanton et al., 2012) and how they contribute to their experiences of burnout.

Our hypotheses regarding the *direct* association between self-regulation competencies and burnout were partially supported. Specifically, coaches' performance-related competencies directly influenced their sense of personal accomplishment, independent of how stressful they appraised their lives. This makes conceptual sense since coaches' ability to effectively monitor their performance efforts (i.e., self-observation) and adhere to their plans in pursuit of their goals (i.e., self-control) should contribute to a greater sense of efficacy (Zimmerman, 2000). Similarly, Kilo and Hassmén (2016) found a positive association between Australian coaches' internal locus of control and their sense of personal accomplishment. These authors posited that coaches with an internal locus of control may have higher self-efficacy regarding their coaching and thus may be less vulnerable to threats to their sense of accomplishment. Given the important link between self-control and efficacy beliefs (Zimmerman, 2000), it is possible that coaches with greater self-control competency may also have a stronger sense of self-efficacy and therefore feel more accomplished in their coaching, irrespective of their perceptions of stress. This would be worthwhile to investigate in future research.

Interestingly, locus of control was not associated with coaches' emotional exhaustion or depersonalization in Kilo and Hassmén's (2016) study. Similarly, Brackett, Palomera, Mojsa-

Kaja, Reyes, and Salovey (2010) found that emotion regulation, a specific form of self-control, was not directly associated with teachers' emotional exhaustion or depersonalization, despite being positively associated with personal accomplishment. Along with the results of the current study, these findings reinforce that personal accomplishment is more distinct from the other two dimensions of burnout (Maslach et al., 1996) and may have different antecedents. Indeed, Maslach, Schaufeli, and Leiter (2001) argued that reduced accomplishment stems primarily from a lack of resources, while emotional exhaustion and depersonalization occur in the face of high and/or conflicting demands. Since situational variables such as lack of organizational support and high workload have previously been associated with higher levels of exhaustion and cynicism in coaches (Bentzen et al., 2015), it is plausible that factors in coaches' work environments may moderate the relationship between self-regulatory competencies and these two burnout dimensions. Future research is warranted to test this hypothesis.

The lack of direct relationships between self-regulatory competencies and emotional exhaustion and depersonalization in the current study is not entirely inconsistent with previous studies of self-regulatory capacity and burnout. Although Mattern and Bauer (2014) found a direct association between self-regulation competencies and emotional exhaustion in their sample of teachers, they examined a broader range of competencies (i.e., action planning, self-monitoring, self-control, and self-reflection) than the performance-related competencies assessed in this study. Furthermore, researchers have not accounted for perceived stress in their studies; yet, it has been posited that attenuating stress may be the mechanism by which self-regulation influences the development of burnout (Mattern & Bauer, 2014). The findings from the present study provide empirical support for this claim.

Indeed, results of the present study show that coaches who had greater performance-related self-regulatory competencies (i.e., self-control and self-observation) also reported lower levels of perceived stress. This corroborates Durand-Bush et al.'s (2012) qualitative study in which Canadian coaches perceived that being able to employ self-regulatory strategies (e.g., self-talk, task focus) to perform in accordance with their personal standards helped them cope with their demands. It also suggests that these competencies represent personal resources that may help coaches appraise their stressors more constructively. For instance, coaches who are more effective at engaging in self-control and self-observation may experience greater perceived control (i.e., over their stressors and/or responses to them; Hanton et al., 2012), which is linked to lower likelihood of threat and harm appraisals and more frequent use of coping responses in work settings (Troup & Dewe, 2002).

From a practical standpoint, the results of the present study suggest that enhancing key self-regulatory competencies (i.e., self-control and self-observation) may help coaches reduce their levels of perceived stress and, in turn, lower their risk of burnout. Furthermore, these competencies may be particularly beneficial for increasing coaches' sense of accomplishment in their roles. Coaching education and professional development initiatives should therefore target self-control (e.g., emotion and attention regulation) and self-observation (e.g., self-monitoring, mindfulness) skills to help coaches prevent or manage symptoms of burnout. For instance, Wagstaff, Hanton, and Fletcher (2013) demonstrated that members of a sport organization, including coaches, could be taught emotion regulation strategies to enhance individual functioning and to deal more effectively with organizational stressors. Furthermore, given the intervening role of perceived stress, targeting coaches' perceptions and management of stress represents an important burnout intervention strategy. For instance, cognitive-behavioural

techniques (e.g., cognitive restructuring) could be taught to coaches to help them alter how they appraise stress (Smith, 1986). Interestingly, Canadian varsity athletes experiencing burnout reported that developing effective self-regulatory skills (e.g., task management, self-monitoring) and modifying cognitive appraisals of stress by participating in a sport psychology intervention led to reduced burnout and enhanced well-being (Dubuc-Charbonneau & Durand-Bush, 2018). This novel study could provide a useful framework to develop self-regulation interventions for coaches to manage stress and burnout. Lastly, it is important to note that coaches' perceptions of stress are no doubt influenced by the dynamic and complex environments in which they operate. Thus, restructuring coaches' work environments (e.g., by reducing workload and increasing organizational support; Bentzen et al., 2015) is also warranted as a means to reduce stress and prevent burnout in this population.

Strengths and Limitations of the Study

In terms of strengths, we examined burnout within a relatively large, broad sample of Canadian competitive sport coaches. This broad sample therefore increases the generalizability of the findings (Kilo & Hassmén, 2016). Another strength of this study is that we assessed the factorial structure of all measures before inclusion in our model. Given that all of the scales showed some degree of misfit in our sample, researchers should consider developing scales to assess self-regulation, perceived stress, and burnout that are tailored to the coaching context (Lee & Chelladurai, 2016). The SSRQ, in particular, performed poorly in our sample and thus we could not assess self-regulatory capacity more broadly, including forethought (e.g., planning) and self-reflection (e.g., self-evaluation; Zimmerman, 2000) competencies. Findings also call into question the unidimensional nature of the SSRQ.

There are also limitations to note related to the study design. First, as the study was cross-sectional, we cannot make inferences regarding the causal links between the variables we studied, nor was it possible to establish a mediational model. Therefore, longitudinal studies are needed to examine whether perceived stress mediates the association between self-regulatory competencies and burnout in coaches and to confirm the temporal sequence of the relationships between these variables. Second, we were unable to test for measurement invariance between coaches in different competitive levels as group sizes of at least 200 are needed to ensure adequate power for the analyses (Meade, Johnson, & Braddy, 2008). Finally, we relied exclusively on self-report data and did not control for social desirability.

Conclusion

Overall, the present study showed that coaches with greater self-control and self-observation competencies perceived less stress in their lives, and in turn, experienced less emotional exhaustion and depersonalization, and greater personal accomplishment. These self-regulatory competencies were also directly associated with feeling more accomplished in one's coaching. The findings provide valuable insight into the relationship between self-regulatory competencies and burnout by shedding light on the mechanism by which these personal resources may influence symptoms of burnout in coaches. Consequently, burnout interventions for coaches should not only address performance-based self-control and self-monitoring competencies but also stress management skills. The structural model in the present study can be extended in future research to include a broader range of self-regulatory competencies (e.g., goal-setting, self-evaluation; Zimmerman, 2000) as well as additional relevant antecedents (e.g., quality of motivation; Jordalen et al., 2016) and outcomes (e.g., well-being; Bentzen et al.,

2015), to advance our understanding of how self-regulation and perceived stress contribute to coaches' burnout and overall health.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada under a Joseph-Bombardier Canada Graduate Scholarship [grant number 767-2011-1253]; and the Ontario Ministry of Training, Colleges and Universities under an Ontario Graduate Scholarship.

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Table 1

Descriptive Statistics, Scale Reliability, Factor Scores, and Correlation Matrix

Variable	*M*	*SD*	Scale reliability	Factor scores	1	2	3	4	5
1. Self-regulation	3.96	.54	.76 [95% CI = (.71-.81); S.E. = .03]	.89	1				
2. Perceived stress	1.53	.63	.85 [95% CI = (.81-.87); S.E. = .02]	.93	-.54***	1			
3. Emotional exhaustion	1.69	1.2	.89 [95% CI = (.86-.91); S.E. = .01]	.95	-.28***	.56***	1		
4. Depersonalization	1.86	.94	.74 [95% CI = (.65-.80); S.E. = .04]	.90	-.27**	.41***	.77***	1	
5. Personal accomplishment	5.03	.82	.81 [95% CI = (.76-.86); S.E. = .03]	.91	.45***	-.42***	-.29***	-.33***	1

Note. ** $p < .01$; ***$p < .001$. Self-regulation: SSRQ on a range of 1-5 (Carey et al., 2004). Perceived Stress: PSS-10 on a range of 0-4 (Cohen et al., 1983). Emotional exhaustion: MBI-ES on a range of 0-6 (Maslach et al., 1996). Depersonalization: MBI-ES on a range of 0-6 (Maslach et al., 1996). Personal accomplishment: MBI-ES on a range of 0-6 (Maslach et al., 1996). The means of latent variables are zero in cross-sectional studies. Therefore, we used SPSS 22.0 to calculate means and standard deviations.

Table 2

Standardized Total, Total Indirect, Specific Indirect, and Direct Effects

	Estimate	S.E.	Est./S.E.	Two-Tailed *p*-Value
Effects from self-regulation to emotional exhaustion				
Total	-.68	.19	-3.52	.00
Total indirect	-.76	.21	-3.64	.00
Specific indirect	-.76	.21	-3.64	.00
Direct effects	.08	.25	.31	.76
Effects from self-regulation to depersonalization				
Total	-.25	.11	-2.29	.02
Total indirect	-.18	.09	-1.20	.05
Specific indirect	-.18	.09	-1.20	.05
Direct effects	-.07	.11	-.61	.54
Effects from self-regulation to personal accomplishment				
Total	.52	.12	4.26	.00
Total indirect	.16	.06	2.57	.01
Specific indirect	.16	.06	2.57	.01
Direct effects	.36	.12	2.91	.00

Note. We used M*plus* version 8 to estimate the total, total indirect, specific indirect, and direct effects (for details, see Jose, 2016).

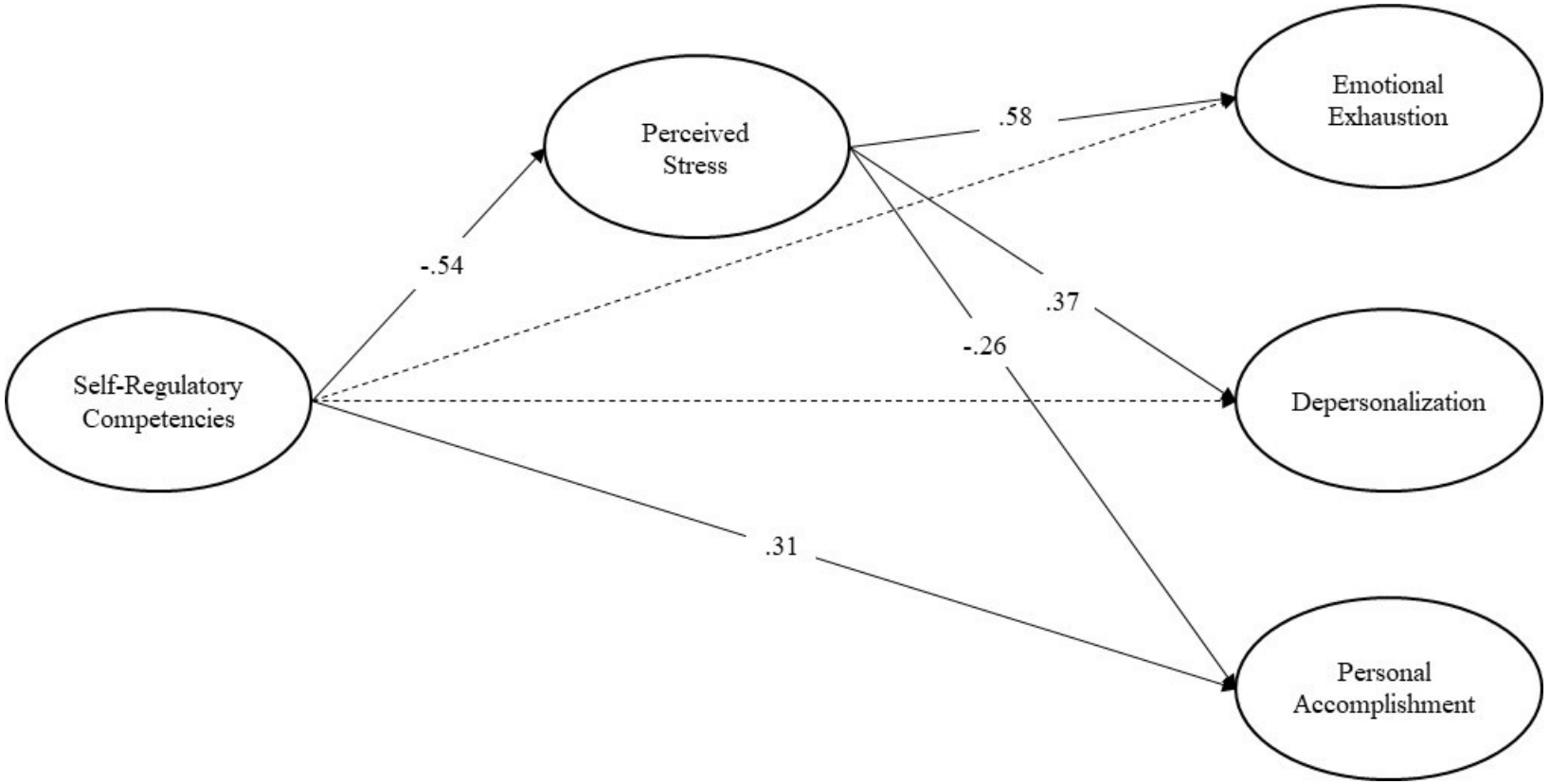

Figure 1. Bootstrap model of the indirect effects of perceived stress on the relationship between self-regulatory competencies and the three dimensions of burnout: emotional exhaustion, depersonalization, and personal accomplishment, as well as the direct effects of self-regulatory competencies on the burnout dimensions. All regression path coefficients are standardized and non-significant pathways ($p > .05$) are denoted by dotted lines.

Article 3: Understanding coach burnout and underlying emotions: A narrative approach

McNeill, K., Durand-Bush, N., & Lemyre, P.-N. (2017). Understanding coach burnout and underlying emotions: A narrative approach. *Sports Coaching Review, 6*(2), 179-196. https://doi.org/ 10.1080/21640629.2016.1163008

Abstract

The purpose of this study was to investigate coaches' subjective experiences of burnout in order to shed light on the complex emotional nature of this syndrome. Five fulltime paid coaches (two women and three men) experiencing burnout participated in an in-depth individual interview as part of a larger 13-week intervention study. A content analysis of the interview data resulted in the construction of five nonfictional short stories highlighting the emotions underlying the coaches' experiences of burnout. The coaches described a variety of emotions including anxiety, anger, apathy and dejection, which had negative implications upon their wellbeing and coaching practice. Emotions were linked to the three dimensions of burnout; that is, emotional exhaustion, depersonalisation and reduced personal accomplishment. Findings support calls for intervention research to help coaches manage their emotions and prevent burnout.

Key words: Burnout; coaching; emotions; narrative approach

Introduction

Coaching athletes can be a gratifying and rewarding pursuit (Raedeke, 2004). Indeed, coaches report deriving various benefits from their role, such as forming bonds with their athletes, enjoying seeing their athletes succeed, and making a contribution to their sport and community (Frey, 2007; Lorimer, 2009). At the same time, however, the process of coaching is often fraught with ambiguity and uncertainty (Thompson, Potrac, & Jones, 2015), as coaches operate within complex and dynamic work environments (McLean & Mallet, 2012). Within such contentious contexts, coaches "experience a variety of strong emotions as they strive to navigate the challenges and opportunities of their dynamic sporting worlds" (Potrac, Jones, Purdy, Nelson, & Marshall, 2013, p. 236). Despite this, coaches are often portrayed in the literature as being "free of emotionality" when this is clearly not the case (Nelson et al., 2013). Potrac and colleagues (2013) highlight that emotions can be understood as physiological, psychological and social phenomena, and argue that to accurately depict coaches' reality and find ways to help them meet the demands of their profession, a greater understanding of the emotional nature of coaching is needed.

One increasingly prevalent topic in the coaching literature that is depicted by great variations in emotion is that of burnout. Burnout is a psychological syndrome resulting from exposure to chronic stressors, wherein individuals perceive that their demands exceed their resources over an extended period of time (Kelley, 1994). As such, burnout can be thought of as the end result of a prolonged inability to effectively cope with stress (Cresswell & Eklund, 2007), and as an indicator of ill-being among coaches (Bentzen, Lemyre, & Kenttä, 2015). Given that coaches often face a myriad of technical, physical, organisational and psychological demands that are not always met with adequate resources (Thelwell, Weston, Greenlees, &

Hutchings, 2008), it is perhaps not surprising that they have been described as a population susceptible to burnout (Raedeke & Kenttä, 2013).

Burnout is, however, more than a stress response. It is a complex, multidimensional syndrome characterised by three main features: (a) emotional exhaustion (i.e. the individual stress component), (b) depersonalisation (i.e. the interpersonal component, which reflects an emotional and cognitive distancing from one's work), and (c) reduced personal accomplishment (i.e. the self-evaluative component in which one perceives a lack of achievement at work) (Maslach, Schaufeli, & Leiter, 2001). For coaches experiencing burnout then, the syndrome represents an inherently emotional experience in which one can feel depleted, overextended, cynical, detached, diminished and devalued (Kelley, 1994; Raedeke & Kenttä, 2013).

It is important to note that burnout does not represent an event, but rather a process in which individuals anticipating a sense of meaning from their work alternatively face increasing disillusionment and diminishing motivation towards it (Raedeke & Kenttä, 2013). As such, the syndrome is marked by a gradual change in functioning (Bentzen et al., 2015) and is associated with a variety of affective (e.g. depressed mood), cognitive (e.g. concentration problems), behavioural (e.g. withdrawal), physical (e.g. chronic fatigue) and motivational (e.g. apathy) symptoms (Goodger, Gorely, Lavallee, & Harwood, 2007).

In the occupational context, burnout is linked to employee ill-health, absenteeism and turnover (Maslach et al., 2001). In the context of coaching, the impact of burnout extends to not only coaches' health and well-being, but also their practice and relationships with athletes (Goodger et al., 2007). For example, Price and Weiss (2000) found that high-school coaches who scored high on emotional exhaustion were perceived by their athletes as giving less training, instruction and social support, and as withdrawing from coach–athlete interactions. Similarly,

Vealey, Armstrong, Comar, and Greenleaf (1998) found that collegiate coaches who scored high on emotional exhaustion and depersonalisation were perceived by their athletes to be less empathetic, more autocratic, and less effective in their communication.

Unfortunately, little research attention has focused on the experiences and consequences of burnout among coaches. Even fewer studies have addressed the emotional component of burnout in this population. The literature is also marked by a lack of qualitative studies on coach burnout in general (e.g. Goodger et al., 2007), and has been limited primarily to samples of part-time or recreational coaches (e.g. Raedeke & Kenttä, 2013). However, in a recent qualitative study of eight elite male Swedish soccer coaches experiencing high levels of exhaustion, Lundkvist, Gustafsson, Hjälm, and Hassmén (2013) proposed two profiles of burnout experience. Specifically, the performance environment profile was associated with having a central identity as a coach and external pressure emanating from the performance culture of soccer. Coaches within this profile experienced anger, bitterness and cynicism, as well as behavioural changes (e.g. became antisocial). The life situation profile, on the other hand, was associated with overload, issues at work, and an overall difficulty managing different life contexts (e.g. family, coaching and other employment). Coaches who fit this profile typically experienced loss of energy, depressed mood, and physical disturbances (e.g. illness or panic attacks) resulting from exhaustion (Lundkvist et al., 2013). Findings from this initial study then, help to shed light on the causes and symptoms of burnout and underscore the emotional nature of this experience for coaches.

While Lundkvist and colleagues (2013) were able to discern two profiles in their data, it is also widely acknowledged that burnout is an individualised experience (Schaufeli & Buunk, 2003). As such, it would appear worthwhile to examine burnout from an idiographic perspective

in order to further explore individual coaches' experiences of burnout (Goodger et al., 2007) and the emotions underlying these experiences. Indeed, the value of such an approach lies in the provision of rich, in-depth accounts that capture variations and retain important contextual information (Gould, Tuffey, Udry, & Loehr, 1997). By capturing the coaches' unique and diverse experiences, idiographic research provides an opportunity to increase our understanding of burnout (Gould et al., 1997), emotions (Potrac et al., 2013) and the process of coaching in general (Potrac, Brewer, Jones, Armour, & Hoff, 2000).

The purpose of this study was to investigate coaches' subjective experiences of burnout, with an emphasis on their emotions. A narrative approach was used as it lends itself well to an idiographic exploration of this topic. This type of inquiry is grounded in the perspective that narratives, or stories, play a crucial role in both constructing and reflecting individuals' reality. Narratives thus, have the potential to illuminate participants' personal experiences, while revealing their temporal, emotional and contextual nature and the inherent complexity of these experiences (Jones, 2009; Smith, 2010; Smith & Sparkes, 2009). Narratives also preserve the subjective nature of participants' lifeworlds, while simultaneously recognising the larger discourses that inform and constrain how they make sense of those worlds (Carless & Douglas, 2011; Sparkes & Partington, 2003). Within the coaching literature specifically, narrative research has been advocated as a means to illustrate and directly share the meaningful lived experiences (Callary, Werthner, & Trudel, 2012; Jones, 2009) of coaches in order to enrich our understanding of the nuanced, complex nature of coaching practice (Jones, 2006). In keeping with this approach, five non-fictional short stories were constructed in order to present a rich account of the emotions underlying the coaches' lived experiences of burnout.

Method

Participant selection

This study was part of a larger intervention-based project carried out with coaches experiencing burnout. Following ethical approval from the university's research ethics board, quantitative screening data were collected from 260 Canadian coaches through an online survey. Using this screening data, participants were recruited for the intervention if they were experiencing moderate to high levels of burnout, currently working as full-time paid coaches, and could speak, read and write in English. Burnout was assessed in the online survey using the Maslach Burnout Inventory – Educator's Survey (MBI-ES; Maslach, Jackson, & Leiter, 1996), which was adapted for coaches in keeping with previous studies (e.g. Hjälm, Kenttä, Hassmén, & Gustafsson, 2007). Although the MBI-ES is not a diagnostic tool, it does allow for scores to be classified as low, moderate and high based on normative data (Raedeke & Kenttä, 2013). Since emotional exhaustion and depersonalisation are considered the key dimensions of burnout (Demerouti, Bakker, Friedhelm, & Schaufeli, 2001), coaches were included in the study if they scored moderate to high on both the emotional exhaustion and depersonalisation subscales of the MBI-ES.

Five coaches participated in the study. Specifically, the three male and two female coaches ranged in age from 26 to 37 years, and possessed an average of 13 years' worth of coaching experience. All five of the participants held full-time paid coaching positions, with no secondary employment. Two of the coaches were figure skating coaches, while the others coached tennis, swimming and athletics. One coach worked with provincial-level athletes, three coached national-level athletes and one worked with athletes competing at an international level.

All five coaches were either married or in a long-term relationship, and one was a parent. Four of the coaches had post-secondary education.

Data collection

After providing informed consent, the five coaches were invited to participate in an individual interview with the first author, prior to their participation in the intervention. The data collected from this interview served to fulfil the aim of this study. The semi-structured interviews (Rubin & Rubin, 2005) lasted between 50 and 100 min each, and aimed to explore the coaches' lived experience of burnout, in addition to other topics relevant to the larger intervention study (e.g. emotions, stress, well-being, self-regulation).

With respect to burnout, the interview guide (Rubin & Rubin, 2005) included open-ended, experiential/emotional, temporal and contextual questions in the hopes of encouraging coaches to share their subjective experiences. Specifically, coaches were asked to reflect on the meaning of burnout (e.g. what does burnout mean to you?), how they experienced it (e.g. what does burnout feel like?), how they were currently feeling (e.g. how have you been feeling lately?) and the consequences of burnout for them (e.g. how has burnout influenced your coaching and your health?). Follow-up probing questions grounded in the coaches' own language were asked when needed (e.g. when you say "drowning", what does that feel like? Can you elaborate?). The digitally recorded interviews were transcribed verbatim and sent to each coach for member checking (Culver, Gilbert, & Sparkes, 2012).

Data analysis

The first and second authors analysed the qualitative data in keeping with the procedures used by Carless and Sparkes (2008). To begin, the first author did an initial reading of all the interview transcripts to become familiar with the data. She then reduced each coach's transcript

to the content that was relevant to his or her experience of burnout and underlying emotions, before embarking on a further series of close readings. Next, she conducted a first-level content analysis to inductively identify broader themes (e.g. emotional exhaustion, apathy) associated with the units of analysis within each transcript. A separate document was subsequently created for each coach condensing these themes and supporting units of analysis; a text which represented a mental map of each coach's experiences and emotions (Carless & Sparkes, 2008).

Using these themes and units of analysis in each mental map, the first author then constructed non-fictional short stories to illustrate the coaches' subjective experience of burnout and to bring the underlying emotions to life. At this point, the second author read all of the stories with the purpose of ensuring coherence and comprehensiveness. After discussing the content, the two authors agreed to make revisions to the final composition and, as such, employed authorial presence (Carless & Sparkes, 2008). That is, while each story is comprised of 92–96% of the coaches' own words, the authors made minimal changes to the narratives to enhance flow, clarify the original context of the story and/or protect the anonymity of the coaches.

Through this analytical approach, the authors adopted the stance of a storyteller (Smith & Sparkes, 2009), electing to value the voices of Molly, Gordon, Brooke, Michael and Andy (all pseudonyms) by representing the data in the form of first-person narratives. Nonetheless, it is important to note that the stories are by their very nature co-constructions. Simply put, the authors created meaning when constructing the narratives and selecting which elements of the story they deemed important to show (Jones, Armour, & Potrac, 2003). Moreover, while recognising that writing and representation are forms of analysis in their own right (Sparkes,

2002), the authors offer interpretation through their reflections on the stories in the discussion section of the paper.

The authors also evoke the following questions upon which to reflect when evaluating the stories (Carless & Sparkes, 2008) since non-fictional narratives remain a novel form of representation in the sport psychology (Carless & Sparkes, 2008) and coaching (Callary et al., 2012) literature(s): Are these stories coherent and credible? Are they constructed in a manner that is comprehensible and meaningful? Are there moral and ethical considerations in the way the coaches are portrayed? Additionally, in light of the aim of the study, readers are encouraged to consider the following questions: Do the stories provide a rich account of the coaches' lived experiences of burnout? Are the emotions that underlie these experiences brought to life in these stories? Do these stories contribute to our understanding of coaches' subjective experiences of burnout and emotions in a significant way? And, do they inspire an interpretive response? Bearing these considerations in mind, Molly, Gordon, Brooke, Michael and Andy's non-fictional stories are presented.

Results

Mountains and crashes (Molly, figure skating)

The last six months have been basically hell. Really, really bad. I have been physically exhausted. I've been going in and giving the kids everything I have and then coming home and just crashing on the couch, either starving or not even able to smell food without being sick to my stomach. When I'm burned out, I get apathetic and look at the kid and say, "My god, you're probably not going to ever get to the next level of skating. What's the point, why are you here?" Like "I'm just an expensive babysitter for you" or "I'm just an ineffective personal trainer for you". And then it snowballs and it starts to creep into the work I do with the kids who really do

want to be there and really do have the ability or the drive or the talent to be successful. And that's the worst thing, when I start turning into that, when I should be really into giving everything I have to those kids who have a shot at making it.

And it's harder to see the big picture when I'm angry or spun out or overstressed. I fixate on one thing at the expense of a well-rounded training session, or carry over that sense of apathy or detachment, and before I know it, a week's gone by and I've accomplished nothing. Or I feel like no matter what exercise I give the kids, it's the wrong one, and I lose faith in my abilities as a coach. I start questioning everything that I'm doing. And it's extreme, in one week I can touch on all these different places. It's never even, there's mountains and then crashes, and it's constant like this. And I hope that the kids don't pick on it, but they're not stupid. I'm sure they can tell when I'm having a bad day and I'm yelling at them to get their arms up and stretch their legs, or I'm telling them that they're not demonstrating appropriate work ethic for their level or goals. And I don't want to get to the point where I can't tell them the truth if they need to hear it, but sometimes I get too harsh and I get too negative, and it builds this atmosphere where nothing creative can happen.

I'm always an emotional person, but when my nerves are on edge it's much more so. I used to be very weepy, but now it's more "quick to anger". I'll snap at my students when I don't want to, I'll snap at my partner which I should never do, but I do. Or else I'm very apathetic. I feel nothing or I feel like nothing matters anyway so why bother trying? And I think if I didn't detach myself, then I would feel things negatively even more. So at least if I shut down or say, "Screw it, it doesn't matter anyway" then I don't have to feel those things.

But then it gets me to a certain point where I snap out of it and think "I'm not supposed to be this person, I'm supposed to be competitive, successful, high-achieving". So I'll throw myself

into work and start the whole cycle again. And it's hard to turn work off; coaching is my daily life in the sense that it's difficult to separate. So when I get home and I want to relax, sometimes I can't because my thoughts keep spinning. And I know that I can't keep doing what I'm doing now for more than a few years and still be okay, but it seems like the one day that I do something for my well-being, I come back and all the cards have somehow fallen off my house. So I feel like I can only be safe, in terms of work, money, and everything, if I put myself last.

I can't escape the thoughts (Gordon, tennis)

There will be times when I don't want to coach because I'm burned out. Mentally I will tap out sometimes. Like right before Christmas I was absolutely zapped. I had nothing. It was really tough because all I wanted to do was just be done and go home for Christmas. And even when I came back, I resisted getting back into my routine. Even now, I don't want to eat well, I just want to eat junk food. I just want to drink; I want to come home and drink beer instead of going to bed early. But my burnout also ends up being psychological. I become obsessed with it, where I can't get the kid's serve or the fact that they aren't improving out of my head. It drains me physically and more than anything, it consumes my mind so much that it's like I've been asleep for eight hours but I haven't slept well because I've just had the same thought over and over again. So, on my day off, I didn't actually get a day off, because I spent the whole time with that serve in my mind and I don't feel refreshed. So when I'm burned out, I can't get away, I can't escape the thoughts.

Coaching is so wound into my existence, so that's the danger of it and how it can become draining. I try to guard how many hours of coaching per week I do. I try not to do more than three hours in a row because I try to be as engaged as I can be, so it can be very tiring. But any time I start feeling tired, it's almost always because I am in a rocky part in a relationship with

someone or the hours I put in are spent mostly fighting and pushing hard. If I get frustrated, it's usually that I feel I am not doing a good enough job with the kids, or I feel like they're not doing enough, that I'm the one working harder than them. That really bothers me. I'm not going to give more emotionally than they're able to, and any time I have, it hasn't worked out very well. So I get run down because I don't get enough breaks, or the people I'm coaching are not the right people for me, and I don't feel I get enough out of the relationship.

The first thing I always notice is my shoulders clench up and they go really hard. And I have this feeling of anger, and sometimes I start to panic. I get anxiety where I'm trying to show them something and I'm doing it nervously, like "This has got to work". Or I'm jumping around because I'm starting to lose the purpose of the session and I can't focus myself enough to stay on one topic. Because I've had success very quickly with some kids, I have a belief that I can do it, so if it's not working right away, I tend to really get anxious. And it makes me really, really tough with the kids. I've found ways to make it so I'm not personalising things, but I can really call them out hard. So I have to be careful because I can do it in a way that's not the nicest. And while I put a huge amount of responsibility on them, if a kid doesn't make it, in the back of my head I'm thinking I just didn't work well enough, like I needed a different tool or something. And I have a hard time letting go of that.

All or nothing (Brooke, figure skating)

Burnout starts off with feeling overwhelmed, and then it turns into a disinterest in coaching. I don't feel like I'm doing as good of a job when I'm coaching. I start to feel like I need a break because I'm feeling run down. Like this past week I've felt overwhelmed. I feel like I'm being pulled in a couple different directions and I haven't been able to make a decision about how I'm going to handle some situations. And last night I was awful. I could even hear it in my

voice with my skaters and I could tell from their response that I wasn't talking to them the way I normally would and I was trying to bring myself back, but I can't just call in sick. I can't just say, "This is a bad day". I have to go in. I have to push through it somehow. But I don't think I have good coping skills for dealing with high pressure situations. I don't know how to say no. So there's a lot of burnout that happens with me, and I don't cope well when that starts to happen.

Physically, I start getting sick. And it generally coincides with my skaters' peaks and valleys. So as my skaters are supposed to be peaking, I start getting sick. And it's been a pattern for eight years now, about five times throughout a year. I actually have anxiety attacks, I get pain in my chest and I get panicky, I get nervous and I have butterflies in my stomach. And I can't think clearly because I have too many things I'm thinking about. I've tried everything I can to make sure it doesn't happen, I've asked different people their strategies, but it just doesn't seem to work for me, because I want so much for my athletes. I feel like I owe them so much that it's hard for me to follow through with those plans or not feel guilty if I take time. I just feel really responsible for my athletes' outcomes. It almost feels like it's all or nothing. I'm going to give it all or I'm going to give it nothing at all. So I wish sometimes that I was less emotionally invested, because I think if I could be, I would be more effective and more consistent. But I also think that part of it is what makes me good at what I do.

And I'm a black-and-white thinker, so it's really hard for me when things start to falter to stay in the white so then I go in the black. And then I start to feel "oh forget it, I might as well stop doing this and try something different because this is killing me"; or "it's overwhelming and it's too much for me, so I'm just going to stop". But coaching is my life, I couldn't imagine doing anything else. Although I often say I want to quit, it is who I am. I'm a coach first, I'm a wife third, and I'm a mother second, a daughter last. So I do feel that my day is that. It's just

hard because I'm in a bad place right now. I feel very unhealthy because I haven't had time this year to take care of myself the way I need to.

I'm drowning (Michael, swimming)

For the first three years, I was able to fulfil [my duties], "full steam ahead", no problem. Then we brought in the other swim team and I started to slow down. The next two or three years I felt like I was treading water, and last year and this year particularly, I've really started to feel like I'm drowning. It hasn't been as joy-filled as it used to be. It's been more of a labour than it has been. And I don't think it's the work, I think it's the circumstances. So I have to make the decision if I want to continue in those circumstances, recognising that I'm starting to throw good money after bad. Like, "when should I cut my losses?" But then the other question is, "What else do I do?" It's not that I don't have other marketable skills, but I haven't really done anything else. My whole entire life has been wrapped around a pool for 35 years, so "trapped" isn't probably the best word, but I can't really articulate it in another way.

It's a lot of mental exhaustion. It's emotional exhaustion too. When you're at a swim meet with 15, 20, 30 kids and you're watching each one of those 30 swimmers race four to six races, there's an emotional investment that happens as well. I feel the crash as a coach way more than I ever did as a swimmer, because I'm emotionally invested with everything that's happening. I don't have any downtime. I'm constantly on, constantly looking at performance, getting kids ready for the next one, getting kids off of their last one. Whether it was the highest of highs, or the lowest of lows, I'm getting them to focus on their next race. And coaches, we're the worst at taking our advice; we will worry 90,000 times more about one kid on the team than we're going to worry about ourselves. So that investment with 15, 20, 30 swimmers adds up. It gets pretty draining.

And it's not fun going to work knowing I used to like it. Like I used to really, really love what I do, and I know I had more energy, more passion, more excitement four years ago than I do today. And I feel there are days where I'm apathetic, and even though ten years ago I swore up and down, looking at old coach after old coach after old coach that I would never be that guy, I'm starting to be that guy. That's not enjoyable from a professional or a personal standpoint, especially when I look at it from the context of what is the experience or quality that I'm supplying to the athletes. Where I used to be more understanding and take the longer road with some of them, I'm less likely to do that now. I'm not going to go three to their one for us to make four. If they're going to invest themselves in what we're doing, then I'll invest equally. At the end of the day though, I don't want their legacy of swimming to have been, "That jackass swim coach, all he did was train me to death and never bothered to talk to me as a person". I don't want that, and I also don't want them to get injured or burned out or anything else.

But it's hard to be energetic and fun in a personal relationship, whether it's my wife or whoever, when I'm tired and cynical. There have been days when I've come home and I know I've taken it out on my wife, just through being short-tempered or being disconnected. Then emotionally, I don't think I'm clinically depressed, I just know I'm not happy. But I know why I'm not happy and that's what makes it difficult. It's the chicken or the egg where I'm waiting for things at work to get better so I'm happy, but I'm not really happy and things are not getting better, so what do I do?

Going from 0 to 100 (Andy, track)

My first year I was employed, I was the head coach of Club X, and burnout would be a very good way to describe it. It was objectively a highly successful year for the club, for budgets, athletes, national teams, records, medals. Everything was amazing. Administratively though, it

crushed me because I took on everything. It was a feeling of uncontrollable, continuous, consistent white noise in the brain. I couldn't turn the brain off, I couldn't detach, and it just turned into a downward cycle of continuing levels of stress. It wasn't physical pain, but physiological discomfort, like the body wasn't right and it was the psychological manifestations of that. I drank a few more beers every week, I didn't sleep well, I put on almost 20 lb of garbage weight. And when the club told me they wouldn't match the salary I was at, and I knew that my career at that moment was done, I was very happy to be done coaching. And for a good year, I didn't know if I was ever going to come back.

But coaching ultimately was where I wanted to be, it's just who I am. And when I coach, I go 0 to 100, I empty the gas tank. I go until there's nothing left and I'm on empty, and then if I need to take a morning to just check out, I do it. But that is hopefully every month or two months, rather than every week. I don't want to say "helplessness", but I just get a feeling that the world is crashing and if I don't recharge, I can't do anything about it. Like if I'm going to be successful and even if I'm going to be able to have a practice later, I need to go home and have a nap. So, yeah, burnout is something I'm aware of, it's always on my mind.

The large portion of my stress comes down to the number of roles I have. I wear three major hats, sometimes four or five or six, depending on the weekend. So if I'm at a track meet and I'm literally trying to wear all six of those hats at the same time, that means there's six different groups of people at a time who need my attention. So it feels a lot like I'm juggling. But I'm pretty good at sheltering. I take the viewpoint of "they don't need to know". My athletes have a job to do and when they show up at the track, I expect them to leave their stress, their lives, their parents, their dates, their jobs, and give me two, three, four hours of focus and time that they need to achieve their goals. So I don't want to be a negative part of that and I demand

the same from myself. But my girlfriend might say that I can get a bit closed in. I don't see it as much, it's more, "I don't need to talk about it; I'm good".

Do I think I can continue this pace forever? Definitely not, but right now I have age and health and a bunch of things on my side. So I'm going to grind it out and do everything I can to be successful for myself and also hopefully lead that into my athletes' programmes and careers. If I'm going to be successful and my athletes are going to be successful, I need to make those sacrifices. There's a lot of things for which I want to be recognised and I guess the time is now when I need to put in the work. If I wanted to be a recreational coach, I'd find a different job and coach 6 h a week, but this is what I signed up to do.

Discussion

By adopting the approach of a storyteller and presenting the findings as stories, the authors invite readers to become co-constructors of knowledge through their own interpretations of the narratives based on their unique vantage points (Smith & Sparkes, 2009). For instance, coaches may see themselves within elements of these stories, while coach educators might reflect on the ways in which they prepare coaches to effectively manage the demands associated with their roles. Although the authors have chosen to show rather than tell stories (Smith & Sparkes, 2009), in this section they have opted to share their reflections on these stories and their contribution to our understanding of the emotions underlying coaches' subjective experiences of burnout.

The short stories presented reveal the personal and complex nature of burnout (Schaufeli & Buunk, 2003); the coaches' experiences were highly individualised and the emotions underlying these experiences also varied. For Molly, burnout manifested itself in feelings of apathy, cynicism, incompetence, anger and subsequent guilt over feeling this way (i.e. "I'm not

supposed to be this person"). Gordon's experience was characterised by feelings of anger as well, but also by frustration, anxiety and doubt (i.e. "I just didn't work well enough"). In Brooke's case, burnout was associated with anxiety, in addition to guilt, incompetence and dejection (i.e. "I'm in a bad place right now"). Michael also expressed dejection (i.e. "I don't think I'm clinically depressed, I just know I'm not happy"), and further described feelings of apathy, cynicism and disillusionment. Finally, Andy felt helpless and distressed in association with his experience of burnout (e.g. "It just turned into a downward cycle of continuing levels of stress"). The range of emotions described by the coaches, including anxiety, anger, frustration, apathy, cynicism and dejection, mirror those reported by athletes (e.g. Cresswell & Eklund, 2006; Gould, Tuffey, Udry, & Loehr, 1996; Gustafsson, Kenttä, Hassmén, Lundqvist, & Durand-Bush, 2008) and coaches (Lundkvist et al., 2013), and speak to the affective nature of this syndrome in general (Shirom, 2003).

Although the coaches' experiences were individualised, a salient emotional aspect underlying all of their encounters with burnout was a sense of depletion, reflecting the emotional exhaustion dimension of the syndrome. This is perhaps not surprising if one considers that emotional exhaustion is the defining feature of burnout (Maslach et al., 2001; Shirom, 2003). Congruent with the findings of Lundkvist and colleagues' (2013) study, the coaches experienced exhaustion physically, through sleep disturbances, fatigue, loss of energy and physiological discomfort (e.g. Andy's experience of "uncontrollable, continuous, consistent white noise in the brain"). However, their exhaustion was also emotional in nature, as the coaches described feeling drained, tapped out, run down, zapped and "on empty". Reflecting the stress response associated with emotional exhaustion (Maslach et al., 2001), Brooke felt overwhelmed and as if she was "being pulled in a couple different directions", while Molly described feeling overstressed, spun

out, and “on edge”. For Andy, emotional exhaustion was associated with feelings of helplessness: “I just get a feeling that the world is crashing and if I don’t recharge, I can’t do anything about it”.

Another emotional aspect of the coaches’ subjective experiences of burnout was that of depersonalisation, which featured in four of the five coaches’ narratives through feelings of cynicism, apathy and disillusionment. Interestingly, Molly described a form of cognitive and emotional distancing most akin to depersonalisation through a negative, indifferent attitude towards her athletes (i.e. “My god, you’re probably not going to ever get to the next level of skating. What’s the point, why are you here?”) enacted as a coping response in the face of growing exhaustion (Raedeke & Kenttä, 2013). In contrast, Brooke expressed a disinterest in coaching, while Michael felt apathetic, cynical and disillusioned about his job (i.e. asking himself, “when should I cut my losses?”). However, neither described these feelings in relation to their athletes. These experiences might be more aptly seen as a devaluation of their coaching, similar to the dimension of sport devaluation exhibited in athletic burnout (Raedeke & Smith, 2009). Indeed, Gordon expressed a form of emotional withdrawal from coaching through his desire to “just be done and go home for Christmas”, which parallels symptoms of sport devaluation experienced by rugby players in Cresswell and Eklund’s (2006) study (e.g. thinking about the end of the season, looking forward to the holidays). Researchers may want to further investigate the salience of the dimension of depersonalisation among coaches, as it has been argued that devaluation may be a better fit in this context (Lundkvist, Stenling, Gustafsson, & Hassmén, 2014).

Reduced personal accomplishment was also manifested emotionally through feelings of incompetence and doubt in three of the coaches’ stories. For instance, Brooke expressed feelings

of incompetence (e.g. “I don’t feel like I’m doing as good of a job when I’m coaching”), while Molly described losing faith in her abilities as a coach and a lack of achievement, which she attributed to her feelings of apathy (e.g. “before I know it, a week’s gone by and I’ve accomplished nothing”). Gordon also alluded to a sense of inefficacy and doubt (e.g. “in the back of my head I’m thinking I just didn’t work well enough, like I needed a different tool”), which subsequently led to feelings of anxiety and frustration in terms of not “doing a good enough job with the kids”. In this way, these coaches’ stories speak to the self-evaluative aspect of burnout and the difficulty of achieving a sense of accomplishment when one is emotionally exhausted and/or devaluing his or her work (Maslach et al., 2001).

In addition to feelings of incompetence and a perceived lack of achievement, the stories also shed light on the impact burnout had on their coaching behaviours. Specifically, reflecting the physiological and social nature of emotions in general (Potrac et al., 2013), the coaches described how their negative emotions were embodied and embedded socially within the interpersonal context of coaching. For instance, Brooke’s feeling of being overwhelmed was embodied through an “awful” tone of voice, while Gordon’s frustration was manifested socially through “fighting and pushing hard” and being “really, really tough” on his athletes. Molly’s anger also led to her being “too harsh” and yelling and snapping at her skaters, while Michael’s dejection and apathy resulted in him being less tolerant and understanding of his athletes. Taken together, these findings lend additional support to earlier studies suggesting that coach burnout may have negative implications for athletes (Price & Weiss, 2000; Vealey et al., 1998).

Moreover, these four coaches expressed concern regarding how their emotional manifestations of burnout were potentially negatively influencing the quality of their athletes’ sporting experiences. For example, Molly acknowledged that the kids can tell when she’s having

a bad day, and Michael worried about developing the legacy of being a "jackass swim coach". These concerns suggest an awareness of a discrepancy between what these coaches were feeling and expressing to their athletes and what they believed they should feel and express during the social exchange of coaching (Hochschild, 1979). Hochschild's (1979, 1983) work on emotional labour and emotion management provides a useful theoretical lens through which to examine these "feeling rules" (i.e. the socially shared rules that guide how one ought to feel in a particular context; Hochschild, 1979) and question the socialisation process through which coaches internalise the norms around emotional expression (Potrac et al., 2013). For instance, in contrast to the other four coaches, Andy described "sheltering" his athletes from his emotions, stating "I don't want to be a negative part of that and I demand the same from myself". This is indicative of Andy's engagement in "surface acting" with his athletes, where he consciously changed his outward expression to meet the "display rules" (i.e. the rules that govern when and how overt emotional expressions occur in specific situations; Hochschild, 1979) he felt necessary to comply with (Nelson et al., 2013). As such, it may speak to how Andy felt constrained by larger discourses surrounding norms for emotional management in coaching (Potrac et al., 2013), thus providing additional context to his experience of burnout.

Although only Andy explicitly described engaging in "surface acting" to purposefully manage or conceal how he felt, all five coaches' stories highlight the intense personal and emotional "investment of the self in practice" (Potrac et al., 2013, p. 238) and reveal how this investment contributed to their sense of depletion and burnout. For instance, Gordon described needing to limit his coaching hours in order to be "as engaged as possible", while Michael explained how being "constantly on" with his athletes was draining. Moreover, Brooke and Molly's stories revealed how giving their athletes "all or nothing" (Brooke) and "everything"

(Molly) characterised their subjective experiences of burnout. At a more implicit level, these findings allude to the emotion work and emotional stamina (Hochschild, 1983) that may be required to successfully perform as a coach. Interestingly, Hochschild (1983) contended that prolonged emotion management could lead to important psychological costs, including burnout. In line with this, Nelson and colleagues (2013) found that engaging in emotion management could negatively impact a coach's motivation and enthusiasm for his job. As such, it would also be valuable to examine in future studies how burnout may affect coaches' ability to engage in the emotion work needed to meet the feeling and display rules (Hochschild, 1979) associated with their practice. For example, Brooke described an inability to bring herself back when she sensed her voice was "awful" due to her depleted state, and Molly expressed how she snapped at her athletes even though she "didn't want to". In this way, the coaches' narratives point to the need for coaches to be able to not only recognise discrepancies between how they are feeling and how they want to feel (Hochschild, 1979), but also to enact self-regulation strategies to bring themselves in line with their preferred standards (Zimmerman, 2000), even when their personal resources are depleted (Durand-Bush, Collins, & McNeill, 2012).

This argument is particularly important, given that the narratives revealed negative implications of burnout for the coaches themselves. For instance, in addition to adverse consequences for the coaches' physical health (e.g. panic attacks, illness, sleep disturbances, weight gain, drinking, resistance to exercise and healthy eating), burnout depleted their emotional well-being. Michael's narrative in particular described a loss of motivation, enjoyment and passion for coaching, a role he had previously enjoyed, which was associated with feeling trapped, unhappy and dejected, a state he defined as "drowning". Molly's experience of "mountains and crashes" demonstrate that it may be difficult to sustain coaching due to

fluctuations in emotional well-being (i.e. “I couldn’t keep doing what I’m doing now for more than a few years and still be okay. It seems like the one day I do something for my well-being, I come back and all the cards have somehow fallen off my house”). Ultimately, three of the five coaches alluded to leaving coaching, whilst one coach left the profession but eventually returned, suggesting that burnout may have implications for coach retention (Raedeke & Kenttä, 2013).

Conclusion

In conclusion, this study sheds light on a variety of strong emotions involved in coaching from the perspective of those experiencing burnout, and in so doing, provided a more human and vulnerable account of coaching practice (Potrac et al., 2013). Using a narrative approach to depict the emotions underlying coaches’ experiences of burnout provides a novel feature, and while the aim was not to generalise findings to all coaches, readers are able to draw meaningful interpretations from the stories presented. Nonetheless, it is important to note that the sample was limited to five full-time, paid individual sport coaches, while the stories were co-constructed by us as authors. Future research could include coaches from other contexts (e.g. team sports, part-time or voluntary) and build on the findings from this study to further increase our understanding of the emotional nature of coach burnout. As one of the few qualitative studies on coach burnout, however, this investigation provided an in-depth account of depleted states experienced by coaches and their negative impact on coaches’ well-being and practice. In this way, these stories speak further to the need for interventions to assist coaches in effectively regulating their emotions and behaviours in order to prevent or manage burnout and achieve optimal well-being in spite of the demands they face (Durand-Bush et al., 2012). Finally, readers are also encouraged to consider the use of narratives as a relevant pedagogical tool in coach education to

promote reflection (Douglas & Carless, 2008) on emotions and burnout, and to further nurture self-regulation and well-being (Durand-Bush et al., 2012).

Acknowledgements

The authors would like to thank Molly, Gordon, Brooke, Michael and Andy for sharing their stories with us.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada under a Joseph-Bombardier Canada Graduate Scholarship [grant number 767-2011-1253]; and the Ontario Ministry of Training, Colleges and Universities under an Ontario Graduate Scholarship.

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Article 4: Can Learning Self-Regulatory Competencies Through a Guided Intervention Improve Coaches' Burnout Symptoms and Well-Being?

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Manuscript accepted for publication with minor revisions

Abstract

While coaches are considered at risk of experiencing burnout, there is an absence of intervention studies addressing this syndrome (Raedeke & Kenttä, 2013). The purpose of this qualitative study was to conduct a self-regulation intervention with five Canadian developmental (n=2) and elite (n=3) sport coaches (three men, two women) experiencing moderate to high levels of burnout and examine the perceived impact of this intervention on their self-regulation capacity and experiences of burnout and well-being. The content analysis of the coaches' outtake interviews and five bi-weekly journals revealed that all five of them learned to self-regulate more effectively by developing various competencies (e.g., strategic planning for their well-being, self-monitoring) and strategies (e.g., task delegation, facilitative self-talk). Four of the coaches also perceived improvements in their symptoms of burnout and well-being. Sport psychology interventions individualized for coaches are a promising means for helping them manage burnout and enhance their overall functioning.

Key words: burnout, self-regulation, well-being, sport psychology intervention, coaches

Can Learning Self-Regulatory Competencies Through a Guided Intervention Improve Coaches' Burnout Symptoms and Well-Being?

Coaches operate within dynamic and complex work environments in which they face a variety of performance (e.g., athlete preparation), organizational (e.g., administrative duties), and personal (e.g., self-imposed expectations) demands (Durand-Bush, Collins, & McNeill, 2012). Over time, coaches who perceive demands to exceed their ability to cope are at risk of burnout, a psychological syndrome that arises in response to chronic stress (Smith, 1986). Derived from the occupational literature, this syndrome is characterized by three core dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach, Jackson, & Leiter, 1996). Emotional exhaustion is the central feature of burnout, thus coaches experiencing this syndrome feel depleted of their emotional and physical resources (McNeill, Durand-Bush, & Lemyre, 2017; Raedeke & Kenttä, 2013). Depersonalization refers to a cynical and indifferent response to one's work (Maslach et al., 1996). As such, in keeping with the interpersonal nature of their role, coaches affected by this dimension develop a negative, detached attitude towards their athletes (Raedeke & Kenttä, 2013). Finally, reduced personal accomplishment involves a sense of inefficacy and lack of achievement in one's work (Maslach et al., 1996), wherein coaches start to doubt their coaching abilities and perceive a lack of success in their roles (McNeill et al., 2017; Raedeke & Kenttä, 2013).

Although burnout is a highly individualized process, common symptoms in coaches include depressed mood, frustration, anxiety, disturbed sleep, motivational loss, apathy, social withdrawal, physical illness, and emotional outbursts (Bentzen, Lemyre, & Kenttä, 2014; Lundkvist, Gustafsson, Hjälm, & Hassmén, 2012; McNeill et al., 2017). The significance of this syndrome lies in the negative ramifications it has for coaches' well-being and performance, as

well as for athletes' sport experiences (McNeill et al., 2017; Raedeke & Kenttä, 2013). Findings from recent qualitative studies characterize coach burnout as a "downward spiral" of increasingly maladaptive thoughts, feelings, and actions that is difficult to override (Bentzen et al., 2014; Olusoga & Kenttä, 2017). It is therefore crucial that coaches be equipped with effective self-regulatory competencies and strategies to prevent the onset of burnout and to manage the negative symptoms of burnout if and when they arise (Altfeld, Mallett, & Kellmann, 2015).

Self-regulation refers to coaches' capacity to plan, control, evaluate, and adapt their thoughts, feelings, and actions in order to align themselves with their personal goals and standards within their fluctuating contexts (Durand-Bush, McNeill, & Collins, 2015; Zimmerman, 2000). Within Zimmerman's (2000) social-cognitive model of self-regulated learning and performance, effective self-regulation capacity involves cyclically managing a network of competencies (e.g., goal-setting, self-observing, drawing adaptive conclusions) over three phases, wherein coaches (a) set personal goals and preferred standards and create strategic plans to achieve them (i.e., *forethought/preparation*), (b) carry out their plans and monitor their performance (i.e., *performance/execution*), and (c) evaluate their performance outcomes and adapt their plans as needed (i.e., *self-reflection/evaluation*; Durand-Bush et al., 2015; Zimmerman, 2000). In order to achieve their preferred standards on a more consistent basis, coaches also need to enact and adapt personal strategies to successfully regulate their thoughts, feelings, and actions (Durand-Bush et al., 2012). For instance, coaches have reported employing self-regulatory strategies to help them manage their experiences of stress and burnout, both proactively as part of their preparation (e.g., reduce workload and prioritize tasks) and reactively, during execution or evaluation phases of self-regulation (e.g., reappraise demands or reflect on best course of action after encountering a stressor; Durand-Bush et al., 2012).

While it can be argued that all coaches possess the ability to self-regulate, the effectiveness with which they do this is impacted by effort, practice, and systematic interventions (Durand-Bush et al., 2015; Schunk & Zimmerman, 2003). A series of intervention studies guided by the Resonance Performance Model (RPM) have been conducted to examine the development of self-regulatory capacity within the sport context (e.g., Dubuc-Charbonneau & Durand-Bush, 2015; Durand-Bush et al., 2015). The RPM was used as an educational framework to help athletes learn to self-regulate by (a) identifying how they wanted to feel, (b) developing strategies to feel the way they wanted more consistently, (c) identifying obstacles preventing them from feeling their desired way, and (d) developing strategies to reconnect with their ideal way of feeling after encountering obstacles. Subsequent to engaging in multiple person-centered intervention sessions and ongoing reflection (e.g., by journaling), athletes reported heightened self-regulation capacity, sport performance, and well-being (Durand-Bush et al., 2015).

Recently, Dubuc-Charbonneau and Durand-Bush (2015; 2018) found that, in addition to reporting enhanced self-regulatory capacity and well-being, a season-long intervention led to reductions in stress and burnout in varsity student-athletes experiencing moderate to high levels of burnout. Despite experiencing unique sport and academic stressors, the athletes were able to learn self-regulatory competencies (e.g., self-monitoring, self-reflection) and employ personally meaningful strategies (e.g., make to-do lists, reappraise challenging situations) to successfully manage their demands and feel the way they wanted more consistently (Dubuc-Charbonneau & Durand-Bush, 2018). They were also able to transfer the use of these competencies and strategies in different contexts (i.e., sport, school, personal life). This is particularly relevant for the coaching domain because coaches and athletes often face similar stressors and must be able to effectively regulate themselves in the face of numerous demands in different contexts of their life

(e.g., achievement standards, pressure, lack of financial resources and support, rigorous travel schedules, limited time to devote to family and friends; Dubuc-Charbonneau & Durand-Bush, 2018; Cosh & Tully, 2015; Norris, Didymus, & Kaiseler, 2017).

It therefore stands to reason that coaches experiencing burnout may benefit from strengthening their self-regulatory capacity via an intervention to help them manage such demands and adapt to their challenging environments (McNeill et al., 2017). While not designed to address burnout, Longshore and Sachs (2015) found that an intervention promoting mindfulness (i.e., a self-regulation-related construct that reflects greater present-moment awareness) was associated with reduced stress, anxiety, and negative emotions, and greater emotional control and work-life balance. This suggests that coaches can learn self-regulatory competencies to help improve their psychological functioning (Longshore & Sachs, 2015). However, interventions specifically targeting coaches' capacity to self-regulate, particularly when depleted, are lacking (Raedeke & Kenttä, 2013).

As previously mentioned, self-regulation interventions using the RPM have been found to influence participants' ability to successfully respond to obstacles (e.g., stress and burnout), as well as improve their well-being (Durand-Bush et al., 2015). By explicitly focusing on positive states and functioning, such as happiness, satisfaction, and autonomy (Dubuc-Charbonneau & Durand-Bush, 2018), self-regulation interventions can help to fulfill calls for psychological skills training programs that not only alleviate symptoms of burnout but also improve well-being (Van Dierendonck, Garssen, & Visser, 2005). This is an important nuance given that well-being and ill-being (e.g., burnout) have been conceptualized as separate dimensions of overall functioning, which infers that alleviating ill-being does not necessarily promote greater well-being (Keyes, 2002). Keyes (2002) defines subjective well-being as an optimal psychological state of human

flourishing wherein individuals experience emotional (e.g., feel happy, satisfied, and interested in life), psychological (e.g., feel competent and autonomous) and social (e.g., feel connected to others) dimensions of well-being. Improving well-being is an important outcome in and of itself considering that burnout can compromise coaches' psychological (Durand-Bush et al., 2012) and emotional well-being (McNeill et al., 2017). Learning strategies to enhance well-being (e.g., by increasing recovery and decreasing work-home interference) may also offer coaches a means to manage the maladaptive symptoms associated with this syndrome (Lundkvist, Gustafsson, Davis, & Hassmén, 2016), however, this has yet to be empirically examined.

While the benefits of self-regulatory interventions have been demonstrated in athletes experiencing burnout (Dubuc-Charbonneau & Durand-Bush, 2015; Dubuc-Charbonneau & Durand-Bush, 2018), there is an absence of such interventions for burned out coaches (Goodger, Gorely, Lavallee, & Harwood, 2007; Raedeke & Kenttä, 2013). This represents an important gap in the literature (Raedeke & Kenttä, 2013), especially considering the negative implications that burnout can have on coaches' well-being and their coaching practice (McNeill et al., 2017). With this in mind, Dubuc-Charbonneau and Durand-Bush's (2015; 2018) studies involving student-athletes provide a logical basis from which to develop an intervention with coaches experiencing burnout. Although some of the stressors faced by the student-athletes may differ from those experienced by coaches, the self-regulatory competencies developed in the intervention (e.g., goal-setting, self-reflection) hold relevance for coaches facing burnout (Altfeld, Schaffran, Kleinert, & Kellmann, 2018). Indeed, effective self-regulation capacity involves the ability to enact these competencies across different contexts of one's life (Zimmerman, 2000), which reinforces their transferability.

The purpose of the current study was therefore to implement a self-regulation intervention with coaches experiencing moderate to high levels of burnout and examine the perceived impact of this intervention on their self-regulation capacity and their experiences of burnout and well-being. Based on the outcomes of Dubuc-Charbonneau and Durand-Bush's (2015) study involving varsity athletes, we anticipated that through learning self-regulatory competencies in the intervention, the coaches would perceive improvements in their self-regulatory capacity, symptoms of burnout, and well-being.

Method

Participants

Five Canadian sport coaches (three men, two women) experiencing moderate to high levels of burnout participated in the intervention. All of them worked as full-time, paid coaches, without secondary employment, and had on average of 13 years of coaching experience. Two of the coaches worked at the developmental level (i.e., increasing commitment from athletes and coaches, specialized sport-specific training, more formal competitive structure; Gilbert & Trudel, 2006) with tennis (Coach B) and figure skating (Coach C) athletes. The other three coaches worked at the elite level (i.e., highest level of athlete and coach commitment, intensive training, highly structured and formalized competition; Gilbert & Trudel, 2006) with figure skating (Coach A), swimming (Coach D), and track (Coach E) athletes.

Procedure

Recruitment. Screening data were collected from 260 Canadian sport coaches who participated in a larger quantitative study. The eligibility criteria for the intervention included: (a) scoring moderate to high on both the emotional exhaustion and depersonalization subscales of the Maslach Burnout Inventory – Educator's Survey (MBI-ES; Maslach, Jackson, & Leiter,

1996), which represent the core dimensions of burnout (Raedeke & Kenttä, 2013); (b) occupying a full-time, paid coaching position; and (c) being in-season at the start of the intervention.

Ten coaches who met the eligibility criteria and who had given their permission to be contacted for the intervention study were selected on a first-come first-served basis during the 2-month recruitment period. Seven of the coaches provided their informed consent to participate; however, two coaches withdrew from the study (one prior to the start of data collection, one after the first interview). As such, the final sample consisted of five coaches.

Pre-Intervention. Prior to starting the intervention, the coaches participated in an individual semi-structured interview in-person (n=3) or over Skype (n=2) with the first author, who also facilitated the intervention. Details of these interviews and findings arising from them are presented in McNeill and colleagues (2017).

Intervention. The intervention was conducted on an individual basis and began approximately one week after the intake interview. To facilitate the process of developing self-regulatory competencies, a workbook was created by the first two authors, of which excerpts are published in Durand-Bush and colleagues (2015). Grounded in Zimmerman's (2000) model of self-regulation and the RPM (Dubuc-Charbonneau & Durand-Bush, 2015), the workbook was composed of six sections and directed coaches to (a) establish their gold (i.e., preferred) standards for how they wanted to feel in the important areas of their life (e.g., work/coaching, home/family), (b) set specific goals for their coaching and well-being for the intervention, (c) establish a strategic plan to achieve their gold standards and goals, including responses to potential obstacles, (d) develop self-control competencies (e.g., facilitative self-talk), (e) create a daily check-in and self-recording plan to monitor themselves whilst executing their plans, and (f)

engage in ongoing self-reflection to evaluate their performance (e.g., by completing bi-weekly journals, see below).

Section 1 of the workbook introduced the coaches to the three phases of self-regulation and laid the foundation for the intervention process. Given the significance of this section (e.g., coaches set coaching and well-being goals guiding the rest of the intervention) and the importance of establishing trust and rapport (Sharp, Hodge, & Danish, 2015), Section 1 was completed in an intervention session with the facilitator either in-person (n=3) or over Skype (n=2). The remaining five sections of the workbook were emailed to the participants every other week and comprised exercises to further develop and refine self-regulatory competencies (e.g., revisit goals). These five sections also contained a structured journal to facilitate the coaches' self-reflection throughout the intervention. The journal was composed of rating scales (e.g., "On a scale of 0-100%, how would your rate your well-being today?") and open-ended questions (e.g., "What has been your experience of your gold standards and self-regulation over these past two weeks?"). In the final section of the workbook, the coaches were provided with graphs of their rating scale data from the four preceding journals, to further enhance their reflection.

The coaches could choose to complete the remaining five workbook sections independently or during intervention sessions with the facilitator via telephone/Skype. This was in line with the person-centered nature of the intervention, wherein the coaches were offered choice over the delivery method and some of the intervention content (e.g., choice between certain workbook exercises), in order to tailor the intervention to their unique needs and encourage self-directed learning (Nelson, Cushion, Potrac, & Groom, 2014). This flexibility also helped to increase the feasibility of the intervention, considering the coaches' busy schedules and depleted states. Three of the coaches elected to complete some or all of the workbook sections

with the facilitator, resulting in 11 sessions that lasted on average, 57 minutes. Specifically, Coach D completed all five sections of the workbook with the facilitator but elected to write each of his journals on his own. Coach A worked with the facilitator for Sections 5 and 6, while Coach C did so for Sections 3 to 6. Both completed their journals with her during these intervention sessions. In all cases, the facilitator provided written feedback on each section to prompt greater reflection (e.g., "Do you have any strategies or techniques that you can use to recover and recharge during this down-time?") and provide additional support (e.g., sent extra resources or exercises) in between each section of the workbook. While the intervention phase was intended to span 10 weeks, Coach A and Coach C required additional time (20 and 22 weeks, respectively), to complete all sections of the workbook due to increased demands (e.g., both coaches moved to new clubs during the study).

Post-Intervention. Approximately two weeks after completing the last section of the workbook, the coaches participated in a final semi-structured individual interview with the facilitator over the telephone (n=1) or Skype (n=4). The goal of this outtake interview was to explore the coaches' experiences and perceived changes as a result of participating in the intervention. Examples of questions from the interview guide include: "To what extent have you been able to develop skills to help you regulate your thoughts, feelings, and actions?", "Do you feel that participating in this process had an influence on your feelings of burnout?" and "Do you feel that participating in this process had an influence on your sense of well-being?". The interviews were digitally-recorded and lasted, on average, 53 minutes.

Data Analysis

The coaches' outtake interviews (n=5) and the qualitative data from their bi-weekly journals (n=25 [i.e., five per coach]) comprised the data that were analyzed for the present study.

All together, the transcribed interviews and text from their journals resulted in a total of 87 single-spaced pages of text. A content analysis (Hseih & Shannon, 2005) was performed by the first author to examine the perceived impact of the intervention on the coaches' experiences of self-regulation, burnout, and well-being. Specifically, after a series of active readings of each coaches' dataset, the data were organized into meaning units (i.e., segments of text containing a unique idea). These meaning units were then coded deductively using existing models, that is, the social-cognitive model of self-regulation (Zimmerman, 2000) and the RPM (Dubuc-Charbonneau & Durand-Bush, 2015), as well as conceptualizations of burnout (i.e., emotional exhaustion, depersonalization, and personal accomplishment; Maslach et al., 1996) and subjective well-being (i.e., emotional, social, and psychological well-being; Keyes, 2002). The data were also coded inductively to capture new categories (e.g., work-life balance, role of facilitator) that emerged from the data (Hseih & Shannon, 2005).

To facilitate data coding, the first author progressively developed a coding tree, in which coded meaning units were categorized within a hierarchical structure of different order categories (Hseih & Shannon, 2005). The first-order categories corresponded to the main outcomes of interest in the study (i.e., self-regulation, burnout, and well-being). A fourth category labelled "nature of the intervention" was developed to capture additional categories relevant to the intervention itself (e.g., format, timing). These first-order categories included sub-categories spanning three to four levels (see Table 1 for the most prominent categories). The coding tree was subjected to several revisions to improve its structure (i.e., after review by the second author and after independent coding, see below). Furthermore, the data were (re)coded a total of three times, with an effort to improve the consistency and clarity of codes and categories each time.

The meaning units, codes, and categories were entered into NVivo 10 software to facilitate data organization and retrieval.

(Insert Table 1)

Quality of the Study

To enhance the quality of the study, the first author participated in a bracketing interview, made reflective notes after interviews and intervention sessions with participants, and debriefed regularly with the second author (i.e., thesis co-supervisor). Although the use of member-checking has been debated (see Smith & McGannon, 2017), this approach was employed in this study, not to seek verification, but to allow the coaches to review their transcripts to ensure there were no errors and that their data accurately represented their experiences (Burke, 2016). Of note, changes to the transcripts were requested on only one occasion, where a coach asked for a piece of information to be removed to safeguard anonymity. The lead author also enlisted two critical colleagues (a doctoral candidate and a recent Ph.D. graduate) to encourage greater reflection on the interpretations of the data (Smith & McGannon, 2017). Specifically, selected meaning units (approximately 10% of the total number) and the coding tree were sent to both colleagues, who independently coded the meaning units and offered feedback on the analysis (e.g., provided alternative interpretations of the data). Although convergence in coding was achieved for 89% and 94% of the meaning units, the first author made minor revisions to the coding and the coding tree based on discussions with these critical friends. Finally, extensive quotations were selected and included in the results section to ensure the "comprehensiveness of evidence" in this study (Burke, 2016, p. 335).

Results

Findings depict the coaches' perceived impact of the intervention, including changes in their self-regulatory competencies and experiences of burnout and well-being. The results section is organized by the first-order categories, with the most prominent lower-order categories (i.e., those discussed by at least three coaches and addressed most frequently in the data; see Table 1) described in each sub-section. Furthermore, codes are used to denote the journal or outtake interview from which quotes were derived (i.e., J3 = the journal from workbook section 4[3]; OI = the outtake interview).

Self-Regulation Capacity

As a result of participating in the intervention, all five coaches perceived that their capacity to self-regulate improved. Specifically, they described acquiring and applying key self-regulatory competencies (e.g., strategic planning, self-observation) with increased effectiveness: "I have been better at self-regulating as of late… I was able to be aware and correct, and other times, I was aware enough after the fact that I could make adjustments moving forward" (Coach B, J5). The coaches also became more deliberate and consistent in employing and adapting specific strategies (e.g., delegating tasks, using affirmations, spending time with family) in order to feel more in line with the way they wanted (i.e., their gold standards): "Thought-stopping is something that I use more now… to stop a train wreck of negative thoughts if they get started" (Coach A, OI).

Two of the coaches shared that the impact of the intervention was particularly pronounced. Specifically, Coach D described the process as a "huge help" in establishing "the foundational habits to [self-regulate] better and to do it with more consistency" (OI), while

[3] The bi-weekly journals began in Section 2 of the workbook; thus, for example, Journal 3 was contained in Section 4 of the workbook.

Coach C felt "very effective" at self-regulating compared to when she started the intervention, reflecting, for example:

> I was self-regulating perfectly yesterday; there were things being thrown at me that normally would have sent me into a tailspin. I really had some huge things happen and it just rolled off me like water. The ability that I had to be able to take a bad situation and park it and move on was huge for me, because I'm driven by my emotions. (J2)

While the remaining three coaches felt more able to self-regulate than when they began the intervention, they indicated that, at times, they still struggled to self-regulate effectively when encountering obstacles. For instance, Coach A stated: "I think it's most challenging now because it's new and it's the most stressful time [in my season], so I have tried to employ these strategies when I can, although it's not always do-able" (OI). The two other coaches also shared the sentiment that self-regulation was effortful and challenging, particularly in the face of stress or burnout. During a time when his burnout symptoms peaked, Coach B reflected: "I am getting back on track but previous to this, I was putting no effort into self-regulating; I could not stop myself from going through the motions" (J3). Despite challenges, implementing self-regulatory strategies during periods of stress was deemed beneficial; for example, Coach E indicated: "This has been good; if I can self-manage at the worst of times, it's always going to get better" (OI).

Several prominent categories emerged from the data regarding the coaches' ability to implement key self-regulatory competencies more effectively across the three phases of self-regulation. These competencies underpinned the coaches' improved capacity to self-regulate in their coaching and in their personal life as a result of participating in the intervention.

Preparation phase. First, as part of their preparation, all of the coaches described planning more intentionally to achieve the goals and gold standards they established in Section 1

of the workbook on a more consistent basis (i.e., strategic planning). For instance, Coach D explained, “Now I feel I have a clear sense of what the marching orders are to move in that direction [towards his goals], whereas prior to this, [planning] was less structured” (OI). In this way, the coaches became more proactive in their efforts to self-regulate. Specifically, the coaches prepared to feel the way they wanted by planning specific self-regulatory strategies; for example, in order to feel “more recharged”, Coach E eliminated Saturday training sessions. Illustrating how she became more proactive in her strategic planning, Coach A reflected:

> I’ve come away with it planning future well-being strategies to correspond with times when I can anticipate being high stress, depending on my schedule, to try and use them as preventative or prophylactic. So, I wouldn’t have necessarily done that before. (OI)

Execution phase. While performing or executing their plans to achieve their goals and gold standards, all five coaches engaged in more deliberate self-observation. They described actively monitoring how they were thinking, feeling, and behaving in both their coaching and their personal lives. For instance, Coach D reported engaging in regular “check-ins” to monitor how he was feeling before and after each practice, while Coach C observed, “I have more patience with her [daughter] and I don’t feel that I’m losing my temper and I’ve been in control” (J5). As a result, the coaches became better able to recognize discrepancies between their ideal and actual states, as shared by Coach E: “I’m much more aware of when [my well-being] is going down” (OI). In this way, the ability to reflect in the moment, while executing their tasks (i.e., reflection-in-action), was an important competency underpinning the coaches’ efforts to self-regulate:

> I have been able to catch myself when I have gone off track and that has helped me stay positive and motivated to do better. In the few times that I have not done what I feel was

> ideal, I have reflected on it and attempted to make corrections either on the fly or in the next [coaching] session. (Coach B, J2)

As a result of the intervention, Coaches A, B, C, and D felt they were more effective at exerting self-control. Techniques such as visualization and self-talk helped them better control their thoughts, feelings, and actions, and stay on task towards achieving their goals and gold standards. Coach B reflected: "I have been focused on staying present and that makes it easier to avoid thought traps and other harmful mind mistakes" (J5). The coaches also described being able to adapt, when needed, to optimize their efforts; for instance, Coach D noted his increased capacity to refocus: "Rather than getting stuck in a negative spiral, I'm better able to turn myself around when I'm in a spot I don't necessarily want to be in" (OI). Employing self-control strategies also helped the coaches to reactively manage negative psychological states such as stress in order to stay on task and feel more in line with how they wanted:

> There were a couple of days when I started to feel a little bit of stress and I took some deep breaths, I said a couple of my affirmations, [and] instead I just shifted my focus away from what the issue was and moved on to something else that was more productive, and then it worked itself out. (Coach C, J4)

While Coach E "incorporated new skills into [his] repertoire", he felt that self-control was still his "weak area". In Journal 4 he reflected that the "implementation of strategies, while important, has not become performance-oriented but more of survival coping strategy". He thus described difficulty adhering to his plans and employing self-regulatory strategies when he faced increased coaching demands.

Evaluation phase. Finally, through engaging in ongoing self-reflection during the intervention, the coaches described being able to draw adaptive lessons (i.e., inferences) on how

to optimize their self-regulatory efforts going forward, particularly after ineffective performances (e.g., lack of progress towards their goals) and/or after encountering obstacles preventing them from feeling the way they wanted (e.g., symptoms of burnout). Specifically, they described altering their plans and their self-regulatory strategies, when needed. For instance, Coach E reported in the outtake interview that after not having had a "really good cognitive day" in three weeks, he needed to "proactively rather than reactively" plan breaks into his schedule. Moreover, at the midpoint of the intervention, Coach C moved to another city to coach at a new club because she recognized that she could not achieve her gold standards in the environment in which she currently was: "My environment was stopping me from doing the things that I needed to do to reduce stress, so I realized that since I can't change the parameters I'm in, I have to find new ones" (J2). In this way, these adaptive decisions cyclically fed back into the coaches' preparation, helping them plan to feel the way the wanted, achieve their goals, and manage their burnout and well-being, more proactively.

Burnout

As a result of developing self-regulatory competencies and applying personal strategies to help them feel the way they wanted more consistently, Coaches A, B, C, and D described positive changes in their experiences of burnout. Two of the coaches, in particular, reported a marked improvement in their overall perception of burnout at the end of the intervention. Specifically, Coach D indicated "Absolutely, I feel less burned out, less stressed, and more in control, which is not how I felt three months ago" (OI). Similarly, in her final journal, Coach C shared how she no longer felt burned out:

> I feel like I have more time for things. Before I always felt like I didn't have enough time and that I wanted to buy time - and I mean I would waste a lot of it, too. But I think that

was burnout, and when I was doing nothing, it was because I was just done. Whereas now that I don't feel burned out, I feel more productive.

Emotional exhaustion. In terms of the core dimensions of burnout, reduced emotional exhaustion was a salient category referenced by Coach C, who described feeling more energized, more rested, and less overwhelmed in the outtake interview. She explained that she no longer felt "drained" because she was better able to implement strategies to manage her emotions: "Before, I didn't even know how to get through any emotional situation that I was in. I was pushing everything away so much that I was spent; I had nothing left" (OI). The other three coaches also reported improvements in emotional exhaustion. For instance, Coach B felt in "a less depleting state" at the end of the intervention, and when discussing his upcoming week off in Journal 5, he shared: "I feel healthy, and unlike most times when I have taken time off in the past, I am not overly thinking about [work] or preoccupied with it". Coach A and Coach D felt better able to control their responses to stress to prevent becoming depleted, and though Coach A still reported experiencing fatigue during her workweek in the outtake interview, she described being able to "counterbalance" this by employing self-regulatory strategies (e.g., watching movies, visiting family) to recover on weekends.

Depersonalization. These four coaches also showed improvements to their sense of depersonalization, describing feeling more engaged in their coaching and/or more accepting and empathetic toward their athletes. For example, Coach A was more motivated to go to work each day and became more accepting of her athletes, stating: "Not all of my students have to be stars, some of them can just participate at their own level. And that's something that I wasn't able to [see] as much before this whole process" (OI). She further described how "course-correcting" (i.e., self-regulating) to manage frustrations with less talented athletes had become easier (J4).

Coach C felt more engaged in her coaching, aided in part by practicing gratitude: “I’ve always felt like I’ve been giving so much to other people all the time. I just didn’t feel appreciated. So then when I started being grateful for what [coaching] gave back to me, it was like flipping the switch” (J5). Coach B still experienced feelings of cynicism regarding his coaching at times, however, he described a more positive attitude towards his athletes. Participating in the intervention reminded him of how difficult it is to create new “habits”, and thus he felt greater empathy for his athletes. As a result, in his final journal he stated that he had become “more patient with the process of development” and was better able to manage frustrations with his athletes. Similarly, Coach D indicated that a crucial “take-away” from the intervention was a greater sense of empathy for his athletes having been “in their seat” (OI). By setting goals, he felt more engaged with his coaching; “The other day, it was a run of the mill workout but I was much more engaged than I had been in a little while and it felt good to be doing it” (J4).

Personal accomplishment. Coaches A, B, C, and D described a greater sense of personal accomplishment, as they felt more efficacious in their coaching roles. For instance, as a result of employing specific self-regulatory strategies, like delegating tasks to focus on their strengths and acknowledging their accomplishments, both Coach A and Coach C felt more confident and effective: “I can see accomplishments from day-to-day, which is so much better than only week-to-week” (Coach C, J4). For Coach B, a greater sense of accomplishment in his coaching was tied to making progress towards his coaching goals and seeing improvement over time. Referencing the graph in the final section of the workbook, he stated: “I felt like I was getting better, and if I’m getting better I know that I’m more effective” (OI). Interestingly, Coach D attributed his improved coaching effectiveness, in part, to his enhanced self-regulatory capacity:

> I've been more effective in that I'm able to take corrective actions sooner. If I'm in the middle of practice and the day hasn't been good, I'm still able to recognize where I am and have that "ah-hah" moment and turn it around. So instead of spending two hours just spiralling further and further down, I'm able to reset and then build forward. (OI)

Work-life balance. Finally, three of the coaches described achieving greater work-life balance, which helped them manage their burnout. Coach B created better separation between his work and home life, which he attributed, in part, to having set separate well-being and coaching goals in the intervention. Through actively monitoring his thoughts while at home, he was better able to detach himself from work and enjoy his family time, which he deemed important for preventing burnout: "It's a sneaky way to get better professionally, because by adding [balance] in, I can become more effective because I'm going to be more rested and not as drained mentally" (OI). Coach A also described being better able to disconnect from work on weekends through implementing strategies (e.g., shutting off her computer/phone, employing thought-stopping) to achieve greater balance. This was a salient outcome for her, reflecting, "Before I went through this process, I was just living work" (OI). Coach C created better boundaries and let go of athletes whose parents did not sufficiently respect her personal time, which was linked to feeling more efficacious as a coach: "I'm more confident in myself and I know I do a good job, so I don't have to jump these hoops" (OI).

In contrast to the other four coaches, Coach E reported an increase in emotional exhaustion at the end of the intervention period, which corresponded to the end of his season: "I feel pretty burned out right now. I'm going to be very happy to call this a season. This year has been tough, and [this process] made me more aware of how tough it has been" (OI). Coach E's journals depicted that as his coaching demands increased leading up to and during his national

championships, his stress levels peaked. Despite increased self-awareness from journaling and feedback from the facilitator, he was unable to successfully adapt his strategies to feel the way he wanted and his "goals were put out to pasture" (J4) during this time. This culminated in him having to "check out" from his coaching one day, stating, "[I] really haven't felt that bad in a long time" (J5). Interestingly, despite increased emotional exhaustion, Coach E did not describe feelings of depersonalization or reduced accomplishment. Instead, in his final journal he reported a strong connection to his athletes, stating "I care about my athletes more than anything" (J5), and indicated that he was happy with his coaching performance (e.g., describing "one of the best" training sessions all year). However, performing at a high-level came at an expense, as he reflected: "The biggest cost has been my well-being" (J5).

Well-Being

In addition to improving their experiences of burnout in their coaching (i.e., reduced ill-being), participating in the intervention had a positive impact on four of the coaches' overall emotional state and psychological functioning (i.e., heightened emotional and psychological well-being). By working toward their well-being goals and their gold standards in multiple areas of their life, Coaches A, B, C, and D prioritized their own well-being and reaped benefits in both their personal and professional life. Reflecting on the importance of ensuring her well-being needs were met, Coach A stated:

> I have made a connection between my well-being and the quality of the work that I do – figuring out more and more that if I take care of myself, then I produce better work that way. I can see the difference in myself and my choreography is stronger and I am able to focus on one thing at a time. (J4)

Nearing the end of the intervention, Coach C reflected that, “it’s about feeding yourself, right? Now I realize I was being told this all along, to take care of myself, [but] until I’d gone through this process, I didn’t really understand that I wasn’t taking time for myself” (J4). Drawing on this self-awareness, Coach C was able to put her daughter and herself first, ahead of her athletes’ needs, which had been difficult for her to do before. Similarly, Coach B and Coach D described placing greater value on their well-being by spending more quality time at home (e.g., “I was more involved in my personal life and I was doing a better job of listening”, Coach B, J5). Moreover, Coach A indicated in the outtake interview that she now held higher expectations for her own well-being, choosing to prioritize her needs despite her demanding schedule by going to bed earlier, eating healthier meals, and spending more time with family and friends.

In contrast, Coach E struggled to achieve his well-being goals and implement strategies to feel the way he wanted towards the end of the intervention. This was due, in large part, to the responsibility he felt toward his athletes: “I’d rather sacrifice myself and my well-being in the short term so that [my athletes] can reap the rewards, and I guess that’s why I get paid too” (OI). As a result, Coach E described having to negotiate between his coaching performance and his own well-being (e.g., “I am taking dollars from Peter to pay Paul”, J5) and indicated in the outtake interview that his well-being had been compromised by feelings of “progressive fatigue at this point in the season”. However, through the intervention process, he learned that this approach was “not sustainable” and he planned to make changes the following season (e.g., start running, grocery shop regularly, take time off) to prioritize his well-being: “Through this process, through the workbooks, through your communications, I know I need to take next year, a few more days for me to just decompress.” (OI)

Emotional well-being. In terms of their emotional well-being, Coaches A, B, C, and D described feeling better emotionally and more satisfied with their coaching and life: "I'm happy because I don't feel as sad or depressed, like I feel quite happy and content" (Coach C, OI). While Coach A described a "rollercoaster" of emotions across the intervention, by Journal 4, she reported "feeling calmer" and much happier about her coaching: "I feel excited to go to work each day". Both Coaches B and D indicated that working toward their goals elicited positive affective states: "I'm feeling more well because of the well-being goals, and as a result, I'm more motivated, more interested to go and handle the professional goals I have" (Coach D, OI).

Psychological well-being. Additionally, the four aforementioned coaches reported improvements in their psychological well-being. Most prominently, three of the coaches reported a greater sense of autonomy, feeling more self-determined and in control of their life: "A huge thing I'm going to continue to say is the control I feel now compared to before" (Coach C, OI). For these coaches, developing self-regulatory strategies enabled them to take responsibility for their psychological states and feel less reactive: "Taking that ownership and control and recognizing that I was the one who was ultimately handling the perception of the stress and the burnout and controlling my response to that perception was empowering" (Coach D, OI). Coach A also felt empowered by a greater sense of control and responsibility over how she was feeling, stating: "It's empowering to realize that you have these strategies that you can use to shape your life the way you want it" (OI). Similarly, Coach C reflected: "I feel like an adult, suddenly, whereas before I felt like a student. I guess it's ownership and I feel more in control and like I've made decisions that I've wanted to make" (J5). One of these decisions for this mid-career coach included changing her coaching environment and moving to a new city.

Nature of the Intervention

Person-centered format. Other prominent categories that emerged in the outtake interview pertained to the nature of the intervention itself, which help to contextualize the perceived impact of the intervention. First, all of the coaches reported benefiting from the person-centered format of the intervention, as having flexibility and autonomy enabled them to adapt the process to their own personal preferences and schedule. For example, Coach E felt that he understood the content and that working independently fit better with his work schedule. Similarly, Coach B indicated that he preferred to draw his own "conclusions" from working alone. The other three coaches saw value in working with the facilitator as it promoted greater accountability: "The phone calls definitely helped me stay on top of it" (Coach C, OI). They felt it was more manageable to complete the workbooks with the facilitator via telephone/Skype than on their own, which increased the feasibility of the intervention.

Role of the facilitator. The coaches reported that working with the facilitator promoted greater reflection: "Having a face-to-face meetings where I had to give well-thought-out and personal answers, as opposed to sound bites, really made me stop and think about where I was, how I was feeling, and why all of that was going on" (Coach D, OI). It also provided them with additional social support. For instance, Coach A reflected: "Aside from strategies, the most interesting thing has just been talking it through with someone who is not connected to [my experiences] in any way; it was kind of a therapy on its own" (OI).

Timing. Finally, the coaches also perceived that the timing of the study contributed to the impact of the intervention. Coach E felt he would have had better results if the process had taken place at the start of his competitive season: "My ability to hit my gold standards would have been better" (OI). Echoing this, Coach C and Coach D both felt that having had sufficient time to

devote to the process was important for their positive outcomes. For instance, Coach D reflected that being in a "low-pressure environment" at the start of his season enabled him to "to focus on developing the habits [he] needed in order to have a good championship season" (OI). Conversely, Coach A reported that while the intervention took place during "one of the most stressful times" in her career, she perceived it as beneficial: "It makes it important that it was done at this time, because at least I have these tools now when I most need them" (OI).

Discussion

The purpose of this study was to investigate the perceived impact of a self-regulation intervention implemented with five coaches experiencing moderate to high levels of burnout. In line with our expectations, all of the coaches perceived an increase in their capacity to self-regulate. However, only four of them described improvements in their symptoms of burnout and well-being. Overall, these findings corroborate those of Dubuc-Charbonneau and Durand-Bush (2015; 2018), who found that varsity athletes participating in a self-regulation intervention described an increased sense of self-efficacy and control from achieving their goals and preferred standards, and in turn, reported decreased stress and burnout and increased self-regulation capacity and well-being.

All five coaches in this study reported developing and applying several self-regulatory competencies (i.e., strategic planning, self-observation, self-control, and adaptive inferences) with increased effectiveness to feel the way they wanted more consistently. They also learned to employ a variety of personal strategies that were organizational (e.g., delegate coaching tasks), cognitive (e.g., use facilitative self-talk), social (e.g., spend time with family), emotional (e.g., practice gratitude), and/or physical (e.g., get proper sleep) in nature to enhance their self-regulatory capacity. This supports previous research conducted with athletes (Durand-Bush et al.,

2015; Dubuc-Charbonneau & Durand-Bush, 2018) and demonstrates that sport psychology practitioners should foster a wide range of self-regulatory competencies and strategies in interventions implemented with coaches experiencing burnout.

Although the coaches perceived an increase in their self-regulatory capacity, they found it challenging to self-manage at times, particularly when responding to obstacles (e.g., increased coaching demands). This sometimes resulted in an inability to engage in self-control (e.g., "I could not stop myself from going through the motions") and in defensive reactions that undermined successful adaptation (e.g., "I'd rather sacrifice myself and my well-being in the short term so that [my athletes] can reap the rewards"). This reinforces the notion that self-regulation is effortful and requires considerable motivation and executive function (Zimmerman, 2000), and that one's capacity to self-regulate represents a finite resource that can become depleted (Muraven, Baumeister, & Tice, 1998). The fact that Coach E perceived an increase in burnout symptoms at the end of the intervention period supports the notion that burnout can be associated with deficiencies in self-regulatory capacity (Durand-Bush et al., 2012).

For the other four coaches, however, learning to regulate their thoughts, feelings, and actions to achieve greater congruence between their healthy and depleted states had positive implications for their burnout. The coaches generally described feeling less emotionally drained, more engaged with their work and/or accepting of their athletes, and more effective in their coaching. This could be, in part, explained by the increased use of recovery strategies, for example, by spending time with friends and family, going to bed earlier, and reducing their workload (Altfeld et al., 2015). Furthermore, three of the coaches described using competencies (e.g., monitoring thoughts of work when at home) and strategies (e.g., shutting off the cell phone or computer on weekends) to reduce work-home interference (Lundkvist et al., 2016). This

supports previous research showing that psychologically distancing oneself from one's work is important for preventing emotional exhaustion (Bentzen, Lemyre, & Kenttä, 2016). Promoting greater detachment from work when at home may be an important intervention strategy for practitioners working with coaches.

The same four coaches also perceived an improvement in their emotional and psychological well-being. They described experiencing more positive emotions (e.g., happiness, enjoyment, optimism) and feeling more satisfied with their coaching and personal life. Moreover, three of these coaches perceived greater autonomy and self-determination, due in part, to feeling more efficacious in their ability to self-regulate. That is, by developing competencies and strategies to manage their thoughts, feelings, and actions, they felt empowered and more in control of their psychological states (e.g., stress) and their life. These four coaches also learned to prioritize their well-being needs, which is salient because coaches can neglect their well-being during times of high stress (Durand-Bush et al., 2012). This highlights that sport psychology practitioners should help coaches strengthen emotional and psychological facets of their well-being in order to improve their overall psychological functioning (Keyes, 2002).

As in previous interventions guided by the RPM, engaging in systematic self-reflection supported the coaches' learning and enhanced their self-awareness (Dubuc-Charbonneau & Durand-Bush, 2018), which helped them to become more accountable and make changes to benefit their psychological health (e.g., stop coaching certain athletes, move to a new coaching environment). This corroborates the notion that taking a 'reflective stance' and becoming more self-aware can help coaches manage feelings of burnout (Olusoga & Kenttä, 2017). Structured journaling was essential for fostering self-reflection and presenting coaches with graphs from their journals helped to elicit self-satisfaction and self-efficacy (e.g., "I felt like I was getting

better, and if I'm getting better I know that I'm more effective"). As such, sport psychology practitioners should encourage systematic journaling to help coaches manage their burnout and well-being experiences (Dubuc-Charbonneau & Durand-Bush, 2018).

Although the workbook provided structure to the intervention, the importance of sport psychology practitioners adopting a person-centered approach and tailoring interventions to coaches' unique realities cannot be overstated. Burnout is a highly individualized experience (McNeill et al., 2017) and the way it is successfully managed will vary by individual (Dubuc-Charbonneau & Durand-Bush, 2018). The personal strategies the coaches applied during the intervention (e.g., task delegation, gratitude diary) were self-generated. All five coaches benefitted from having some flexibility over the delivery of the intervention (e.g., on their own, with the facilitator), particularly in light of their long working hours and travel schedule. The fact that two of the coaches adapted the format during the intervention to stay engaged in the process speaks to the value of practitioners providing different options when working with coaches experiencing burnout. Of note, the two coaches who completed the intervention process predominately with the facilitator also reported more marked improvements in their capacity to self-regulate and their experiences of burnout and well-being. This underscores the facilitator's key role in delivering sport psychology interventions, a finding iterated in previous studies (Durand-Bush et al., 2015; Dubuc-Charbonneau & Durand-Bush, 2015; Dubuc-Charbonneau & Durand-Bush, 2018). Having a 'neutral' person with whom they could share their personal experiences provided the coaches with additional social support, which is important for burnout recovery (Olusoga & Kenttä, 2017). This highlights the need to provide coaches with access to sport psychology services.

Limitations and Future Directions

To the best of our knowledge, this study represents the first intervention study conducted with coaches experiencing burnout. Although the overall results are positive, the sample was small and relatively homogenous (i.e., all paid, full-time, individual sport coaches). Moreover, while the coaches were screened for moderate to high emotional exhaustion and depersonalization, they were still actively coaching. Further research is needed to investigate how other samples of coaches respond to self-regulation interventions, including those who have withdrawn from coaching due to burnout.

Although the purpose of this study was to examine the coaches' perceptions of the impact of the intervention, certain contextual factors made it more challenging to compare the coaches' experiences in the intervention (e.g., coaches were at different points during their competitive season, two of them moved to new coaching environments). Consequently, when designing interventions to address coach burnout, sport psychology researchers and practitioners should take into consideration coaches' needs to determine when in their season an intervention would be most beneficial. Finally, while the data in this study were collected from multiple sources (i.e., interviews and reflective journals), researchers may want to triangulate findings by also collecting quantitative data and/or assessing the perspectives of coaches' athletes and family members in future intervention studies.

Conclusion

In the face of experiencing moderate to high levels of burnout, the five coaches learned to self-regulate more effectively by developing various competencies and strategies throughout the person-centered intervention. Moreover, as a result of strengthening their self-regulatory capacity, four of the five coaches also reported improvements in their experiences of burnout and well-being. By working towards their personal goals and attempting to feel the way they wanted

on a more consistent basis, these coaches became more proactive in managing their burnout and prioritizing their well-being needs. In this way, they were also able to attenuate the negative effects of burnout symptoms on their emotional and psychological well-being. Since it can be difficult to self-regulate successfully when experiencing burnout, coaches should be proactive and ideally develop self-management competencies before becoming depleted. Sport psychology practitioners are ideal candidates to help coaches strengthen their self-regulatory capacity in order to prevent or manage burnout and enhance overall well-being.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada under a Joseph-Bombardier Canada Graduate Scholarship [grant number 767-2011-1253]; and the Ontario Ministry of Training, Colleges and Universities under an Ontario Graduate Scholarship.

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Table 1

Prominent Content Analysis Categories and Sub-Categories

Self-Regulation	Burnout	Well-Being	Nature of the Intervention
General experience	General experience	General experience	Person-centered format
Improvement	Improvement	Improvement	Flexibility
More consistent/effective	Less burnout	Feeling better	Accountability
Obstacles	No burnout	Decrease	
Stress/burnout	Increase	Compromised by burnout	Role of facilitator
Coaching demands	End of season	Prioritization of well-being	Promoted greater reflection
		Valuing self-care	Provided social support
Preparation Phase	Emotional exhaustion	Unable to prioritize	
Strategic planning	Increased energy		Timing of intervention
More proactive	Decreased depletion	Emotional well-being	Time in-season
More structured	Less overwhelmed	Increased positive emotions	Time in career
	More in control of stress	Reduced negative emotions	
Execution Phase	Increased fatigue	More satisfied with life	
Self-observation		More interested in life	
Greater self-monitoring	Depersonalization		
Improved self-awareness	Increased empathy for athletes	Psychological well-being	
Greater reflection-in-action	Greater acceptance of athletes	Increased autonomy	
	More engaged in coaching	More self-determined	
Self-control	More motivated to coach	Greater perceived control	
Greater control of thoughts, feelings, and actions	Personal accomplishment	More empowered	
Better able to stay on-task	Increased confidence		
Better able to adapt	Increased effectiveness		
Difficulty executing			
	Work-life balance		
Evaluation Phase	Greater work-home separation		
Adaptive inferences	Better detachment from work		
Able to adapt plans and/or strategies	Better able to set boundaries		
Defensive reactions			

Part IV

General Discussion

Research Aims and Study Purposes Revisited

The overarching aims of this research were to advance knowledge of coach burnout and interventions addressing this syndrome by investigating (a) the associations between burnout, well-being, self-regulation capacity, and perceived stress in coaches, and (b) the perceived impact of a self-regulation intervention implemented with coaches experiencing moderate to high levels of burnout. Using a two-phase, mixed methods design, the following purposes were addressed in four separate studies in this doctoral research project:

(a) Identify profiles of psychological functioning within a sample of coaches based on burnout and well-being indices, and investigate whether coaches in these profiles differed in their capacity to self-regulate and their perceptions of stress (Study 1).

(b) Examine the associations between self-regulation capacity, perceived stress, and burnout in coaches, and more specifically, test the intervening variable effect of perceived stress in the association between coaches' self-regulatory capacity and their emotional exhaustion, depersonalization, and personal accomplishment (Study 2).

(c) Investigate coaches' subjective experiences of burnout in order to shed light on the complex emotional nature of this syndrome (Study 3).

(d) Implement a self-regulation intervention with coaches experiencing moderate to high levels of burnout and examine the perceived impact of this intervention on their self-regulation capacity and experiences of burnout and well-being (Study 4).

The discussion section provides a comprehensive review of the dissertation findings, including the theoretical/conceptual, methodological, and applied contributions of the research. Research limitations and directions for future research conclude this section.

Interpretation and Integration of Research Findings

Rather than reviewing the results of the four studies separately, key findings will be interpreted in an integrative fashion in the following section in order to present a holistic understanding of coach burnout, including its association with well-being, self-regulation capacity, and perceived stress, and the perceived impact of the self-regulation intervention. This is in line with the mixed methods design of the current research, in which convergence between the data gathered through quantitative and qualitative methods provides complementary evidence regarding the phenomena of interest (Gibson, 2016; Hanson et al., 2005).

Coaches' subjective experiences of burnout. By representing the coaches' lived experiences in first-person narrative accounts, Study 3 provided a rich description of the coaches' highly individualized experiences of burnout (Schaufeli & Buunk, 2003) and showcased the emotional nature of this syndrome (Shirom, 2003). Indeed, the five coaches' burnout experiences were characterized by a variety of emotions, most notably anger (e.g., Coach A's indication she was "quick to anger"), apathy (e.g., Coach D's cynicism towards his coaching), anxiety (e.g., Coach B's panic over his lack of success), and dejection (e.g., Coach C's description of going "in the black"). These emotions were experienced negatively by the coaches and related to the core dimensions of burnout, which featured uniquely in the coaches' narratives. Therefore, interventions to address coach burnout should be individualized and include a focus on helping coaches regulate their negative emotions (Dubuc-Charbonneau & Durand-Bush, 2018; Lee & Chelladurai, 2016; Stebbings & Taylor; 2017).

Despite the highly personal nature of these five coaches' burnout experiences, many of the symptoms they described parallel those reported in recent qualitative studies (Bentzen et al., 2015b; Lundkvist et al., 2012). Specifically, anger, irritability, depressed mood, anxiety, loss of meaningfulness, sleep disturbances, rumination, physical illness, panic attacks, inability to concentrate, and detachment from family were all common occurrences across these studies. Coaches should therefore be aware that these symptoms may signal the experience of burnout. Moreover, all five of the coaches' experiences were characterized by a sense of depletion (i.e., emotional exhaustion), while four of the coaches reported a sense of apathy and disillusionment regarding their coaching and/or their athletes (i.e., depersonalization) and three described negative self-evaluations regarding their effectiveness in their roles (i.e., reduced personal accomplishment, Maslach et al., 1996). For all of the coaches, depletion was associated with feeling emotionally drained from their coaching (i.e., tapped out, zapped, "on empty") as well as feeling physically exhausted (i.e., fatigue, lack of energy, physiological discomfort), which is congruent with how this dimension has been operationalized in burnout research with athletes (i.e., physical and emotional exhaustion; Raedeke & Smith, 2001). These findings suggest that coaches need to proactively monitor their physical and emotional energy levels to prevent becoming depleted (Altfeld et al., 2018; Raedeke & Kenttä, 2013).

A key factor in the coaches' collective experiences of burnout in Study 3 was an inability to detach from their work, which was related to insufficient recovery (e.g., lack of downtime) and/or work-home interference (e.g., inability to "shut off work" at home). While these factors have been identified in qualitative (Lundkvist et al., 2012) and quantitative (Bentzen et al., 2016) studies, findings from Study 3 and Study 4 uniquely showcase how coaches' experiences of burnout were rooted in a strong emotional investment in their athletes and coaching, and the

consequences that this investment had (e.g., excessive rumination, neglect of well-being needs, carry-over of negative feelings from work into one's home life). Interestingly, the five coaches' intense personal involvement was motivated by self-imposed standards (e.g., "I feel like I owe them [athletes] so much", Coach C, Study 3) rather than by external performance-related demands (e.g., media scrutiny, pressure from organization to meet outcomes), which were predominate in the qualitative studies of Scandinavian elite sport coaches (Bentzen et al., 2015b; Lundkvist et al., 2012). It is thus important that coaches reflect on the personal standards they set for their coaching and for their own well-being (Durand-Bush et al., 2012), and develop strategies to be able to detach physically and psychologically from their coaching (Bentzen et al., 2016; Kelley, 1994).

In their review of coach burnout research, Raedeke and Kenttä (2013) argued that "little work has evaluated the potential negative consequences associated with burnout" (p. 428). The narratives in Study 3 address this gap by revealing the negative implications that burnout can have for coaches' professional and personal life. For instance, four of the coaches' experiences of burnout manifested in maladaptive coaching behaviours, including yelling, fighting, and being "too harsh" with their athletes and feeling less tolerant, understanding, and empathetic towards them. These four coaches further expressed apprehension over how their symptoms of burnout may be potentially negatively affecting their athletes' sport experiences. This corroborates earlier studies wherein athletes whose coaches reported elevated burnout scores perceived that their coaches were more autocratic, less empathetic, and poorer communicators (Price & Weiss, 2000; Vealey et al., 1992). Importantly, findings from Study 3 also demonstrate the negative toll that burnout can have on coaches themselves (e.g., illness, weight gain, panic attacks, depressed mood, strained personal relationships). Thus, although conceptualized as a work-related

syndrome, this research confirms that burnout is a maladaptive state of ill-being with far-reaching consequences for coaches and the athletes in their care (Lundkvist et al., 2012). This underscores the need for interventions to help coaches effectively manage their personal and professional life and prevent the onset of burnout (Goodger et al., 2007; Lundkvist et al.., 2015; Raedeke & Kenttä, 2013).

Finally, findings from the current research also speak to the salience of situational factors in coaches' experiences of burnout (Bentzen et al., 2015a). While the association between time of season and the coaches' profiles of burnout and well-being was not examined in Study 1 since the majority of them were in-season at the time of data collection, findings from Study 3 and Study 4 highlight that burnout may fluctuate with seasonal demands (Durand-Bush et al., 2102; Kelley, 1994). Speaking to this cyclical nature in Study 3, Coach C described the "pattern" over the previous eight years in which she became sick five times a year, whenever her athletes "peaked" competitively. Study 4 revealed that Coach E's burnout was tied to increased coaching demands and "progressive fatigue" at the end of his competitive season. Therefore, coaches need to monitor their stress-recovery balance over their competitive season (Altfeld et al., 2015) and employ self-regulatory strategies proactively, as well as evaluate and adapt their strategies reactively, to effectively manage their stressors over time (Durand-Bush et al., 2012). According to Study 3, the coaches' workload contributed to their experiences of burnout (e.g., Coach E was "crushed" by administrative tasks; Coach D was overloaded by the addition of another swim team). Additionally, the number of hours spent coaching during the competitive season and remuneration for one's coaching were associated with a more maladaptive (i.e., depleted) profile of burnout and well-being in Study 1. This stresses that coaches need to effectively manage their workload (e.g., delegate tasks, cut back on coaching sessions) to avoid or manage burnout

(Bentzen et al., 2016). It also reinforces the importance of certain factors in coaches' work environments (e.g., the expectations placed upon paid coaches; Knight et al., 2013) in the development of burnout (Kilo & Hassmén, 2016).

The association between burnout and well-being in coaches. The DCMMH (Keyes, 2002) was one of the frameworks guiding the current research wherein well-being was conceptualized as not merely the absence of ill-being (i.e., burnout), but rather as the presence of positive features of functioning in one's life (i.e., emotional, social, and psychological well-being). Study 1 showed that overall, coaches' burnout and well-being indices were negatively associated, as the three dimensions of well-being were negatively correlated with emotional exhaustion and depersonalization and positively correlated with personal accomplishment. Results of the person-centered analyses further reinforced this inverse relationship through the identification of a "depleted" (i.e., characterized by relatively high burnout and relatively low well-being) and a "thriving" (i.e., characterized by relatively low burnout and relatively high well-being) profile in the sample. However, extending the results of studies reporting negative relationships between burnout and *work-related* indices of well-being in coaches (e.g., satisfaction with work; Bentzen et al., 2015a), Study 1 revealed that burnout is negatively associated with coaches' *global* well-being (i.e., reflection of all facets of their life). This is congruent with findings from a recent study of American collegiate athletes (DeFreese & Smith, 2014).

In line with this, the qualitative findings of the current research show how the five coaches' experiences of burnout compromised their overall well-being. For example, in Study 4, Coach E's sense of well-being was depleted by increased emotional exhaustion at the end of his season. Moreover, in Study 3, the coaches' burnout experiences were perceived to impair their

emotional well-being (Keyes, 2002), as they described heightened negative affect (e.g., irritability, guilt, distress, and nervousness), diminished positive affect (e.g., a lack of joy, excitement, and happiness), and reduced satisfaction and interest in their work and their personal life (e.g., "I'm in a bad place right now", Coach C). The coaches also described strained relationships at home, difficulty managing their environments, and a loss of meaningfulness, which are indicative of impaired psychological and social well-being (Keyes, 2002). This corroborates the findings of Durand-Bush and colleagues' (2012) study in which the coaches reported difficulty achieving well-being in the face of burnout (Durand-Bush et al., 2012). Therefore, assistance or interventions provided to coaches experiencing burnout should target facets of their well-being as well (Durand-Bush et al., 2012; Stebbings & Taylor, 2017).

However, a novel finding in Study 1 was the identification of an "at-risk" profile, which was characterized by relatively high burnout and moderate well-being. This demonstrates individual variation in the relationship between burnout and well-being in coaches, as the at-risk coaches were able to maintain moderate levels of emotional, social, and psychological well-being, despite reporting comparable levels of burnout as the depleted coaches. In support of the DCMMH (Keyes, 2002), these findings highlight that some coaches who experience symptoms of burnout in their coaching may nonetheless feel good (i.e., happy, satisfied with life) and function well psychologically and socially (Keyes, 2002). As such, more research is needed to investigate moderating factors in the burnout-well-being relationship to shed light on personal resources or factors that may protect coaches' well-being from being significantly depleted by burnout (DeFreese & Smith, 2014).

The associations between coaches' self-regulation capacity and their burnout, well-being, and stress. In the current research, coaches' self-regulation capacity was associated with

adaptive psychological functioning, thus extending findings from previous studies in sport (Dubuc-Charbonneau & Durand-Bush, 2015; Jordalen, Durand-Bush, & Lemyre, 2016; Van Slingerland, Durand-Bush, & Rathwell, in press) and the wider occupational literature (Gagnon et al., 2016; Mattern & Bauer, 2014; Tikkanen, Pyhältö, Pietarinen, & Soini, 2017) to the coaching context. Specifically, in Study 1, coaches in the thriving profile reported significantly higher levels of self-regulation capacity than coaches in the depleted and at-risk profiles. Self-regulatory capacity also accounted for a large proportion of the variance in the coaches' profiles of burnout and well-being. The salience of these findings is underscored by the fact that, in contrast to other personal factors (e.g., intrinsic motivation, perfectionism, trait anxiety) that have been linked to burnout and/or well-being in coaches (Bentzen et al., 2015a; Tashman et al., 2010; Vealey et al., 1992), self-regulatory competencies are dynamic (Schunk & Zimmerman, 2003) and particularly amenable to sport psychology interventions (Dubuc-Charbonneau & Durand-Bush, 2018; Wagstaff, Hanton, & Fletcher, 2013).

Building on the findings of Study 1, Study 2 helped to expand our knowledge of the relationship between self-regulation and burnout in coaches by revealing that coaches with greater performance-related self-regulatory competencies (i.e., self-control and self-observation) also reported lower levels of perceived stress and, in turn, decreased levels of burnout. In this way, findings from Study 2 contribute meaningfully to the self-regulation literature by shedding light on the mechanism by which self-regulation competencies may protect against the development of burnout in coaches (Mattern & Bauer, 2014). Furthermore, these results corroborate those of Durand-Bush and colleagues (2012) who found in their qualitative study that women coaches implemented a variety of self-regulatory strategies, including performance-related ones (e.g., self-talk, task focus), to successfully manage stress and prevent burnout.

Interestingly, in Study 2, performance-related self-regulation competencies were directly associated with the coaches' feelings of personal accomplishment, regardless of their perceptions of stress. This is congruent with recent studies showing that coaches' emotional intelligence (i.e., their ability to perceive, understand, and regulate their emotions; Mayer & Salovey, 1997) is linked to coaching efficacy (Thelwell, Lane, Weston, & Greenless, 2008) and that coaches' capacity to effectively regulate their thoughts, feelings, and actions is essential for successful coaching (Donoso-Morales et al., 2017). Moreover, given the link between self-control and self-efficacy beliefs (Zimmerman, 2000), it is possible that coaches who have sound self-control competencies may feel more efficacious and are therefore more resilient to threats to their sense of effectiveness, even if experiencing stress in their life (Kilo & Hassmén, 2016). Additionally, while reduced accomplishment primarily results from a lack of resources, emotional exhaustion and depersonalization are more closely related to stress and overload (Maslach et al., 2001). This may explain why these self-regulatory competencies were directly associated with personal accomplishment but not with the latter two dimensions of burnout.

In further support of the association between self-regulation capacity and burnout, the coaches' subjective experiences of burnout were characterized by deficits in their ability to effectively self-regulate in Study 3. For instance, the coaches described being unable to regulate their thoughts (e.g., excessive rumination), emotions (e.g., loss of temper with athletes), and actions (e.g., resistance to healthy eating and exercise), even when recognizing a discrepancy between their actual and ideal states (e.g., Coach C's inability to bring herself back when she sensed her voice was "awful"). Similarly, the coaches in Bentzen and colleagues' (2015b) study reported being caught in a "downward spiral" of increasingly maladaptive thoughts, feelings, and actions, that was difficult to override. This reinforces how important it is that coaches be

equipped with effective self-regulatory skills to manage their symptoms of burnout and reverse this negative cycle (Altfeld et al., 2015; Durand-Bush et al., 2012), or more importantly, to prevent burnout altogether. These findings also speak to the notion that self-regulation is effortful (Zimmerman, 2000) and challenging under demanding conditions (Koole, Jostmann, & Baumann, 2012), such as when coaches face elevated stress or burnout (Durand-Bush et al., 2012). Therefore, future research is needed to further test the relationship between self-regulation and burnout over time, including the reciprocity of the association between these two variables (Jordalen et al., 2016; Wen Wan & Sternthal, 2008) and the mediating role of factors such as stress.

The importance of coaches' perceptions of stress. Consistent with previous theory, including the CASBBM (Smith, 1986), findings of the current research indeed highlight the critical role of coaches' perceptions of stress (i.e., the appraisal of their life as unpredictable, uncontrollable, or overloading; Cohen, Kamarck, & Mermelstein, 1983) in their experiences of burnout and well-being (Kelley, 1994; Lazarus & Folkman, 1984). In Study 1, perceived stress accounted for the largest proportion of the variance in coaches' profiles of burnout and well-being, and further, it differentiated "depleted" from "at-risk" coaches, while self-regulation capacity and coaching/demographic variables did not. In Study 2, coaches' perceived stress was not only positively associated with their experiences of burnout, it was also an intervening variable in the association between the coaches' capacity to engage in key self-regulatory processes (i.e., self-control and self-observation) and their burnout symptoms.

The findings from these studies highlight the importance of reducing stress so that coaches' lives are more predictable, controllable, and manageable. They also underscore the value of strengthening coaches' stress management skills, including their ability to reappraise

stressors in more facilitative ways (Durand-Bush et al., 2012; Kelley, 1994). Indeed, in Study 3, the coaches described maladaptive cognitive appraisals associated with their burnout experiences, including perceptions of being overloaded ("it's overwhelming and it's too much for me, so I'm just going to stop [coaching]"; Coach C) and having few meaningful rewards ("I'm starting to throw good money after bad", Coach D). This supports Vealey and colleagues' (1992) quantitative study in which perceived rewards in coaching and perceived value of the coaching role were the strongest negative predictors of burnout, while perceived overload of demands was the strongest positive predictor of burnout. However, while interventions to prevent or manage burnout in coaches should focus on helping coaches reappraise their stressors (Dubuc-Charbonneau & Durand-Bush, 2018), preventing stress is not always possible; thus, coaches need effective self-regulatory strategies to cope with stress when it arises (Durand-Bush et al., 2012).

Perceived impact of the self-regulation intervention. Overall, the coaches perceived positive outcomes from participating in the intervention. As Study 4 revealed, positive changes included increased self-awareness and self-regulation capacity, and for four of the coaches, improved burnout and well-being. These findings are further contextualized by a comparison to the coaches' narratives in Study 3, which represent their experiences prior to the start of the intervention. Indeed, despite feeling emotionally and physically depleted before commencing the intervention, all five coaches learned to self-regulate more effectively as a result of their participation. The coaches described acquiring several self-regulatory competencies in the intervention that were consistent with those commonly reported by the varsity athletes in Dubuc-Charbonneau and Durand-Bush's (2018) study, namely, strategic planning to achieve their preferred standards (e.g., feel confident, calm, and in-control) and personal goals (e.g., improve

well-being by going to bed at a reasonable hour), deliberate self-observation (e.g., daily check-ins), self-control techniques (e.g., task management), and systematic self-reflection (e.g., journaling). This demonstrates that although the format differed from that used in previous self-regulation interventions (i.e., individual and/or group in-person sessions; Durand-Bush, McNeill, & Collins, 2015), the coaches became increasingly efficacious in their ability to self-regulate by completing workbook exercises and engaging in structured journaling, either independently or with the help of the facilitator. Nonetheless, irrespective of the delivery format used, the facilitator provided support and ongoing written or verbal feedback, which proved to be invaluable (e.g., "[T]hrough this process, through the workbooks, through your [facilitator's] communications, I know I need to take a few more days next year for me to just decompress"; Coach E).

Study 4 revealed that in addition to strengthening key competencies that are outlined in the RPM (Dubuc-Charbonneau & Durand-Bush, 2015) and the SCMSRLP (Zimmerman, 2000), the coaches also acquired and applied a variety of personal strategies in order to effectively regulate their thoughts, feelings, and behaviours and feel the way they wanted more consistently. A number of these are congruent with coping strategies identified in previous qualitative studies of coaches, such as engaging in visualization and facilitative self-talk, and seeking social support (Frey, 2007; Thelwell, Weston, & Greenlees, 2010). However, some strategies were more unique, including practicing gratitude, acknowledging one's accomplishments, and stopping one's debilitative thoughts. Furthermore, in line with the self-regulation models that guided the intervention, the coaches also enacted strategies to proactively manage their situational demands by delegating tasks, eliminating coaching sessions, and planning for recovery, to give a few examples. Thus, beyond *reactively* coping with stress and burnout symptoms, self-regulatory

strategies developed in the intervention also enabled the coaches to align themselves with their preferred standards and personal goals, and address their burnout and well-being, more *proactively* (Dubuc-Charbonneau & Durand-Bush, 2018; Durand-Bush et al., 2012).

As a result of participating in the intervention, four of the coaches perceived that their burnout symptoms improved. By developing and adapting their self-regulatory strategies and competencies, these coaches became better able to manage maladaptive emotions (e.g., apathy toward their coaching), thoughts (e.g., rumination about work), and behaviours (e.g., loss of temper with athletes) associated with their burnout. Moreover, by shutting off their phone on weekends, monitoring thoughts of work while at home, and spending more time with family or in leisure activities, three of the coaches reported greater psychological detachment from their work and increased work-life balance. Importantly, three of the coaches in Study 4 also reappraised their stress as less threatening, as they felt more in control (Hanton, Wagstaff, & Fletcher, 2012) and less helpless over their stress responses (e.g., "recognizing that I was the one who was ultimately handling the perception of the stress and the burnout and controlling my response to that perception was empowering", Coach D). This corroborates the findings from Study 2 regarding the negative association between the coaches' self-regulatory competencies and their perceptions of stress. Ultimately, these four coaches described feeling less depleted and emotionally drained, more empathetic toward their athletes and/or engaged in their coaching, and more accomplished and efficacious in their roles. These results are particularly significant given that typical occupational burnout interventions are generally ineffective at improving participants' sense of depersonalization/cynicism or personal accomplishment at work (Maricutoiu et al., 2014).

These four coaches also perceived that their emotional and psychological well-being had improved. Specifically, they described experiencing more positive emotions (e.g., happiness, enjoyment, optimism) and feeling more satisfied and interested in their coaching and personal life. Three of the coaches also felt a greater sense of autonomy and self-determination, which arguably has positive implications for their intrinsic motivation and self-efficacy underlying their self-regulatory efforts (Zimmerman, 2000). Moreover, by establishing their gold standards (i.e., how they wanted to feel, Dubuc-Charbonneau & Durand-Bush, 2015) and setting realistic well-being goals, these coaches learned to prioritize their psychological health. These findings are particularly salient given the coaches' compromised well-being and lack of high standards for their own needs prior to the intervention, as described in Study 3. The results of Study 4 support the assertion that burnout interventions should look past simply alleviating burnout symptoms and focus on promoting well-being outcomes as well (Van Dierendonck et al., 2005). Indeed, shifting coaches' focus from their depleted states to their healthy, ideal states (Dubuc-Charbonneau & Durand-Bush, 2018) and improving their sense of well-being arguably helped them to reduce their symptoms of burnout in the intervention (e.g., more energy from adequate sleep and exercise, greater engagement in coaching by practicing gratitude).

All of the coaches described fluctuations in their burnout and well-being, as well as difficulties self-regulating at times during the intervention, regardless of their efforts and the facilitator's support and feedback. For instance, Coach B described an inability to exert self-control when facing heightened burnout at the midpoint of the intervention (e.g., "I could not stop myself from going through the motions"). The athletes in Dubuc-Charbonneau and Durand-Bush's (2018) study faced similar challenges, but nonetheless increased their capacity to manage themselves and their environment (e.g., stressors) toward the end of the intervention. This was

the case for four of the five coaches in Study 4. Unfortunately, Coach E was unable to successfully adapt his strategies when his coaching demands increased at the end of his season, despite greater self-awareness (e.g., from journaling and the facilitator's feedback). This resulted in a perceived increase in his emotional exhaustion, which also undermined his well-being. Interestingly, Coach E completed Sections 2 to 6 of the workbook independently, which suggests that he may have benefited from seeking additional support from the facilitator, particularly during this stressful period. Moreover, the two coaches who worked predominantly with the facilitator (Coach C and Coach D) reported more marked improvements from the intervention. Taken together, this demonstrates the important role that a trained facilitator can play in nurturing coaches' self-regulation competencies in sport psychology interventions (Dubuc-Charbonneau & Durand-Bush, 2018; Wagstaff et al., 2013).

Contributions

In line with the aims of the current research, findings from Studies 1 to 4 advance the body of knowledge on coach burnout and interventions aiming to improve burnout symptoms and functioning in coaches. In the following sections, the theoretical/conceptual, methodological, and applied contributions of this research will be discussed.

Theoretical/conceptual contributions. The current research contributes conceptually to the coach burnout literature. In particular, it provides empirical support for the CASBBM (Smith, 1986), which was one of the frameworks guiding this research. Indeed, findings from Study 2 demonstrate that personal variables (i.e., self-regulation competencies) can have both direct associations and indirect associations with burnout, via their influence on coaches' perceptions of stress (Kelley et al., 1999; Tashman et al., 2010). In Study 1, perceived stress differentiated between all three profiles of burnout and well-being, which underlines the importance of

fostering coaches' ability to effectively appraise stress. The coaches in Study 3 also described a number of cognitive appraisals, including overload, helplessness, lack of perceived rewards, and loss of meaningfulness, in association with their burnout experiences. Moreover, the symptoms of burnout they described are congruent with the physiological (e.g., irritability) and behavioural (e.g., distancing oneself from family) responses outlined in the CASBBM. Interestingly, all of the coaches specifically discussed withdrawal from their coaching when burnt-out (e.g., Coach B described wanting to "just be done and go home for Christmas"). In addition, one coach quit his job after a previous burnout episode, while three other coaches contemplated leaving coaching in response to their burnout. This corroborates Smith's (1986) contention that withdrawal, whether physical or psychological, is a defining feature of burnout. However, the prominence of the coaches' emotional responses, including anger, dejection, and anxiety, which have also been described by athletes (Gould, Tuffey, Udry, & Loehr, 1997; Gustafsson*,* Kenttä, Hassmén, Lundqvist & Durand-Bush*,* 2007) suggests that the physiological component in this model is too narrow in scope, as burnout is a highly affective syndrome (Shirom, 2003).

The current research also contributes conceptually to the coach burnout literature. Although researchers studying coach burnout have commonly adopted Maslach and colleagues' (1996) multidimensional conceptualization of occupational burnout (see Raedeke & Kenttä, 2013 for a review), few researchers have qualitatively investigated how the three dimensions of emotional exhaustion, depersonalization, and personal accomplishment resonate with coaches (Goodger et al., 2007; Raedeke & Kenttä, 2013). The findings in Study 3 support emotional exhaustion as the representative component of burnout in coaches (Maslach et al., 2001). However, depersonalization does not appear to be as evident. Specifically, despite scoring moderate to high on the depersonalization subscale of the MBI-ES (Maslach et al., 1996), only

Coach A described a cynical, indifferent attitude toward her athletes in Study 3. Three of the other four coaches expressed a sense of cynicism or apathy regarding their coaching in general, which is more closely aligned with sport devaluation (i.e., cynicism-related concept adapted to athletes; Raedeke & Smith, 2009). Similarly, none of the four elite Scandinavian coaches in Bentzen and colleagues' (2015b) study described cynicism toward their athletes; it was only vis-à-vis their organization. Collectively, these results strengthen the notion that devaluation, as opposed to depersonalization, may be better suited to the coaching context (Lundkvist, Stenling, Gustafsson, & Hassmén, 2014). Additionally, the current research highlights that perceptions of reduced personal accomplishment may manifest themselves more independently in coaches than the other two burnout dimensions (Maslach et al., 2001). For instance, only three of the five coaches in Study 3 described reduced personal accomplishment in their experiences of burnout. Also, coaches' self-regulatory competencies were only directly related to this burnout dimension in Study 2, which suggests that personal accomplishment may have different antecedents than emotional exhaustion and depersonalization (Maslach et al., 2001; Kilo & Hassmén, 2016).

Methodological contributions. The current research also makes several methodological contributions. From a quantitative perspective, while researchers have concurrently investigated burnout and well-being indices in coaches using variable-centered approaches (e.g., Bentzen et al., 2015a; Stebbings et al., 2012), rarely have person-centered approaches been employed in coaching studies (e.g., Raedeke, Granzyk, & Warren, 2000). The findings from Study 1 showcase the value of this analytical approach by demonstrating how indices of burnout and well-being coexist to varying degrees in a sample of coaches. With the identification of a mixed (i.e., at-risk) profile, the results of Study 1 offer an alternative depiction of the associations

between coach burnout and well-being than that from a variable-centered approach (Gustafsson, Carlin, Podlog, Stenling, & Lindwall, 2018).

From a qualitative perspective, authors of previous reviews have advocated for this type of research to provide a more holistic description of the burnout syndrome in coaches (Goodger et al., 2007; Raedeke & Kenttä, 2013). Presenting the five coaches' idiographic experiences of burnout in first-person narratives in Study 3 offers a unique contribution to the literature, as nonfictional short stories are a novel form of representation in the coaching (Callary, Werthner, & Trudel, 2012) and sport psychology (Smith & Sparkes, 2009) literature. The rich data in this study highlight the benefits of using this form of narrative analysis to illuminate the complex, lived experiences of coaches (Callary et al., 2012; Smith & Sparkes, 2009).

Another unique methodological feature of the current research pertains to measures used to gather the intervention data. In particular, the qualitative data from the coaches' reflective journals in Study 4 helped to capture changes in their burnout, well-being, self-regulation capacity, and stress over the course of the intervention, which was further triangulated with the outtake interview data. It also shed light on how the coaches developed self-regulatory competencies and applied strategies from the intervention to their coaching and day-to-day life (Wagstaff et al., 2013).

Moreover, many of the interviews and intervention sessions were conducted over Skype. Online interviewing via Skype was reported in recent coaching studies (e.g., Douglas, Falcão, & Bloom, 2018; Rathwell & Young, 2018); however, few studies have described the use of Skype video calling in sport psychology interventions or consultancy (e.g., Cotterill & Symes, 2014). The current research highlights the utility of this medium for data collection (Smith & Sparkes, 2016) and for the provision of sport psychology services (Weinberg, Neff, & Jurica, 2012). It

extends the format used in previous self-regulation interventions with athletes (e.g., Callary & Durand-Bush, 2008; Dubuc-Charbonneau & Durand-Bush, 2018). Specifically, the researcher/facilitator was able to develop sufficient rapport with participants using this method and coaches shared highly personal accounts of their experiences of burnout and well-being, as illustrated in the findings from Study 3 and Study 4. This supports Salmons' (2015) claim that online interviewing is well-suited to sensitive and emotional subjects. Moreover, the use of Skype increased the accessibility of the intervention while enabling the facilitator to nonetheless capture social data (e.g., nonverbal cues) to guide the interviews and intervention sessions (Salmons, 2015). This is promising and as such, more research on the use of online platforms to deliver sport psychology interventions is required.

Contributions to applied practice. Finally, the current research makes contributions to applied practice. Study 4 is the first known empirical investigation of an intervention implemented with coaches experiencing burnout. This is significant and addresses a critical gap in the literature identified by the authors of previous reviews on coach burnout (Dale & Weinberg, 1990; Goodger et al., 2007; Lundkvist et al., 2015; Raedeke & Kenttä, 2013). The results of Study 4 offer support for strengthening coaches' self-regulatory competencies to improve symptoms of burnout and emotional and psychological well-being. Findings also corroborate the notion that coaches can learn psychological skills to not only improve negative states, such as stress, but also to increase their well-being and promote positive changes in their personal life (Keyes, 2002; Longshore & Sachs, 2015). Sport psychology practitioners can use the findings from Study 4 to inform the skills they teach (e.g., self-control) and the strategies they employ (e.g., journaling) when working with coaches.

Several other practical recommendations can be drawn from the current research. First, sport psychology practitioners should consider the seasonal nature of burnout and implement interventions at the start of coaches' seasons, if possible. This could help coaches establish sound self-regulatory competencies before becoming depleted and prevent them from burning out over the course of their season (Dubuc-Charbonneau & Durand-Bush, 2018). Moreover, burnout is a deeply individual experience (Gustafsson et al., 2007) and interventions must be tailored to coaches' unique realities, including their demanding schedules. This is underscored by the fact that two coaches withdrew prior to commencing Study 4 and two others disengaged from the intervention and then chose to work with the facilitator in order to complete the study over a longer time span. The flexible person-centered nature of the intervention was key to retaining these two coaches. Similarly, three of the 20 coaches in Longshore and Sachs' (2015) study withdrew during the intervention. Overall, this suggests that coaches may be a difficult population to engage in interventions, and sport psychology practitioners should therefore be prepared to adapt their intervention format to accommodate coaches' personal preferences and workload. Given that Dubuc-Charbonneau and Durand-Bush (2018) reported a 100% attendance rate for their intervention with athletes, it is possible that social support and alternative delivery formats provided by the facilitator could increase adherence and the success of interventions with coaches as well (Giges, Petitpas, & Vernacchia, 2004).

Finally, coach education offers "a valuable means of reaching coaches regarding their professional and personal lives" (Giges et al., 2004, p. 435). Translating the content of the intervention from Study 4 into user-friendly workshops or training modules that can be integrated into existing coach education programs, then, could help coaches learn important self-regulatory competencies. These could target strategic planning (e.g., prioritization of their well-

being needs and proactive preparation to ensure those needs are met), self-observation (e.g., self-monitoring of their affective states and energy levels over a season), self-control (e.g., techniques to facilitate psychological detachment from work), and self-reflection (e.g., journaling to promote greater self-awareness). The intervention could also be converted into online learning opportunities (e.g., webinars) that can be promoted by different organizations (e.g., Coaching Association of Canada, Sport Info Resource Centre). The rich narratives presented in Study 3 could also serve as a pedagogical tool in coach education (Douglas & Carless, 2008) to encourage coaches' reflection on the symptoms and consequences of burnout and the importance of prioritizing their psychological needs for their own well-being and coaching practice.

Limitations

Notwithstanding the contributions of the current research, there are limitations related to the study samples, design, and measures that must be discussed.

Samples. The sample of coaches addressed in Study 1 and Study 2 could be considered reasonably healthy. Mean scores revealed low levels of stress and burnout and high levels of well-being. Further, 54% of the coaches were characterized by an adaptive (i.e., thriving) profile of psychological functioning in Study 1. This highlights the concern over studying burnout in low-burnout samples (Bentzen et al., 2016) and speaks to the "healthy worker effect" in burnout research (Goodger et al., 2007, p. 143). That is, it is possible that coaches with higher levels of burnout may have left the coaching ranks or may be less likely to participate in research (DeFreese & Smith, 2014; Schaufeli & Enzmann, 1998). Moreover, while the convenience sample in Phase 1 of this research project was relatively large and broad, it may not be representative of the broader coaching population (Altfeld et al., 2015). Another limitation was

that the sample size precluded invariance testing across coaching contexts (Stebbings et al., 2012) or between part-time and full-time coaches (Altfeld et al., 2015) in Study 2.

Additionally, the sample in Study 3 and Study 4 was small and relatively homogenous (i.e., all full-time, paid individual sport coaches). Although the intention was not to generalize the findings from these studies, this sample may not be representative of the experiences of coaches in other contexts (e.g., team sports, part-time) and coaches outside of Canada (e.g., those from collectivist cultures; Koh, Camiré, Bloom, & Wang, 2017). The small sample size also precluded an examination of gender differences, which may have played a role in the coaches' experiences of burnout (Durand-Bush et al., 2012; Kelley, 1994) and during the intervention (e.g., willingness to seek social support from the facilitator; Ashton & Fuehrer, 1993). To increase our understanding of coaches' experiences of burnout and the perceived impact of self-regulation interventions, studies involving coaches who have withdrawn from coaching due to burnout (Bentzen et al., 2015b) are also needed.

Study design. Given the cross-sectional design in Study 1 and Study 2, causal inferences cannot be drawn regarding the associations between the variables, including the temporal relationships amongst them. For instance, it is possible that the depleted coaches' self-regulatory capacity was impaired by their burnout symptoms in Study 1 (Koole et al., 2012). Longitudinal data is therefore needed to investigate whether self-regulation capacity predicts burnout and well-being outcomes in coaches, and further, to test if perceived stress *mediates* the relationship between self-regulation competencies and burnout. Additionally, the cluster analyses in Study 1 relied on standardized *z*-scores; thus, the profiles were identified based on the relative distribution of scores within the sample. A limitation of these analyses is that the solution is

sample-specific and cannot be generalized beyond the current sample (Martinent, Nicolas, Gaudreau, & Campo, 2013).

Finally, certain contextual factors that could not be accounted for in Study 4 may have contributed to the perceived impact of the intervention. Specifically, the coaches were at different points in their competitive season and two changed coaching environments during the intervention to better manage their stress and burnout. Moreover, while the person-centered nature of the intervention was an important strength of the study, the delivery format differed amongst the coaches. Thus, it is possible that Coach C and Coach D reported more pronounced positive outcomes than the other coaches because of their increased contact with the facilitator (e.g., greater social support).

Measures. Self-report measures were employed in Study 1 and Study 2, which are susceptible to response biases, including social desirability (Van de Mortel, 2008). It is possible that the coaches responded to the measures in a more socially-acceptable manner, for example, by underreporting their burnout symptoms. Additionally, a limitation that overshadows the burnout literature in general is the lack of clinically-relevant cut-off scores for the MBI-ES, which hinders an assessment of the severity of burnout symptoms experienced by coaches (Lundkvist et al., 2014). Furthermore, based on results of the CFAs conducted in Study 2, the MBI-ES, the SSRQ, and the PSS-10 all showed some degree of misfit in the sample. Therefore, measures of burnout, self-regulation capacity, and perceived stress that are tailored to the coaching context are warranted (Lee & Chelladurai, 2016). The CFA results in Study 2 revealed that the SSRQ performed particularly poorly, which prevented the assessment of coaches' global self-regulatory capacity. Thus, there is a need for more psychometrically sound, multi-dimensional measures of self-regulation capacity in line with the SCMSRLP (Zimmerman, 2000;

c.f. Mattern & Bauer, 2014). Lastly, it would be worthwhile to further triangulate qualitative findings with quantitative outcome measures, as well as data from coaches' athletes and family in future intervention studies with coaches experiencing burnout.

Future Directions

While the current research addresses several gaps in the literature on coach burnout, there are a number of important avenues for future research on this topic. First, longitudinal studies are needed to determine the direction of the relationships between burnout, well-being, self-regulation, and perceived stress and whether coaches' self-regulatory capacity and perceptions of stress are predictive of their levels of burnout and well-being. Furthermore, using repeated measures designs, researchers could investigate how profiles of burnout and well-being change over time, including if coaches in a mixed (i.e., at-risk) profile become more depleted over the course of their season.

The qualitative findings presented in Study 3 suggest that coach burnout may be associated with maladaptive coaching behaviours and thus may negatively influence coach-athlete interactions (Goodger et al., 2007). As such, researchers should quantitatively examine whether coaches characterized by different profiles of burnout and well-being exhibit distinct behaviours or emotional responses, using systematic observation tools (e.g., the Assessment of Coach Emotions; Allan, Turnnidge, Vierimaa, Davis, & Côté, 2016; the Coach-Athlete Interaction Coding System; Erickson, Côté, Hollenstein, & Deakin, 2011). Collecting data from athletes could also shed light on additional negative outcomes associated with coaches' experiences of burnout, which would nuance perspectives in the literature (Raedeke & Kenttä, 2013).

Based on the lack of intervention studies conducted with coaches experiencing burnout (Goodger et al., 2007; Lundkvist et al., 2015), there are many avenues for future research. For example, to further corroborate the findings from Study 4, researchers should examine how different samples of coaches respond to self-regulation interventions, including those who have withdrawn from coaching. Researchers could also investigate the effectiveness of different intervention formats, such as group-based self-regulation interventions, which may offer coaches additional social support and learning opportunities for developing their self-regulatory competencies (Lussier-Ley & Durand-Bush, 2009). Future intervention studies for coach burnout should also include an explicit focus on stress management skills, such as cognitive restructuring and reappraisal (Gustafsson, Lundqvist, & Tod, 2016; Smith, 1986). These skills would complement the self-regulatory competencies addressed in the intervention in the current research (Dubuc-Charbonneau & Durand-Bush, 2018).

Moreover, in Study 4, two coaches described leaving their clubs in order to better manage their stress and burnout. This highlights that coaches' psychological needs can be constrained by their work environments (Bentzen et al., 2015b) and is consistent with the growing body of evidence linking the lack of organizational support to burnout in coaches (Kilo & Hassmén, 2016; Stebbings et al., 2012). Interventions targeting changes at the organizational level are therefore an important future direction (Maslach & Leiter, 2016), for instance, through participatory action research with sport organizations (e.g., Wagstaff et al., 2013). The provision of resources for coaches (e.g., access to trained Mental Performance Consultants) and the initiation of communities of practice (Bertram, Culver, & Gilbert, 2016) wherein coaches could acquire strategies for effectively managing demands through social learning exchanges, are examples of organizational interventions that could be investigated in future studies.

Part V

Conclusion

Increased research attention has been paid to coach burnout in recent years; yet, a critical gap in the literature remains the absence of empirical investigations of interventions to address this syndrome in coaches (Lundkvist et al., 2015; Raedeke & Kenttä, 2013). In order to develop sound interventions for this population, there is a need for greater insight into how burnout is experienced by coaches, and into related variables that may have an impact (e.g., well-being, self-regulation capacity, perceived stress) on this syndrome (Goodger et al., 2007; Fletcher & Scott, 2010; Raedeke & Kenttä, 2013; Smith, 1996). With this in mind, the overarching aims of this research were to advance knowledge of coach burnout and interventions addressing this syndrome by investigating (a) the associations between burnout, well-being, self-regulation capacity, and perceived stress in coaches, and (b) the perceived impact of a self-regulation intervention implemented with coaches experiencing moderate to high levels of burnout. Four studies were conducted to fulfill these aims and their implications are summarized below.

Study 1: Identify profiles of psychological functioning within a sample of coaches based on burnout and well-being indices and investigate whether coaches in these profiles differed in their capacity to self-regulate and their perceptions of stress.

The identification of three distinct profiles of burnout and well-being (i.e., thriving, depleted, and at-risk) in Study 1 reinforces that these two variables are negatively related, but constitute distinct facets of functioning in coaches (Stebbings & Taylor, 2017). In accordance with the DCMMH (Keyes, 2002), findings support the notion that the experience of burnout does not necessarily preclude coaches from experiencing well-being in their life. As such, both variables should be addressed in interventions to promote coaches' optimal functioning (Bentzen

et al., 2015a). Study 1 also provides support for the important role of self-regulatory capacity and stress management in coaches' adaptive functioning (Durand-Bush, McNeill, & Collins, 2015; Kelley, 1994). Specifically, the thriving profile was associated with higher levels of self-regulation capacity and lower levels of perceived stress. On the other hand, higher levels of perceived stress differentiated the depleted from the at-risk coaches. Finally, longer coaching hours and remuneration for coaching differentiated depleted from thriving coaches. This demonstrates the importance of monitoring these situational factors to protect against burnout and impaired well-being in coaches (Bentzen et al., 2016).

Study 2: Examine the associations between self-regulation capacity, perceived stress, and burnout in coaches, and more specifically, test the intervening variable effect of perceived stress in the association between coaches' self-regulatory capacity and their emotional exhaustion, depersonalization, and personal accomplishment.

Results of Study 2 suggest that perceptions of stress may influence the relationship between self-regulation and burnout in coaches (Mattern & Bauer, 2014), as coaches with greater self-regulatory competencies (i.e., self-control and self-observation) perceived less stress in their life, and in turn, experienced less emotional exhaustion and depersonalization, and greater personal accomplishment (i.e., lower burnout). Interestingly, a direct association between these self-regulatory competencies and the coaches' sense of accomplishment was also found. This indicates that effective self-control and self-monitoring competencies may enable coaches to feel more efficacious in their coaching, regardless of their perceptions of stress. However, the intervening variable effect of perceived stress in the associations between self-regulation competencies and the three burnout dimensions reinforces the critical influence of coaches' appraisals of stress in the burnout syndrome, as outlined in the CASBBM (Smith, 1986).

Consequently, burnout interventions for coaches should not only address self-regulatory competencies but also stress management skills (i.e., cognitive reappraisal; Dubuc-Charbonneau & Durand-Bush, 2018).

Study 3: Investigate coaches' subjective experiences of burnout in order to shed light on the complex emotional nature of this syndrome.

The first-person narratives in Study 3 provided a rich account of how burnout was subjectively experienced by the five coaches. Specifically, the stories revealed that burnout was a highly individualized experience and was characterized by a variety of emotions (e.g., anger, apathy, anxiety, and dejection). Moreover, this syndrome had negative implications for the coaches' well-being (e.g., loss of enjoyment) and their coaching practice (e.g., less patience with their athletes) and was associated with deficits in the coaches' self-regulatory capacity (e.g., inability to maintain focus on coaching tasks). Therefore, interventions for coach burnout should be individualized and focus on strengthening coaches' self-regulatory competencies, including their ability to regulate negative emotional states (Dubuc-Charbonneau & Durand-Bush, 2018; Stebbings & Taylor, 2017).

Study 4: Implement a self-regulation intervention with coaches experiencing moderate to high levels of burnout and examine the perceived impact of this intervention on their self-regulation capacity and experiences of burnout and well-being.

Despite experiencing moderate to high levels of burnout, all five coaches learned to self-regulate more effectively by developing various competencies (e.g., self-monitoring) and personal strategies (e.g., task delegation) in the intervention. Four of the coaches also described improvements in their symptoms of burnout (i.e., felt less emotionally drained, more engaged with their work and/or accepting of their athletes, and more effective in their coaching) and their

emotional and psychological well-being (e.g., experienced more positive emotions, satisfaction with life, and autonomy). The flexibility of the facilitator to individualize and deliver the workbook/journal intervention via email and/or Skype or the telephone, including over a longer period of time for certain coaches, was instrumental. As the first known empirical investigation of an intervention implemented with coaches experiencing burnout, the findings from this study are promising and should encourage researchers to conduct more applied intervention studies with coaches to optimize their functioning and retain them in sport.

In summary, coaches must have the necessary personal resources and competencies to adapt to their demanding environments in order to prevent experiencing burnout and impaired well-being in response to their stressors (Fletcher & Scott, 2010). Findings from the current research demonstrate that the capacity to effectively self-regulate represents an important resource contributing to coaches' optimal functioning (Durand-Bush, McNeill, & Collins, 2015; Zimmerman, 2000). Indeed, findings from the self-regulation intervention revealed that developing competencies and strategies to manage one's thoughts, feelings, and actions can have a positive impact on coaches' experiences of burnout and well-being. This is encouraging and affirms that coaches can benefit from sport psychology interventions (Giges et al., 2004; Longshore & Sachs, 2015). Since this was the first investigation focusing on a burnout-related intervention for coaches, more research is essential. Given the salient role of coaches' perceptions of stress in the current research (Smith, 1986), greater attention should be paid to alleviating the demands placed upon coaches and fostering facilitative appraisals of stress (Fletcher & Scott, 2010). Information on how to help coaches prevent or manage burnout is of particular importance for organizations employing and training coaches, for Mental Performance Consultants working with coaches, and ultimately, for coaches themselves. Therefore,

knowledge translation (e.g., webinars, workshops, training modules) is essential to ensure that the aforementioned organizations and individuals can benefit from the findings of this dissertation and future research on this topic.

Part VI

References and Appendices

This section provides a list of all the references cited in the dissertation, with the exception of those cited in Part III, which are contained in the reference lists of each respective article. Following this are the appendices referenced in the dissertation.

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Appendix A: Figure 1. The Cognitive-Affective Stress-Based Burnout Model

(CASBBM; Smith, 1986)

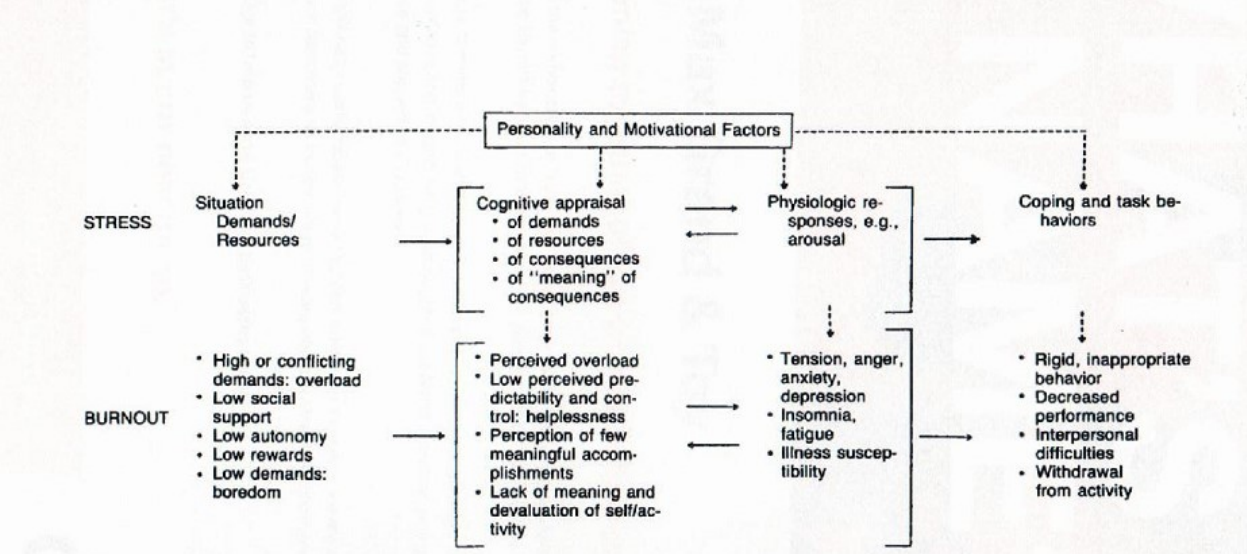


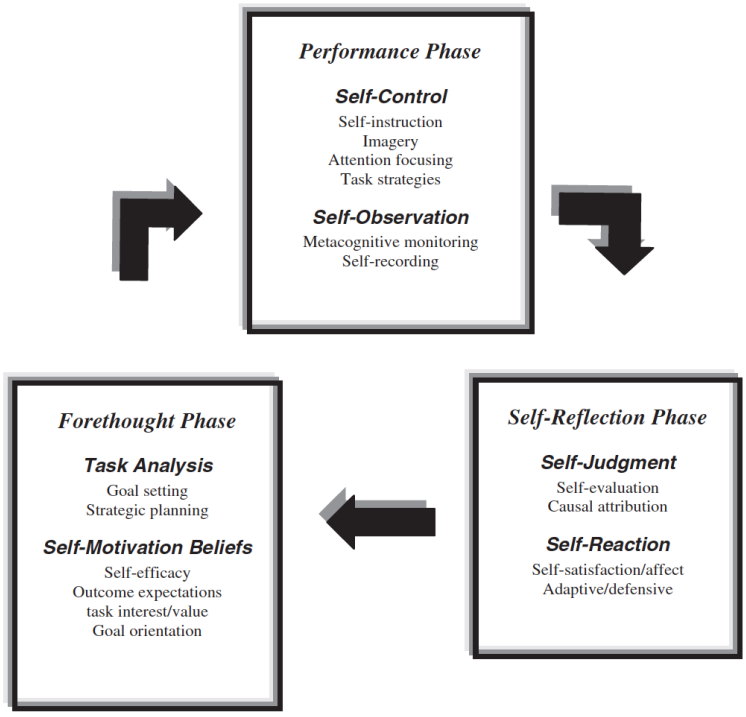
Figure 1 — A conceptual model showing the parallel relationships assumed to exist among situational, cognitive, physiologic, and behavioral components of stress and burnout. Individual differences in motivation and personality are assumed to influence all of the components.

Appendix B: Table 1. Conceptualization of Subjective Well-Being in the Dual-Continua Model of Mental Health (DCMMH; Keyes, 2002)

Component	Description of Dimension
Emotional well-being (positive affect and satisfaction with life)	Regularly cheerful, in good spirits, happy, calm and peaceful, satisfied, and full of life (*positive affect*)
	Feels happy or satisfied with life overall or with domains of life (*satisfaction with life*)
Psychological well-being (self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, positive relations with others)	Holds positive attitudes toward oneself and past life and concedes and accepts varied aspects of self (*self-acceptance*)
	Shows insight into own potential, sense of development, and open to new and challenging experiences (*personal growth*)
	Holds goals and beliefs that affirm sense of direction in life and feels that life has a purpose and meaning (*purpose in life*)
	Exhibits capability to manage complex environment, and can choose or manage and mould environments to suit needs (*environmental mastery*)
	Exhibits self-direction that is often guided by his or her own socially accepted and conventional internal standards and resists unsavoury social pressures (*autonomy*)
	Has warm, satisfying, trusting personal relationships and is capable of empathy and intimacy (*positive relations with others*)
Social well-being (social contribution, coherence, actualization, acceptance, integration)	Feels that one's life is useful to society and the output of his or her own activities are valued by or valuable to others (*social contribution*)
	Interested in society or social life; feels society and culture are intelligible, somewhat logical, predictable, and meaningful (*social coherence*)
	Believes that people, social groups, and society have potential and can evolve or grow positively (*social actualization*)
	Has positive attitude toward others while acknowledging and accepting people's differences and complexity (*social acceptance*)
	Has a sense of belonging to a community and derives comfort and support from community (*social integration*)

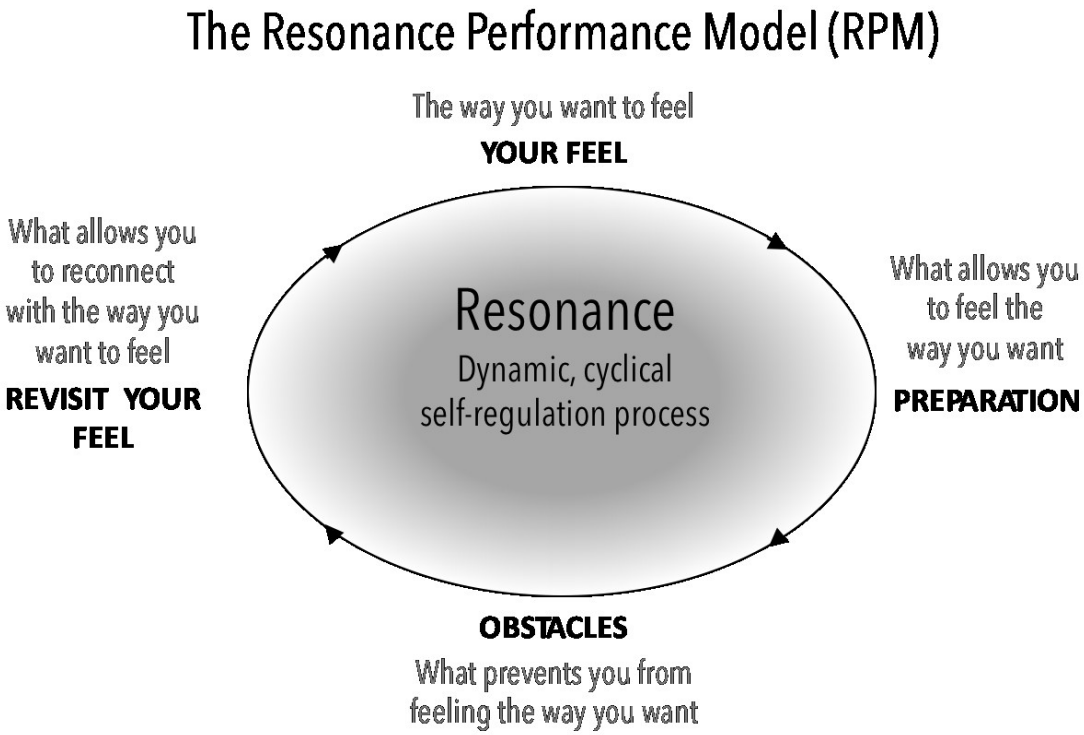
Appendix C: Figure 2. The Social-Cognitive Model of Self-Regulated Learning and Performance

(SCMSRLP; Zimmerman, 2000)



Appendix D: Figure 3. The Resonance Performance Model

(RPM; Dubuc-Charbonneau & Durand-Bush, 2015)



Appendix E: Information Letter to Organizations

uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

Cabinet du doyen

University of Ottawa
Faculty of Health
Sciences

Office of the Dean

Dear [organization name],

The purpose of this message is to ask for your help in the **recruitment of participants** for a study on coach stress and well-being conducted in the School of Human Kinetics, at the University of Ottawa and in collaboration with the Norwegian School of Sport Sciences. As a [coaching/sport organization], your involvement would be greatly beneficial to the advancement of our understanding of the well-being of coaches in Canada.

Recruitment Involvement: If you agree to do so, we will e-mail you a prepared invitation, whereby using any means at your disposal (e.g., e-mail, website link), we would appreciate your efforts to forward it to high-level coaches within your organization. Specifically, we are seeking to recruit coaches who work with competitive youth athletes (i.e., athletes aged 12-21 years old who are competing at the regional, provincial, national and/or international level).

Participant Involvement: Participants will complete an online demographic survey and four questionnaires on stress, well-being, and self-regulation, which will take 10-15 minutes. Upon completion of the questionnaires, they will have the opportunity to accept or decline participation in a second phase of the research, in which coaches meeting the eligibility criteria will be invited on a first-come first served basis to participate in an individual intervention to develop self-management skills for effectively coping with coaching demands.

Benefits: Research suggests that coaching is both a rewarding and a demanding profession, yet little is known about coaches' overall experiences of well-being or how coaches effectively cope with stressors. This study will help shed light on how coaches can use self-management skills to cope with their demands and enhance their well-being. Coaches who participate in the study can personally benefit by gaining insight into their own capacity to self-manage and function optimally in a demanding environment. As an added benefit, your organization can receive the overall results of this research and you may also request a presentation or a workshop to inform your organization and/or your coaches about the findings.

Ethics: This research project has been reviewed by, and has received ethics approval from, the Research Ethics Board of the University of Ottawa.

☎ 613-562-5432
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451 Smyth (3028)
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca

Please contact Kylie McNeill (see below) to let us know if and how you may help us recruit coaches. Any guidance you could provide to our efforts would be greatly appreciated. In the event that you will collaborate, we will send you a **letter of permission** required by the Research Ethics Board of the University of Ottawa, along with the **recruitment text** to send to your coaches. Do not hesitate to contact us if you have any questions or concerns.

Thank you in advance for your cooperation.

Sincerely,

Kylie McNeill, Ph.D. (Candidate)	Natalie Durand-Bush, Ph.D.	Pierre-Nicolas Lemyre, Ph.D.
Tel:	Tel:	Tel:
Email:	Email:	Email:
School of Human Kinetics	School of Human Kinetics	Department of Coaching & Psychology
University of Ottawa	University of Ottawa	Norwegian School of Sport Sciences

Appendix F: Study Invitation for Phase 1

Are you a coach of high-level youth athletes? If so, we need to hear from you!

We are researchers from the University of Ottawa and the Norwegian School of Sport Sciences conducting a study on coaches' stress and well-being. If you coach youth athletes (aged 12-21 years old) competing at the regional, provincial, national and/or international level, and you are currently in-season, we need your help to better understand how coaches manage stressors by completing a brief online survey!

By investing 10-15 minutes of your time, you will assist us in better understanding how coaches can cope more effectively with the demands of their profession in order to ensure their own well-being. An added benefit from your participation may be an increased awareness of your own capacity to manage stressors in order to function optimally in a demanding environment.

To participate, please click the following link:

https://www.surveymonkey.com/s/coachwell-beingsurvey

Know any other coaches? If so, please forward this email to them!

Please note that the survey is available only in English. To ensure that data are collected in a timely fashion, we ask that you kindly complete the survey within the next two weeks.

Thank you for your time and participation. Please contact us if you have any questions or concerns.

Sincerely,

Kylie McNeill (PhD cand) Tel: Email:
Natalie Durand-Bush (PhD) Tel: Email:
School of Human Kinetics, University of Ottawa, Ottawa, Canada

Pierre-Nicolas Lemyre (PhD) Tel: Email:
Department of Coaching and Psychology, Norwegian School of Sport Sciences, Oslo, Norway

uOttawa

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Appendix G: Phase 1 Consent Form

As a coach of high-level youth athletes, you are invited to participate in a study on coaches' stress and well-being. If you agree to participate, your involvement will consist of completing a brief online survey that contains demographic questions, along with questions about stress, well-being, and self-management skills, using a secure website. This will take approximately 10-15 minutes of your time. Should you wish, you can request to receive the overall results of this study; however individual results from the questionnaires will not be shared with participants.

At the end of the demographic questions, you will be asked if you would be interested in participating in Phase 2 of the study, in which coaches meeting the eligibility criteria will be invited on a first-come first served basis to participate in an individual intervention to develop self-management skills for effectively coping with coaching demands, spanning approximately 13 weeks. The intervention will involve one intervention session conducted in-person, over Skype, or on the phone. In this session, you will complete exercises from a section of a workbook with the facilitator. Following that, you will complete 5 remaining sections of the workbook, containing exercises and a reflective journal, that will be sent to you via email every other week. You will have one week to complete each section either (a) independently (and return the exercises to the facilitator via email) or (b) with the facilitator, over Skype or the phone. As part of the intervention, you will also participate in two individual interviews, where you will discuss your experiences before and after the intervention. If you indicate your interest in participating in Phase 2, the nature of this second phase will be explained to you in greater detail and you will have the opportunity to accept or decline participation if you are contacted.

BENEFITS

By participating in Phase 1 of this study, you will assist us in better understanding how coaches can cope with the demands of their profession and use self-management skills to enhance their well-being. You can make a difference and also personally benefit from participating in this study by gaining insight into your own capacity to self-manage and function optimally in a demanding environment. More specifically, you may benefit from increased awareness of the demands you face as a coach, how you can cope more effectively with these demands, and what could enhance your well-being and self-regulation in light of these demands.

POTENTIAL RISKS

There is minimal risk involved in this study. Some questions in the online questionnaires may be sensitive, but you may refuse to answer them. You are also free to withdraw from this study or withdraw some of your responses at any point without

consequence. Should you feel at any point that additional support would be beneficial or required, an appropriate referral will be made. Please do not hesitate to contact the researchers to address any concerns.

ETHICS & CONFIDENTIALITY

This study has been approved by the Research Ethics Board of the University of Ottawa. Your participation is completely voluntary, and you may withdraw from the study at any time and/or refuse to answer questions without any negative consequence. If you choose to withdraw, you will have the opportunity to also withdraw all data collected related to your participation, in which case it will be destroyed. Your responses will remain anonymous and confidential, and no information that could reveal your identity will be used. Physical data such as printed statistical reports will be kept in the researchers' locked laboratory and locked cabinet. Electronic data will be saved on the researchers' password protected computer. All of the data will be conserved for 5 years after completion of the project, after which it will be destroyed. Please note that should you wish to participate in Phase 2 of the study, no additional security measures will be taken when contacting you through email. As such, these exchanges will be subject to the same security risks that are associated with any communication via e-mail or Skype, and the facilitator cannot guarantee anonymity and confidentiality in the event that emails or Skype calls are intercepted. The data collected through Survey Monkey will be stored in the researcher's account indefinitely, even after the researcher cancels her account subscription, as it is not possible to delete it. However, it is stated in Survey Monkey's privacy policy: "Survey Monkey will not use your data for our own purposes. The data you collect is kept private and confidential. You are the owner of data collected or uploaded into the survey." The information that you share may be used in conference presentations and publications in scientific journals, however, your anonymity is guaranteed at all times. Please note that since the survey is hosted through the American company "Survey Monkey", the data could be subject to the U.S. Patriot Act, which allows American authorities access to it.

Any information requests or complaints about the ethical conduct of the project may be addressed to the Protocol Officer for Ethics in Research, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON, K1N 6N5, tel.: 613-562-5387, email: ethics@uottawa.ca.

Should you have any questions regarding this research project, please do not hesitate to contact the researchers:

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☐ I have read the above information and would like to PARTICIPATE in this study

☐ I do not wish to participate in this study

Note: if you would like to retain a copy of the consent form for your records, please print this page before hitting "Next" and navigating away from this page.

Appendix H: Demographic and Coaching Questionnaire

Demographics

1. Mother tongue

- □ English
- □ French
- □ Other (please specify)

2. Nationality

3. Gender

- □ Male
- □ Female

4. Age

5. Marital status

- □ Single
- □ In a relationship
- □ Married/cohabiting
- □ Separated
- □ Divorced
- □ Widowed

6. Number of dependents, including children

7. Highest level of education completed

- □ High school diploma or equivalent
- □ College diploma
- □ Bachelor's degree
- □ Master's degree
- □ Doctorate degree
- □ Other (please specify)

Coaching

1. Which of the following best describes your present coaching situation?

- □ I coach one sport
- □ I coach more than one sport
- □ I coach one sport but have more than one coaching position (e.g., I coach in two different clubs or with two different teams)

2. What sport(s) do you currently coach?

3. Do you currently coach within a club?

- Yes
- No

4. Are you currently a head-coach?

- Yes
- No

If not, please describe your coaching role(s) below (e.g., assistant coach, goaltending coach).

5. What type of athletes do you currently coach (in each sport or each role separately)? Check all that apply.

- Recreational level athletes
- Scholastic (e.g., middle-school, high-school) athletes
- Athletes who compete at a regional level
- Athletes who compete at a provincial level
- Athletes who compete at a national level
- Athletes who compete at an international level
- Professional athletes
- Other, please specify:

6. Based on the descriptions provided below, please indicate the context(s) in which you currently coach (in each sport or each role separately)?

- Recreational (emphasis on participation and leisure over competition, basic skill development, low intensity and commitment, formal organization bur irregular and local involvement, and athletes are not selected based on skill tryouts)
- Developmental (includes a more formal competitive structure, an increasing commitment from athletes and coaches, a stable relationship between athletes and coaches, and athletes are selected based on skill tryouts)
- Elite (characterized by the highest levels of athletes and coach commitment, intensive preparation and involvement, public performance objectives, highly structured and formalized competition, and very demanding and restrictive athlete selection criteria)

7. What is the age range of the athletes you currently coach (in each sport or in each role separately)? Check all that apply.

- 5-9
- 10-12
- 13-15
- 16-18
- 19-21
- 22 and older

8. Which gender of athletes do you currently coach (in each sport or each role separately)?

- Male
- Female
- Both

9. Thinking about your entire coaching career, how many years of combined coaching experience do you have? E.g., if you coach for 3 years, then didn't coach for 5 years, but began coaching again for 2 years, you would have 5 years of coaching experience.

10. If you have completed any coach education, please indicate below. E.g., National Coaching Certification Program (NCCP) courses such as Making Ethical Decisions, Level 3 Theory.

11. Please indicate which months of the year best correspond to the following (for each sport or each role separately)

- Pre-season start:
- Pre-season end:
- Competitive season start:
- Competitive season end:
- Off-season start:
- Off-season end:

12. Where do you reside (in what city, country)?

- During competitive sport season(s):
- During the off-season:

13. Do you intend to continue coaching next season?

- Yes
- No
- Unsure

14. Is your current coaching position a paid position? (for each sport or each role separately)

- Yes
- No

15. If not, do you receive an honorarium?

- Yes
- No

16. On average, how many hours a week do you devote to coaching during the following (for each sport or each role separately)

- Pre-season:
- Competitive season:

- Off-season:

17. Do you have paid employment outside of coaching?

- ☐ Yes
- ☐ No

18. If yes, what is your occupation outside of coaching?

19. If yes, how many hours a week do you devote to this occupation during the following:

- Pre-season:
- Competitive season:
- Off-season:

20. Before completing the rest of the survey, please indicate whether or not you would be interested in participating in Phase 2 of this research, should you meet the eligibility criteria.

In Phase 2 of this research, coaches meeting the eligibility criteria will be invited on a first-come first served basis to participate in an individual intervention to develop self-management skills to effectively cope with coaching demands, spanning approximately 13 weeks. More specifically, the intervention will involve one intervention session conducted in-person, over Skype, or on the phone. In this session, you will complete exercises from a section of a workbook with the facilitator. Following that, you will complete 5 remaining sections of the workbook, containing exercises and a reflective journal, that will be sent to you via email every other week. You will have one week to complete each section either (a) independently (and return the exercises to the facilitator via email) or (b) with the facilitator, over Skype or the phone. As part of the intervention, you will also participate in two individual interviews, where you will discuss your experiences before and after the intervention.

If you indicate your interest in participating in Part 2, the nature of this second phase will be explained to you in greater detail and you will have the opportunity to accept or decline participation if you are contacted.

- ☐ Yes, I would be interested in participating in Part 2 of this research
- ☐ No, I would not be interested in participating in Part 2 of this research

21. If yes, please provide your full name. NOTE: This information is only for contact purposes if you qualify for, and consent to, Phase 2 of the study. It will be kept strictly confidential.

22. If yes, please provide your email address. NOTE: This information is only for contact purposes if you qualify for, and consent to, Phase 2 of the study. It will be kept strictly confidential.

23. If yes, please indicate if you would be comfortable completing interviews and a face-to-face intervention session in English.

- ☐ Yes
- ☐ No

Appendix I: The Maslach Burnout Inventory-Educator's Survey

(MBI-ES; Maslach et al., 1996)

The statements below describe feelings that coaches may experience. We are interested in how you have felt in general during the last year as a coach. Please read each statement carefully and select the answer that best describes how frequently you feel that way.

0 = Never 1 = A few times a year or less 2 = Once a month or less 3 = A few times a month
4 = Once a week 5 = A few times a week 6 = Every day

1. I feel emotionally drained from my work (coaching).
2. I feel used up at the end of the working day (coaching).
3. I feel fatigued when I get up in the morning and have to face another day on the job (coaching).
4. I can easily understand how my athletes feel about things.
5. I feel I treat some of my athletes as if they were impersonal objects.
6. Working with people all day (coaching) is really a strain for me.
7. I deal very effectively with my athletes' problems.
8. I feel burned out from my job (coaching).
9. I feel I'm positively influencing other people's lives through my work (coaching).
10. I've become more callous toward people since I took this job (coaching).
11. I worry that this job (coaching) is hardening me emotionally.
12. I feel very energetic.
13. I feel frustrated with my job (coaching).
14. I feel I'm working too hard on my job (coaching).
15. I don't really care what happens to some athletes.
16. Working directly with my athletes puts too much stress on me.
17. I can easily create a relaxed atmosphere with my athletes.
18. I feel exhilarated after working closely with my athletes.
19. I have accomplished many worthwhile things in this job (coaching).
20. I feel like I'm at the end of my rope.
21. In my work (coaching), I deal with emotional problems very calmly.
22. I feel my athletes blame me for some of their problems.

Appendix J: The Mental Health Continuum-Short Form

(MHC-SF; Keyes et al., 2008)

During the past month, how often did you feel …

0 = Never 1 = Once or twice 2 = About once a week 3 = About 2 or 3 times a week
4 = Almost every day 5 = Everyday

1. happy
2. interested in life
3. satisfied with life
4. that you had something important to contribute to society
5. that you belonged to a community (like a social group, or your neighborhood)
6. that our society is a good place, or is becoming a better place, for all people
7. that people are basically good
8. that the way our society works makes sense to you
9. that you liked most parts of your personality
10. good at managing the responsibilities of your daily life
11. that you had warm and trusting relationships with others
12. that you had experiences that challenged you to grow and become a better person
13. confident to think or express your own ideas and opinions
14. that your life has a sense of direction or meaning to it

Appendix K: The Short Version of the Self-Regulation Questionnaire

(SSRQ; Carey et al., 2004)

Please answer the following questions by selecting the response that best describes how you are. There are no right or wrong answers. Work quickly and don't think too long about your answers.

1= Strongly Disagree 2 = Disagree 3 = Uncertain Or Unsure 4 = Agree 5= Strongly Agree

1. I usually keep track of my progress toward my goals.
2. I have trouble making up my mind about things.
3. I get easily distracted from my plans.
4. I don't notice the effects of my actions until it's too late.
5. I am able to accomplish goals I set for myself.
6. I put off making decisions.
7. It's hard for me to notice when I've "had enough" (alcohol, food, exercise).
8. If I wanted to change, I am confident that I could do it.
9. When it comes to deciding about a change, I feel overwhelmed by the choices.
10. I have trouble following through with things once I've made up my mind to do something.
11. I don't seem to learn from my mistakes.
12. I can stick to a plan that's working well.
13. I usually only have to make a mistake one time in order to learn from it.
14. I have personal standards, and try to live up to them.
15. As soon as I see a problem or challenge, I start looking for possible solutions.
16. I have a hard time setting goals for myself.
17. I have a lot of willpower.
18. When I'm trying to change something, I pay a lot of attention to how I'm doing.
19. I have trouble making plans to help me reach my goals.
20. I am able to resist temptation.
21. I set goals for myself and keep track of my progress.
22. Most of the time I don't pay attention to what I'm doing.
23. I tend to keep doing the same thing, even when it doesn't work.
24. I can usually find several different possibilities when I want to change something.
25. Once I have a goal, I can usually plan how to reach it.
26. If I make a resolution to change something, I pay a lot of attention to how I'm doing.
27. Often I don't notice what I'm doing until someone calls it to my attention.
28. I usually think before I act.
29. I learn from my mistakes.
30. I know how I want to be.
31. I give up quickly.

Appendix L: The Perceived Stress Scale

(PSS-10; Cohen et al., 1983)

During the past month, how often have you ...

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. been upset because of something that happened unexpectedly?
2. felt that you were unable to control the important things in your life?
3. felt nervous and “stressed”?
4. felt confident about your ability to handle your personal problems?
5. felt that things were going your way?
6. found that you could not cope with all the things that you had to do?
7. been able to control irritations in your life?
8. felt that you were on top of things?
9. been angered because of things that happened that were outside of your control?
10. felt difficulties were piling up so high that you could not overcome them?

Appendix M: Consent Form for Phase 2

uOttawa

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Faculté des sciences
de la santé

Cabinet du doyen

University of Ottawa
Faculty of Health
Sciences

Office of the Dean

☎ 613-562-5432
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451 Smyth (3028)
Ottawa ON K1H 8M5 Canada

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Thank you for your interest in Part 2 of the study, which involves participating in a self-regulation intervention. As a reminder, your participation will involve:

Phase 1 (Pre-intervention)

• 1 interview in-person, over Skype, or on the phone (approximately 60 to 90 minutes in length) with the facilitator

Phase 2 (Self-regulation intervention)

• Participating in 1 intervention session conducted in-person, over Skype, or on the phone (approximately 45-60 minutes in length), scheduled roughly one week after the first interview. In this session, you will complete exercises from a section of a workbook with the facilitator
• Completing 5 remaining sections of the workbook, containing exercises and a reflective journal (approximately 45-60 minutes in length), that will be sent to you via email every other week. You will have one week to complete each section either (a) independently (and return the exercises to the facilitator via email) or (b) with the facilitator, over Skype or the phone. You will receive written feedback on each workbook section from the facilitator, will be sent to you via email before you receive the next workbook section
• Midway through the intervention, you will be offered the opportunity to schedule a phone or Skype session with the facilitator to discuss your experiences up to that point, should you wish

Phase 3 (Post-intervention)
• 1 interview in-person, over Skype, or on the phone (approximately 60 minutes in length) with the facilitator, scheduled roughly two weeks after the completion of the final section of the workbook

You will be invited to read your transcripts from the two interviews and the intervention session(s) in order to verify the information you provided and make any necessary changes. These transcripts will be sent to you as they are transcribed, and you will have two weeks to review each of the transcripts, which should take approximately 15 minutes per transcript.

BENEFITS
Many athletes and coaches have reported benefits from participating in previous self-regulation interventions as it has helped them to increase their self-awareness and reflection and develop strategies in order to improve their performance and well-

being. Since the present study involves completing six sections of a workbook, including one or more during an intervention session with the facilitator, it could provide a valuable learning experience for you.

POTENTIAL RISKS

A potential risk from this study is that you may experience discomfort when reflecting on stressors in your coaching and daily life. However, the information that you choose to share is entirely up to you, and no one will encourage you to discuss or share anything with which you are uncomfortable. If at any point you should you feel that additional support would be beneficial or required, an appropriate referral will be made. You are asked to participate in the intervention for a period of approximately 13 weeks; however, you are free to withdraw from this study at any point without consequence. Please do not hesitate to contact the facilitator at any point in the study, including when completing the workbook sections on your own, should you have any questions or concerns or experience any discomfort.

ETHICS & CONFIDENTIALITY

This study has been approved by the Research Ethics Board of the University of Ottawa. Your participation is completely voluntary, and you may withdraw from the study at any time and/or refuse to answer questions without any negative consequence. If you choose to withdraw, you will have the opportunity to also withdraw all data collected related to your participation, in which case it will be destroyed. The interviews and intervention session(s) will be audio-recorded and scheduled at a time and location convenient for you and the researcher. You will have the opportunity to review your transcripts and make any changes.

The information you will share throughout the study will be kept anonymous and confidential by the researchers, and no information that could reveal your identity will be used. Please note that while email attachments (e.g., the workbook sections and your transcripts) will not contain your name or other identifiable information, no additional security measures will be taken when communicating with you via email. As such, these exchanges will be subject to the same security risks that are associated with any communication via e-mail or Skype, and the facilitator cannot guarantee anonymity and confidentiality in the event that emails or Skype calls are intercepted. Physical data such as printed statistical reports will be kept in the researchers' locked laboratory and locked cabinet. Electronic data will be saved on the researcher's password protected computer. All of the data will be conserved for 5 years after completion of the project, after which it will be destroyed. The data collected through Survey Monkey will be stored in the researcher's account indefinitely, even after the researcher cancels her account subscription, as it is not possible to delete it. However, it is stated in Survey Monkey's privacy policy: "Survey Monkey will not use your data for our own purposes. The data you collect is kept private and confidential. You are the owner of data collected or uploaded into the survey." The information that you share may be used in conference presentations and publications in scientific journals, however, your anonymity is guaranteed at all times. Please note that since the survey is hosted through the American company Survey Monkey, the data could be subject to the U.S. Patriot Act, which allows American authorities access to it.

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If you have any questions regarding this research project, please do not hesitate to contact the researchers:

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Department of Coaching and Psychology, Norwegian School of Sport Sciences, Oslo, Norway

Should you wish to participate, please indicate below:

☐ I have read the above information and would like to PARTICIPATE in this study

☐ I do not wish to participate in this study

Note: if you would like to retain a copy of the consent form for your records, please print this page before hitting "Next" and navigating away from this page.

Appendix N: Intake Interview Guide

1. To begin, would you mind telling me a bit about your coaching - the sport you coach, how long you've been coaching for, and the context of your present situation?

2. What are some the demands that you face as a coach?
    - What about demands you place on yourself?

3. In light of these demands, what sorts of resources would you say you have at your disposal?
    - What about your internal resources, like skills and strengths?

4. When you think about the demands and the resources you have just described, how would you characterize the relationship between them?
        - Would you say that they are balanced?
        - Do your demands ever exceed your resources?

5. What does stress mean to you?

6. Based on this, have you experienced stress in your coaching?
    - What would you say your stress level is like these days?

7. How do you experience stress?
    - What kinds of physiological responses accompany your experience of stress?
    - What about emotional responses?

8. How do you typically cope with stress?
    - Do you have any particular strategies for managing stress?

9. How effective would you say you are at coping with stress?

10. Are you familiar with the term "burnout"? What does burnout mean to you?

11. Based on this, do you think you have experienced burnout before?
    - Can you explain what leads you to say this?

12. How have you been feeling lately?

13. What does burnout feel like?
    - How does burnout feel, emotionally?
    - What about physically?
    - Does it affect your thoughts or actions?

14. Based on this, has burnout had an influence on your coaching?
    - Does it ever impact the way you feel about your athletes or your coaching?
    - What about your sense of effectiveness as a coach?

15. Has burnout had an influence on your health?
    - Can you elaborate?

16. We have been talking a lot about some of these more negative feelings, but let's switch our focus to more positive feelings. What does well-being mean to you?
    - What about feeling happy and positive about life?
    - What about experiencing a sense of purpose or acceptance?
    - What about feeling connected to others or society as a whole?

17. Can you describe a time when you felt your level of well-being was optimal?
    - How does it compare to your current level of well-being?

18. How does your experience of well-being impact your coaching and your daily life?

19. How does feeling stressed or burnt-out influence your well-being?

20. The term self-regulation or self-management – what does that mean to you?
    - You can think of it as the ability to manage or control your thoughts, feelings, and your actions, in order to adapt to the situation you are in.

21. How would you describe your ability to self-regulate/self-manage in your coaching and daily life?
    - What allows you to self-regulate or manage your thoughts, feelings, and behaviours?
    - What about the strategies you might use?

22. Does your ability to self-regulate have an impact on your levels of stress and well-being?
    - If so, how?

23. We're coming to the end of the interview, is there anything you would like to add?

Appendix O: Sample Reflective Journal (Workbook Section 3)

In this journaling exercise, you will be asked to provide responses using a scale. To do so, you can highlight your response or change the colour of the text to indicate your response.

You will also be asked to elaborate by writing out your response in a textbox. The size of the textbox shouldn't deter you from writing as much as you would like! If you prefer, you may use point form, provided that you feel you are capturing your response in sufficient depth.

TODAY'S DATE: _____

Take a moment to reflect on your level of stress and/or burnout (e.g., feeling overwhelmed, unable to manage demands, emotionally drained, cynical, physically exhausted, detached, ineffective).

1. On a scale of 0-100%, how would you rate your level of stress and burnout *today*?

   0 10 20 30 40 50 60 70 80 90 100 stress
   0 10 20 30 40 50 60 70 80 90 100 burnout

2. What has been your experience of stress and/or burnout over these *past two weeks*? Please explain below:

Take a moment to reflect on your well-being (e.g., feeling happy, positive, satisfied with life, connected to others, self-accepting, autonomous, purposeful, competent, motivated).

3. On a scale of 0-100%, how would you rate your level of well-being *today*?

   0 10 20 30 40 50 60 70 80 90 100

4. What has been your experience of well-being over these *past two weeks*? Please explain below:

Take a moment to reflect on your "gold standards" and your capacity to self-regulate (e.g., planning, controlling, adjusting your thoughts, feelings, actions so you can feel the way you want in different situations / areas of your life while attempting to achieve your performance and well-being goals).

5. On a scale of 0-100%, how would you rate your capacity to self-regulate *today*?

   0 10 20 30 40 50 60 70 80 90 100

6. What has been your experience of your gold standards and self-regulation over these *past two weeks*? Please explain below:

Thinking about the goals you set in Section 1, on a scale of 0-100%, how would you rate:

7. Your goal progress over the past two weeks?

   Performance goal: 0 10 20 30 40 50 60 70 80 90 100
   Well-being goal: 0 10 20 30 40 50 60 70 80 90 100

8. Your satisfaction with your progress over the past two weeks?

   Performance goal: 0 10 20 30 40 50 60 70 80 90 100
   Well-being goal: 0 10 20 30 40 50 60 70 80 90 100

Additional comments regarding your goal progress and/or your satisfaction? Do you feel you need to revisit your goal(s) now (e.g., modify them or increase difficulty)? If you have achieved your goal(s), how comfortably and consistently are you achieving them?

Take a moment to think about the *past two weeks*. Consider: what went well, what didn't go as well; what you would like to change or improve; what you can try during the *next two weeks*:

Appendix P: Outtake Interview Guide

1. To begin, would you share your overall experience with this study now that it has come to an end?

2. After participating in this process, how are you feeling now, in general, and about your progress towards your goals and gold standards?
   - For example, sense of satisfaction, happiness, self-acceptance, engagement, motivation?

3. To what extent have you been able to develop skills to help you regulate your thoughts, feelings, and behaviours?
   - What strategies have you put in place to feel, think, and behave the way you want more often?

4. Do you feel that participating in this process improved your ability to self-regulate? (e.g., capacity to control and adapt your thoughts, behaviours, and the way you feel based on your situation/environment and when you face obstacles)?
   - How so?

5. Do you feel that participating in this process had an influence on your level of stress?
   - Can you provide an example?

6. Do you feel that participating in this process had an influence on your feelings of burnout?
   - What about feelings of exhaustion?
   - What about on your attitude toward and relationship with your athletes?
   - What about your sense of accomplishment or effectiveness as a coach?
   - Can you provide examples?

7. Do you feel that participating in this process had an influence on your sense of well-being?
   - What about your sense of happiness and satisfaction with life?
   - From a psychological perspective, what about your sense of purpose or meaning, self-acceptance, personal growth?
   - Did it have an impact on your relationships or connection with others or your social environment?
   - Can you provide examples?

8. Can you share your experience completing the workbooks?
   - How was your experience with the journals?
   - Do you think you will refer back to the workbooks and journals again?

9. Can you speak to your experiences completing the workbooks over Skype as opposed to working independently? OR: You chose to work on the workbooks independently, was there a reason for not seeking additional support?

10. Can you share your thoughts on the timing of the intervention, in terms of your competitive season?

11. What are the biggest lessons that you took away from this process?
    - Do you feel these lessons will help you in your future career as a coach and in your daily life?

12. Do you have any feedback on the study overall, including the workbooks?
    - Was the intervention what you expected?
    - Would you have changed anything about the intervention?

13. Is there anything you would like to add?