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Mindful self-reflection to support sustainable high-performance coaching: A process evaluation of a novel method development in elite sport

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ABSTRACT

High-performance coaches (HPCs) operate in complex and unpredictable environments wherein sustainable performance and well-being are regularly challenged. The purpose of this study was to develop, through an iterative process of data collection, evaluation and action, a brief SMS-based mindful self-reflection intervention to support sustainable high-performance coaching. We present this work through the form of a process evaluation. After an initial pilot intervention, three subsequent phases of development took place with 18 HPCs from athletics and figure skating. In each phase, HPCs completed a daily or weekly brief mindful self-reflection SMS-intervention for 8 weeks prior to taking part in a focus group interview and 6-month or 12-month follow-up. The results of the process evaluation demonstrate exceptionally high fidelity, reach and perceived value of the intervention for the HPCs. The HPCs also perceived the intervention to influence key mechanisms for a sustainable profession such as greater engagement in their well-being (e.g., self-awareness, helpful perspective on vulnerability and self-compassion). Moreover, lasting behavior changes associated with sustainability were reported at 6- and 12-month follow-ups. This process evaluation reflects a rigorously developed and novel procedure for the delivery of a brief mindful self-reflection intervention and appears easy to use by HPCs in their demanding roles.

Lay summary: We present a process evaluation of a mindful self- reflection intervention developed to foster sustainable high-performance coaching. Over four development phases we refine the SMS-based intervention and report exceptionally high fidelity, reach and perceived value among the participants. At 6- and 12-month follow-ups participants reported lasting behavior changes associated with sustainability.

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IMPLICATIONS FOR PRACTICE

- This brief SMS-based mindful self-reflection intervention facilitated healthy perspectives on vulnerability and help-seeking behavior and prompted behavior change aligned with self-compassion and well-being at 6- and 12-months follow-ups. Hence,

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the SMS intervention may provide practitioners with a tool for supporting sustainability among high-performance coaches.
- The process evaluation presented here demonstrated exceptionally high fidelity with the simplicity of the SMS intervention seemingly key to this outcome. Moreover, receiving positive reinforcement throughout the intervention and having opportunities to share their experiences in focus group interviews influenced the participants' perceived value of mindful self-reflection over time.
- This user-friendly intervention offers a mechanism for self and shared understanding in sport organizations and may provide insights for a range of stakeholders regarding the value of new ways of working that promote vulnerability, openness, help-seeking and collaboration.

To achieve sustainable coach performance and well-being it is essential to understand the myriad of complex and unpredictable environmental demands that high-performance coaches (HPCs) face. For example, at the elite level of sport, coaching job tenures tend to be highly precarious and results-dependent, with high competition for typically short-term contracts. More specifically, job-insecurity and risk of job termination are an integral part of this profession (cf. Wagstaff et al., 2016). It follows that elite sport environments pose potential health and performance risks for coaches allied with their work, with scholars striving to understand how to develop and promote a sustainable coaching career (Bentzen et al., 2016; Kenttä, Olusoga, et al., 2020).

Several reviews of coach stress-related literature (see Norris et al., 2017; Olusoga et al., 2019) have highlighted the variety of organizational, performance, contextual, interpersonal, and intrapersonal stressors reported by coaches. Moreover, Thelwell and colleagues (e.g., Thelwell, Wagstaff, Chapman, et al., 2017; Thelwell, Wagstaff, Rayner, et al., 2017) found athletes to be able to detect strain experienced by their coach, and for coach stressors to effect athletes in numerous, often negative, ways and influence the coach–athlete relationship. Additionally, coaches' experiences of burnout have been widely studied across a variety sports and performance levels (e.g., Bentzen et al., 2016; Lundkvist et al., 2012), with this work collectively showing burnout to contribute to turnover intentions among coaches. Such negative consequences are typically associated with "unsustainable coaching" (cf. Larner et al., 2017). In addition to the growing stress and burnout literature, it has also been highlighted that elite sport cultures might negatively influence coaches' willingness to engage in help-seeking behavior or showing any other signs of vulnerability, which in turn, ironically make them more vulnerable to stress and burnout (Hägglund et al., 2019; Olusoga et al., 2019). Hence, it is pivotal to assist coaches to become aware of the demands they face, their responses to these demands, and the potential impact on their own and their athletes' performance and well-being. As such, interventions that raise coaches' self-awareness regarding the demands they face will arguably benefit these individuals and support a sustainable coaching profession.

Despite the advances in stress and burnout research in coaches, there continues to be limited awareness of how psychological support contributes to a *sustainable* coaching career within the high-performance community. One form of support that has received a recent growth in research attention is that of mindfulness, defined by Kabat-Zinn (1994)

as "the awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" (p. 4). Noticing and paying attention to the "inner world" facilitates enhanced self-awareness and greater capability to "be" with painful feelings as they are and—"open up" to the experience of being vulnerable in a non-judgmental manner. Within the sport context, the aim of mindfulness intervention programs has been to enhance performance and well-being (see Mindfulness-Acceptance-Commitment; MAC; Gardner & Moore, 2007; Mindful Sport Performance Enhancement; MPSE; Kaufman et al., 2009). Nevertheless, the vast majority of research using mindfulness-based approaches has been conducted with athlete samples (Noetel et al., 2019), and there remains an opportunity to explore the value of mindful approaches for coach well-being and performance in elite sport.

A fundamental part of any mindfulness program is training in being aware of the present moment, which essentially is noticing, "*What am I experiencing right now?*" This is especially important in the population of coaches since they typically focus their attention on the well-being of their athletes (Thelwell, Wagstaff, Rayner, et al., 2017). An initial examination of the efficacy of mindfulness by Longshore and Sachs (2015) found mindful practice to increase coaches' quality of life and work via decreased anxiety and greater emotional stability. Interestingly, quantitative measures did not show a significant increase in mindfulness scores, but through the qualitative interviews, the data indicated coaches trained in mindfulness to experience increased awareness, an ability to be present, a willingness to accept things as they are, and be able to "respond" rather than "react." Further, Lundqvist et al. (2018) developed an applied mindfulness intervention for stress reduction for leaders prior to the Paralympic Games. The intervention focused on being mindful in different everyday activities over a period of 8 weeks and the effectiveness of the intervention confirmed greater psychological flexibility, less rumination, lower perceived stress, and better sleep quality. Nevertheless, these two studies provide some promising preliminary evidence for the use of mindfulness interventions among coaches.

Researchers (Raedeke & Kenttä, 2013) using self-reflection interventions with HPCs to increase self-awareness has highlighted the need for more rigorous examination of the potential for such work to contribute to sustainability in this population. In addition, self-ratings of mood, energy and vitality are often used to monitor athlete well-being (Kenttä et al., 2006) and in stress research outside of sports (Sonnentag, 2001). Given the perceived value of brief, regular, non-time demanding mindfulness interventions for this population (Lundqvist et al., 2018), and the development of smartphone technology, we aimed to develop an intervention based on a short messaging service (SMS; i.e., text message) task. Therefore, the purpose of this study was to develop a novel method that was theoretically grounded and usable for HPCs in their daily lives. To address this aim, we report a process evaluation of a phase-to-phase development of an 8-week SMS-based brief mindful self-reflection intervention.

Method

Research paradigm and design

We used a process evaluation lens to illuminate the participants' experiences, use, and perceived value of the intervention across a pilot and a three-phase iterative process of

development, evaluation and action. The use of process evaluation is common in organizational psychology and medical research and is typically reported as being the "individual, collective or management perceptions and actions of implementing any intervention and their influence on the overall result of the intervention" (Nytrø et al., 2000, p. 214). Randall et al. (2019) recently argued that sport psychologists might benefit from the use of process evaluation for stress-based intervention research, recommending researchers to report the influence of intervention contexts and content, the intervention design and delivery processes, and potential mechanisms of impact and outcomes. The ontological assumptions of process evaluation align with constructivist and interpretivist paradigms, and the epistemological foundation of process evaluations lies in the rejection of positivist evaluations (e.g., "did the intervention work?") in favor of a stance that acknowledges the socially-complex contextual and interpretivist nature of how interventions influence and are experienced by participants. The iterative nature of such interventions uses the principles of participant and researcher co-production and collaboration as opposed to any universal design to establish a "valid" intervention. Our goal was not to discover universal, context and value-free knowledge and truth, but to try to understand the interpretations about the intervention phenomena they interacted with and iteratively refine the intervention protocol accordingly toward a research-grounded, pragmatic, useful intervention to support sustainable HPC careers.

Participants in Phase 1–3

Eighteen Swedish HPCs (Male = 7, Female = 11; M^{Age} = 50, range = 31–62) participated in a three-phase iterative program of data collection, evaluation and action. The participants in Phase 1 and 2 consisted of nine HPCs from the sport of athletics (A), (Male = 7, Female = 2; M^{Age} = 51, range = 31–62, $SD = 0.8$, average years of coach experience = 26, $SD = 11.6$). The HPCs were employed across three training centers specializing in the development of high-performance athletes. As such, the participants coached athletes competing at a national and international junior level, some of whom were part of the national team. Participants in Phase 3 consisted of a coaching team of nine HPCs from a national Figure Skating Federation (FS) (Female = 9; M^{Age} = 50, range = 33–58, $SD = 8.2$, average years of coaching experience = 26, $SD = 8.1$). In total, the 18 coaches had 475 years of coaching experience.

Procedure

After a pilot intervention, data were collected via SMS-diaries, focus group interviews and written follow-ups over three phases of development.

The SMS-diary; content and protocol

We developed a daily SMS-diary protocol that contained three questions and instructions for sending to participants at 9 p.m. in order to capture a full day and create a standardized routine for mindful self-reflections. The person managing the SMS-diary and leading the intervention process (first author) will be referred to hereafter as the "coordinator." The SMS had the following content:

Good evening! How was your day?

1. How have you experienced your mood today? (rate on a scale 1–10)
2. How have you experienced your energy level today? (rate on a scale 1–10)
   If you wish, please include a short reflection on the day.
3. Briefly describe your highlight of today.

Warm regards, (name of the coordinator)

The third question was similar to one practice used in Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990; i.e., "be aware and write down one pleasant event a day"). Further, the incorporation of highlights was an attempt to foster gratitude training, i.e. noticing and appreciating the positive aspects in life (see Wood et al., 2010). Research interventions outside the context of sport using gratitude diaries have reported enhanced subjective well-being (Emmons & McCullough, 2003) and further, the broader literature has shown gratitude to relate to a wide variety of forms of well-being (Wood et al., 2010). Within sport, practicing gratitude may promote well-being in athletes, with researchers demonstrating negative correlations with athlete burnout and positive correlations with sport satisfaction (see Gabana et al., 2019).

Depending on the intervention phase, the participants received the standardized SMS prompt at daily or weekly intervals. The coordinator replied to participants with *"thank you for your reply"* and a positive emoji that changed from day-to-day. In instances when participants did not respond, one reminder SMS was sent between noon and 1 p.m. the following day, which stated, "*Hello! Missing your reflection from yesterday. It would be great if you could send it."* In all three phases, following each intervention week, on Monday, the HPCs received an e-mail from the coordinator containing a graph presenting their ratings of energy and mood over the previous week and a summary of their highlights entitled "the things you valued in your life this week". In addition to this summary, a question was included to facilitate further reflection regarding their experience of the week to which the HPCs could respond if they wished. The e-mail always expressed gratitude to the HPCs as well as some brief positive reinforcement and always ended with a *"Looking forward to the upcoming week."* After the SMS-diary was completed, the HPCs received a summary of the 8-week period with a graph with levels of mood and energy, a brief capture of the re-current themes of highlights and individualized consideration to stimulate further reflection.

Focus group interview

The first and second author conducted the focus group interviews with the aim of exploring the HPCs' perceptions and experiences of the SMS-diary intervention. The focus group approach was suitable given the aim was to purposively sample a homogenous, previously acquainted group of 3–12 individuals to understand how they think and talk about a particular topic (Krueger & Casey, 2000). Hurworth's (1996) triangular structure for questioning was used, moving from broad opening questions (e.g., "What was your experience of the value of the SMS-diary?"), transition questions (e.g., "To what extent has the mindful self-reflections affected you?"), and key questions (e.g., "To what extent has it led to any changes in your life?").

Written follow-up

The rationale for the follow-ups was to understand the longitudinal experience and impact on sustainable high-performance coaching. As the research team was cognizant that the participants might not wish to express negative feedback and experiences face-to-face with the researchers, an opportunity for a written follow-up to collect the data was provided. Two questions were presented to participants during a scheduled meeting with the HPCs: "Have there been any consequences of participating in the SMS-diary?", and; "What is your view on the value of the SMS-diary if you look back on the work we did?".

Pilot intervention (A; N = 11): 5 days of SMS-diary

A team of 11 national coaches present at the 2016 European Championship volunteered their consent to complete a daily SMS-intervention over 5 consecutive competition days during the championship that yielded an 89% response rate, which provided a high enough fidelity and reach to be of interest to both the sport and researchers to further explore. HPCs are not commonly engaged in longitudinal research interventions with longitudinal follow-ups, hence being difficult to access. Thus, when given the opportunity to trial the intervention with a European championship being imminent and then be able to continue the work post-championship into Phase 1 and 2, this deemed a convenient sample.

Phase 1 (A-HPC; N = 9): 8 weeks of daily SMS-diary and a post focus group interview

Using the delivery length of the existing program MBSR (Kabat-Zinn, 1990) as guide, we initially trialed the SMS-diary on a daily basis for 8 consecutive weeks. Prior to the start of the SMS-intervention, the first and second author delivered a lecture to introduce the principles of mindful self-reflection and self-awareness and explain the associated benefits to a sustainable HPC career. Following the lecture, there were additional opportunities for participants to ask questions to facilitate their understanding of the process. The HPCs also received a 90-s video clip where the second author briefly explained the daily SMS-intervention including the ratings of energy and mood, and how to report their highlight of the day (see Table 1).

The focus group interviews took place in two groups in the month after the SMS-intervention ended. In line with our purpose process evaluation criteria, there were three topics of focus: (1) the perceived value of the SMS-diary; (2) the meaning of self-awareness, and; (3) the influence of the SMS-diary on the HPC's performance as a coach. The first focus group interview lasted 79 min and the focus group interview with the second group lasted 69 min.

Table 1. Phase 1 timeline.

Activity	Information via e-mail	Introduction seminar	Information video about SMS-diary	No data-collection	*Daily SMS-diary*	Focus group interview
Month	1 (Sept)	2 (Oct)	3 (Nov)	4 (Dec)	5–6 (Jan-Feb)	7 (Mar)

Different group of athletics HPCs from the pilot.
Data collection process with athletics.

Table 2. Phase 2 timeline.

Activity	*Weekly SMS-diary*	No data-collection	Focus group interview	No data-collection	Written follow-up*
Month	1–2 (Apr–May)	3–5 (Jun–Aug)	6 (Sep)	7–11 (Oct–Feb)	12 (Mar)

Data collection process with athletics (same coaches as in Phase 1).
*Follow-up covering both Phase 1 and 2.

Phase 2 (A-HPC; N = 9): 8 weeks of weekly SMS-diary, a post focus group interview, and 6- and 12-month written follow up

Starting 1 month after the completion of the daily SMS-diary, a *weekly* SMS-diary intervention began with the same nine HPCs from Phase 1. The HPCs received information about the intervention via e-mail. The HPCs received the SMS at 9 p.m. each Sunday and on each Monday an SMS reply summarizing the participant's reflections on the preceding 7-days. The focus group interviews took place in two sessions (see Table 2). In light of the observations in the previous phase and to further understand the HPCs' experiences and perceptions of the SMS-diary, three topics of focus were targeted: (1) The value of daily vs weekly SMS-diary; (2) To what extent did they experience their performance differently following the SMS-diary intervention, and; (3) Exploring their views on vulnerability. To augment this final topic of discussion, all HPCs sent an SMS with their own personal definition of vulnerability to the coordinator prior to the second session of the focus group interview. The first session lasted 84 min and the second session lasted 63 min. Further, the written follow-up after Phase 2 covered both Phase 1 and 2 and took place 6 months after the intervention ended in Phase 2, which was 12 months after the intervention ended in Phase 1.

Phase 3 (FS-HPC; N = 9): 8 weeks of daily SMS-diary, a post focus group interview, and 6-month written follow-up

Following a lecture by the second author on mindful self-reflection, self-awareness, and the role they may have in facilitating a sustainable HPC career as in Phase 1, the nine figure skating HPCs engaged in the SMS-diary intervention for 8 weeks. The focus group interviews took place in two groups in the month after the SMS-diary ended (see Table 3). Data gathered from the previous phases enabled four topics for discussion with the HPCs. These were: (1) The perceived value of the SMS-diary; (2) Is there any value in reflecting on and acknowledging everyday highlights?; (3) Recovery strategies and balance in life, and; (4) To what extent do you experience your performance differently following the diary intervention and has it led to any changes for you? The first focus group interview lasted 55 min and the focus group interview with the second group lasted 64 min. Finally, all HPCs sent an SMS with their own personal definition of vulnerability to the coordinator. The written follow-up took place 6 months after the intervention ended.

Components of the process evaluation

Data collection took place through an interactive and iterative process across each phase of development serving both formative and summative purposes (Saunders et al., 2005). The formative purpose of the process evaluation involved the continuous use of feedback from the participants where program adjustment took place between the different

Table 3. Phase 3 timeline.

Activity	Information via e-mail & seminar	Information video about SMS-diary	*Daily SMS-diary*	Focus group interview	No data-collection	Written follow-up
Month	1 (Oct)	1 (Oct)	2–3 (mid Oct–mid Dec)	4 (Jan)	5–6 (Feb–Apr)	7 (May)

Data collection process with figure skating.

phases. The authors monitored participants' engagement, behaviors and attitudes toward the SMS-intervention and involved all participants in feedback and reflection opportunities. The summative purpose was to understand the appropriateness of the implementation process, to provide guidance for future research interventions, and to evaluate short- and long-term effects. Using the framework of Saunders et al. (2005), the five components (viz. fidelity, reach, dose-delivered, dose-received, context) were included in the present process evaluation. *Fidelity* is the extent to which implementation of the intervention took place as planned with participants briefly pausing for mindful self-reflections over the 8-week period. We measured the engagement by the response rate of the SMS-answers. *Reach* is the proportion of the intended HPCs that participated in the SMS-diary, focus groups interviews and written follow-ups. *Dose-delivered* in this study refers to the total number of planned outgoing SMSs (reflection questions and positive reinforcements), weekly summaries including positive reinforcement, focus groups interviews and written follow-ups delivered by the research team. *Dose-received* encapsulates (1) "exposure", that is, to which extent the participants engaged and the impact of the SMS-prompted mindful self-reflection, in the short—and long-term; and (2) "satisfaction" characterized here by the perceived value and attitudes of the HPCs in relation to the SMS-diary and focus group interviews. We used data from the focus groups interviews and follow-ups to describe the participants' experience and impact of the intervention. *Context* in this study relates to factors in the environment that may facilitate or hinder the implementation and study outcomes of the SMS-diary. The focus group data were used to describe the context. Each of these aspects of the implementation was documented giving the research team the possibility to evaluate to what extent the implementation was successful and further, to assess if the intervention had, if any, impact on the participants.

Data analysis

The first step was for the focus group data to be transcribed verbatim by the first author. The data were then analyzed using the codebook approach (see Braun et al., 2018). We used a codebook approach due to the research aims and the need to explore themes relating to our pre-defined process evaluation assessment criteria (see Randall et al., 2019). That is, the coded data were developed into potential themes and informed our evaluation of: participants' experience and perceived value of the SMS-diary; short- and long-term impacts; our implementation of the intervention (viz. fidelity, reach, dose-received and dose-delivered) and barriers and facilitators for participation (context) in the intervention. At this point, the first author selected quotations from the data with the formative themes and quotations were then reviewed by the full research

team. To protect anonymity, pseudonyms were assigned to each participant and are used in the presentation of the results. Requests for data should be sent to the corresponding author.

Results

Within this section, and in line with the aims of this process evaluation, we present the results of the three intervention phases in terms of fidelity, reach, dose-delivered, dose-received and context.

Phase 1

In Phase 1, data collection took place in the middle of the indoor-season, meaning daily trainings and traveling for training camps and competitions for the HPCs. At this stage, the focus was mainly to investigate the high fidelity, and two factors were identified in the analysis of the focus group interviews: the design of the SMS-diary (context) and the perceived value (dose-received) of the intervention for the HPCs.

The design of the intervention as a factor for the high fidelity and reach

The first noteworthy observation from this process was the exceptionally high level of participant fidelity (see Table 4). Several aspects of the design were reported as contributing factors for the high response rate. First, the use of SMS-diary was user-friendly and easy to engage with, as expressed by Kim, "I thought that the format was good. That it was an SMS. It suits me […] simplicity is important, otherwise it becomes a burden; but I never felt that this was a burden in any way."

Table 4. Process evaluation outcomes.

Process evaluation components	Phase 1	Phase 2	Phase 3
Daily SMSs sent out by the coordinator **(dose-delivered)**	504 *(100%)*		504 *(100%)*
Daily responses with ratings of energy and mood **(fidelity and reach)**	504 *(100%)*		494 *(98%)*
Daily responses with highlights **(fidelity and reach)***	465 *(92%)*		418 *(83%)*
Daily positive reinforcements sent out by the coordinator **(dose-delivered)**	504 *(100%)*		494 *(98%)*
Weekly SMSs sent out by the coordinator **(dose-delivered)**		72 *(100%)*	
Weekly responses with ratings of energy and mood **(fidelity and reach)**		72 *(100%)*	
Weekly responses with highlights **(fidelity and reach)**		72 *(100%)*	
Weekly summaries including positive reinforcement sent out by the coordinator **(dose-delivered)**	72 *(100%)*	72 *(100%)*	72 *(100%)*
Focus group interviews – planned **(dose-delivered)**	$n = 4$, $n = 5$	$n = 9$	$n = 4$, $n = 5$
Focus group interviews – participation **(reach)**	$n = 4$, $n = 5$	$n = 8$**	$n = 4$, $n = 4$***
Written follow-up – planned **(dose-delivered)**		$n = 9$	$n = 9$
Written follow-up – participation **(reach)**		$n = 9$	$n = 7$****

*There were days when the HPCs rated energy and mood but did not report a highlight.
**One HPC absent due to illness.
***One HPC absent due to training commitments.
****Five of the nine HPCs attended the follow-up meeting, two of the missing HPC sent their answers via e-mail afterwards and two did not reply despite two invitations.

One part of the intervention design reported to enhance self-awareness was the expression of one's thoughts in written form. In the focus group interview, Jordan noted:

> What was interesting was that it made me put it into words. If you are forced to write down and describe some form of feeling or highlight, not just experience the thought or feeling. I then realized that I was reflecting at a deeper level. What was a challenge, was writing something that was genuinely meaningful.

The brevity of the mindful self-reflection appeared to be valuable. This together with a prompt response every night (i.e., an "emoji" and "thank you") and the weekly feedback from the coordinator was driving the fidelity. More specifically, this can be regarded as a positive reinforcement of a specific behavior (i.e., the HPCs' self-reflection and SMS response), facilitating the ongoing fidelity to the intervention. Nico reflected, "Had we never gotten feedback then it becomes like everything else, it falls through the cracks. But now, not that you feel forced in any way, it becomes a bit joyful". Ezra added, "… to strengthen what Nico said about the contact with you [the coordinator], it made it [the intervention] more meaningful. That you had a friend out there, who saw you and cared for you".

The perceived value of the intervention and context as a factor for dose-received

Participants experienced the value of the SMS-diary to increase over the course of the intervention period. This experience was reported despite several HPCs expressing some initial resistance, with them noting "I thought it was cheesy" or "I thought it was about the researchers' need for data". Yet, following the 8-week period, the SMS-diary was perceived positively, as evidenced in the following quotation from Blake:

> … Initially, [I felt] very skeptical; saw it as a burden. I didn't think it would be interesting to know anything about this at all … but now, for each week that passed I can say I appreciated it more and more, in that I sat down for those 2 minutes or whatever it took and thought a bit […] So it became better and better and I ended up very positive.

Further, the SMS-diary created an opportunity for the HPCs to self-reflect and increase self-awareness on the demands they faced, as expressed by Nico:

> The best part of this, is that I had to consider every day: How has my mood been? Energy level? And what was my highlight? And that has enabled me to reflect in a way I haven't done before.

The experience of engaging in the SMS-diary and then sharing the experience with others in the focus group interview added another valuable dimension via an increased awareness of each other's vulnerability. Nico shared some thoughts in relation to the HPC role:

> You have to be able to open up and stand for what you have done and many people are scared of uncomfortable questions: "Why did you that? That is not established … it is not part of the literature … you are not supposed to do that". It is important to open up, dare to admit and accept "I'm not the biggest and the best, nor am I the one that is [low] down there. I am who I am."

On the same note, participants highlighted the importance of engaging in self-reflection on their leadership and as well as the impact of this on their athletes. This very point was raised by Mika who stated the following:

> I thought about what [Coach X] said. I don't talk about how I am doing and maybe I should. They [athletes] are supposed to be able to talk to me about other stuff going on in life [personal challenges] so maybe it is important that I show some openness at times [self-ironic laugh].

Phase 1 summary

The overarching observations from Phase 1 of the process evaluation related specifically to the facilitators of the high fidelity, reach and dose-received, which showed the SMS-diary to be user-friendly. Additionally, the length of intervention, process of reflecting, and being asked to verbalize it by writing were perceived as having value for sustainability by HPCs. Moreover, during the focus group interviews participants somewhat unexpectedly addressed how it is important to be self-aware of and have the capacity to show vulnerability in order to sustain an HPC career.

Even though participants expressed an initial resistance, they reported to miss the mindful self-reflections of the SMS-diary after the intervention was completed. Kim summarized the words of several of the HPCs regarding their unexpected attachment to the intervention, stating, "spontaneously, I feel sad that this is going to end. It has started a process and it has been fantastic to do this." Such reports proved noteworthy and encouraged the research team to persist with further examination of the intervention. For the design of the next phase, the research team integrated the observations from Phase 1 by retaining the design of the SMS-diary and focus group. Furthermore, given the high work demands of HPCs, we observed that Lundqvist et al. (2018) had suggested that mindfulness training conducted at a low dosage might be useful for HPCs. Therefore, the research team sought to understand the extent of a "dose-response" experience in this context by attempting to reach the same positive results but in a more time-efficient way (i.e., reduced dose-delivered). Hence, in Phase 2, the SMS-diary took place weekly rather than daily.

Phase 2

During Phase 2, the high fidelity and reach continued over the 8-week period that also covered the transition to the outdoor season. As in Phase 1, HPCs were involved in everyday training, competition and camps. The main focus group discussion for this modality of the process focused primarily on the HPCs' experiences and perceptions of dose-delivered (i.e. daily versus weekly SMS) and dose-received describing, if any, impact of the interventions in Phase 1 and 2.

Perceptions of dose-delivered and effects on dose-received

Analysis of the focus group data clearly indicated that the HPCs appreciated and gained more from the daily compared to the weekly SMS-diary. It was noteworthy that, despite the same high fidelity and reach, the dose-received was qualitatively quite different in

Phase 2 with a lower dose-delivered, which is an important finding making the focus group interview a vital tool to illuminate and uncover facilitators for an effective intervention. Sasha concluded her reflections on the weekly dose by stating, "It was much easier with the daily, you were aware every night at nine. You waited for the signal." The HPCs also expressed that the daily SMS-diary was more beneficial for prompting reflection on things one might be grateful for, with Ezra stating:

> [Considering] "what takes energy and what gives energy"; That was very important to me. The prompt to consider the daý s highlight was helpful for finding, and useful for putting a positive focus on things; and when you do that every day, you get daily training to see the positive, even in the small things.

Perceived short-term impact of the interventions in Phase 1 and 2

The HPCs spoke in several ways of improved self-awareness. In the following quotation, Jordan noted that reflecting every day was an important component of the intervention:

> … the value of this is sitting down to think and reflect. I think that we all experienced that. Hell, at least I thought about myself today for 1 minute, what I did and what was good and bad … thanks to the reminder.

Altogether, the daily and the weekly SMS-diary provided benefits for participants in reporting increased self-awareness as a result of fostering mental flexibility and reduction of internal conflict with expressions such as "take perspective of other," "true to myself and my coach values" presented. As Nico suggested, it was also beneficial for navigating personal demands:

> I'm really convinced that if the challenges that I manage today would have happened before I wouldn't have been able to handle them. Now I've been able to work through them, thanks to this project. To think them through, reflect, go through what has been good and bad and focus on what is important and try to let go of what I can't influence.

It would appear that the process of mindful self-reflection and increased self-awareness paved way for the HPCs to reflect more actively on their personal life demands. Jordan described this process:

> The daily reflection has made me think about what gives me energy and what takes energy, and henceforth, I can try to clear out the bullshit things I shouldn't put energy into and instead focus on what is important.

Moreover, paying attention to our "inner voice" and how it affects us may be of importance to well-being, and several of the HPCs expressed becoming more aware of their "inner voice". A useful example of this came from Lee:

> What is most clear is that before when I did stuff, I had two inner voices, like "this is good for me" and at the same time "I should work instead". […] You get so damn aware of it. That was a thing for me, that it was a hell of a difference.

A further interesting outcome of the analysis, strengthening the finds in Phase 1, related to the sharing of stories within the coaching team at the focus group interview, associated to vulnerability resulted in fostering cohesion. Jordan noted:

> We delved a few layers deeper than ever before in our regular meetings. When we open up we think and feel and at the same time become very vulnerable in that situation. Due to an invisible contract we have, we allowed ourselves to be open, vulnerable and delve deeper.

Further to the findings that the intervention also promoted a broader acceptance of vulnerability within the group, it was shown that the previous focus group interview discussions had also enhanced broader self-awareness of vulnerability by sayings such as "I give myself too little recovery" and "Self-reflection is hard". Mika added to these sentiments and described how, due to change he had made thanks to the interventions, for the first time as a coach, he asked for help: "I asked for help during the spring. That was a different thing. I don't think I've ever done that. Not like that … I asked for help when it felt like I didn't have any strength left."

Written follow-up: long-term impact of the interventions in Phase 1 and 2

The written follow-up took place 12 months after Phase 1, and 6 months after Phase 2 with the focus of interest here being the capability to retain behaviors or perceived impact. The overriding evaluation of the interventions was positive with an added benefit being the perceived enhanced sustainability and well-being in high-performance coaching. Blake reflected on the long-term value of the SMS-diary:

> In situations where decisions are to be made, I always weigh the necessity versus sustainability. My own exercise routines are better – more regular – than before. It was a relatively small intervention that has given me a lot of positive thoughts and a shared learning experience when meeting for the focus group interviews.

Furthermore, participants reported a process of change in their lives and relationships toward more sustainable forms of behavior by applying what they had learned from the SMS-diary. Sasha stated:

> I always have sustainable coaching in the back of my mind, and I remind others about it. I've taken action and do things that make me feel good and spend more time looking after myself. While sometimes I forget, I work out more myself, I ask more about how others are doing. The opportunity to be a part of this intervention has been highly valuable to me, thank you! I now take a moment each night and think about what I have done during the day and how I went about it. I *allow* myself to sit down for a while and think.

On the same note of implementing components of the SMS-diary in their everyday life, Mika expressed the following showing the long-term impact of the intervention:

> Every day, I now make sure to take a moment to show appreciation to someone or something. It could be, that a big mistake was made in training but given we actually learned something from it, that makes it an *extraordinary* highlight. I was skeptical at the beginning and thought it was corny; I didn't think the value [of the SMS-diary] would become so visible, but the value grew and was big when I took it seriously and tried to go deeper. To think and reflect before you speak is lacking today.

Phase 2 summary

Following the analysis of the focus group interview, it was evident that the weekly SMS-diary had less value for the HPCs compared to the daily dose. Within Phase 2, the

research team also witnessed that the focus group interview process in Phase 1 and 2 serendipitously formed a vital part of the intervention by creating supplemental value beyond the SMS-process adding to the dose-received among the HPCs. As such, the analysis of data from this phase, as in the previous phase, was interpreted to indicate that there was a link between the focus groups and participants reporting having the courage to show vulnerability and also acknowledging a strength perspective on vulnerability. In the focus group, participants expressed the benefits of sharing in the group and there were also intra-individual core processes stemming from mindful self-reflection promoting actions for sustainability due to increased self-awareness. Moreover, the SMS-diary, and in particular the daily version, created momentum for engaging in ongoing reflection and participants suggested the momentum as being instrumental in leading them to make changes to thinking patterns and behavior that were associated with sustainability in the HPC profession. Perhaps of most importance was that the reported changes were still in place at the 12-month follow-up. During the follow-up, the HPCs also reported attempting to implement changes in their sport environment by sharing the behavior changes with others. This very finding reinforces the value and impact of this intervention.

Although, on reflection, there is a difficulty in being able to distinguish between the effects of the daily versus weekly SMS-diary, it is worth highlighting that the same HPCs participated in Phase 1 and 2. In doing so, this included an 8-week SMS-diary intervention and a focus group interview at two consecutive time points covering an extensive time period. Hence, in light of the data analysis, Phase 3 saw a return to the daily SMS-diary with a new sample from a different sport to further test and evaluate the SMS-diary prior to a focus group interview and its potential impact.

Phase 3

In Phase 3, a sample were recruited from an esthetic sport, figure skating, and the HPCs were all female which have recently been shown to face unique challenges in terms of working in a stereotypical male culture and maintaining work-life balance (Kenttä, Bentzen, et al., 2020). Further, the intervention was intentionally undertaken during the most demanding coaching period during the 4-year Olympic cycle; the National Championship and the qualification period for the Olympic Games but despite this demanding context, fidelity and reach remained high. The results that follow reflect the value of the SMS-diary, as well as short- and long-term impact (dose-received).

Perceived value of the SMS-diary

As reported in Phase 1, the daily SMS-diary provided more value over time, hence the intervention length and frequency may be plausible facilitators in this context. This was illustrated in a quotation from Gwen:

> [The intervention] has been good. I started to like, find myself. I work a lot, I don't think about little details. I don't have any other life than my job, so to say. And then every night came the same questions. At first, I didn't think much, I perhaps just did… then somewhere I started to stop and really think, "how *has* my day been? What *has* my energy

> and mood been? My highlight?" I really started to wonder about myself. I think that it has been really good to get more balance.

The process of reflecting every day created self-awareness regarding vulnerability and sustainability within the personal life context of HPCs also in this phase. Further, as reported in Phase 1, the participants noted that writing about the challenges they faced influenced their performance as expressed by Maria:

> After writing each SMS I then thought how to handle the next day. That is, if I noticed something didn't work, what should I do tomorrow? I miss the prompt to reflect and write. I have become more aware of what I really want, why I keep on doing things I don't want to do [in coaching], and how I can fit in what I want to do … and the key question, "how to survive in this profession?"

Across all intervention phases, a consistent observation was the value placed by the HPCs on reflecting on highlights. It appears that the process of noticing the positives and developing gratitude, promoting value and meaning not only for the HPC's sporting self, but also to their whole self. The suggestion that the intervention contributed to change was described by Rika:

> I've learned so much from this. Initially I found it really hard to find highlights; I talked to one of my friends and told her I was doing this diary, but couldn't find highlights every day. I realized I was only thinking about figure skating and it was my friend who made me start to think like "it is nice weather today," and then I finally got it.

Short-term impact post the SMS-diary

In addition to previously reported changes in HPCs' lives, several HPCs stated that they were now more mindful, as expressed by Svetlana, "I try to be a bit more 'here and now'. In the present moment." Further, they reported to be more able to intentionally "switch off" and detach from work, as illustrated by Marisha regarding taking time off for self-care:

> I have a person I work with and we cover for each other. For example, I told her on Friday "you don't have to come to the morning training, I can take it, because you're going to work your ass off in the next couple of days and you covered my vacation last week" … and it works the other way around, she can say that to me.

Taking time off from work was perceived by HPCs as being positive for both performance and sustainability. However, committing to self-care and daily mindful self-reflection can be challenging especially during stressful and demanding periods with high workload. This was reflected by Gwen, "I mean, it's so important to me to have a secure job. I love my job as a coach, I love my skaters, but I am under so much pressure, such pressure, all the time." However, the perceived value of the SMS-diary paved the way for continued high engagement despite the demands being faced by the HPCs. In fact, with references to "me-time," and "I know someone knows how I'm doing," as well as the satisfaction of the daily reflection that helped the HPCs to distinguish energy and mood, as Annika noted:

> It has been very noticeable that my energy has been low. On top of that, my kids have had some illnesses and bad nights. So, my energy has been very, very low. Yet, at the same time, because of this [intervention] I've tried to still be in a good mood. I might not have

> done that otherwise; my mood would have followed my energy … I now plan my days so I can manage my energy so my mood can be good.

Written follow-up: long-term impact of the intervention

At the 6-month follow-up for Phase 3, several of the HPCs wrote that the SMS-diary had made a positive impact in their lives, as noted by Rika:

> I think the SMS-diary has given me a lot, mainly positive things. The effect has been good. I think differently than before, which has made me happier. I've also completed the diary with a friend [outside of this study] to keep thinking differently in everyday life. Figure skating isn't everything, my well-being is also important and I look after myself.

The following quotation from Laura refers to the potential link between mindful self-reflections during the SMS-diary and less rumination as an outcome of the intervention:

> It [the intervention] has helped me to feel good by reflecting every day about what makes me feel good. To let the positive shine through (even if it is a small thing) instead of ruminating about what I could have done or what feels hard.

The HPCs expressed that they were able to "see beyond" their daily work and be more aware of everyday experiences. As suggested in the following quotation from Marisha, this awareness was central to what many HPCs perceived as essential in life to promote sustainability:

> I reflect more about what is important in life. I often do smileys when I experience something that is good (like a highlight). I think more about my energy level, if it goes down I consciously try to change it. I think what we did was really good. I realized I had to evaluate myself both workwise and life outside of work.

A majority of participants addressed the challenge of separating professional and personal life in the world of high-performance sports. This topic seemed to be another contribution to sustainability and well-being stemming from the SMS-diary captured by Sarah's reflections:

> I read more about mindset. I do relaxing exercises. I have continued to reflect on daily highlights for myself, sometimes with my husband. I am more positive than I was before to life itself. Its [the intervention's] highest value is that I've changed my self-perception to not only pay attention to my work accomplishments.

Phase 3 summary

As in the first phase, and with a different HPC sample, the research team noted similar observations to the SMS-diary, with the initial skepticism about the intervention replaced by perceptions of value increasing with prolonged engagement. The high fidelity, reach, and dose-received was remarkable given the highly demanding competition period and tournament context for the HPCs. As shown in the previous phases, the daily mindful self-reflection was perceived to influence behavior changes associated with the promotion of long-term well-being and sustainability reported in the follow-ups.

As alluded to above, the intervention fidelity, reach, and dose-received were exceptionally high in all phases. Subsequent focus group interviews confirmed how the HPCs enhanced their self-awareness over the 8-week intervention period to the context of

their personal lives. The key to fidelity and reach is arguably the simplicity of the intervention, in terms of frequency (daily), accessibility (mobile phone), intervention length (8 weeks), the positive reinforcement on a daily and weekly basis (dose-delivered), and the perceived value beyond sport context for the participants (dose-received). The prompt to report a highlight appeared to have a positive impact on the HPCs and could underpin the perceived increase in well-being. Further, the focus group interviews extended these benefits by providing a forum for sharing experiences, a serendipitous observation which, on reflection, the authors considered to be a vital part of the method.

Discussion

This study presents a process evaluation of a novel method with high fidelity and impact at 6- and 12-month follow-ups that may be applicable to support sustainable high-performance coaching. More specifically, the current study is based on a brief mindful self-reflection intervention with exceptionally high fidelity and reach with a perceived value associated with well-being and sustainability across multiple elite sport contexts. Importantly, these data offer a fruitful response to calls for research on how the coach profession may become more sustainable (see Rynne & Mallett, 2014) as well as those for intervention studies to examine coach well-being and self-care strategies (see Cropley et al., 2020).

A frequently reported barrier to the practice of reflection in the context of sport is perceived lack of spare time (Huntley et al., 2019) and the perceived limited capacity to devote "cognitive resources" for this type of internal learning (Rynne & Mallett, 2014). Hence, major strengths of this study are not limited to the rigorous four-phase process evaluation we have reported, but the indicators of high fidelity and utility reported by participants demonstrating that daily reflection tasks are possible to implement. Allied to limited time being regularly noted as an obstacle to meaningful interventions within HPC contexts, another barrier relates to high workloads and strain which accumulate over the course of the competitive season and limit both recovery and prioritizing time for self-care (Altfeld et al., 2015; Bentzen et al., 2016). Despite the participants in this study also noting the experience of strain they consistently engaged with the SMS-diary with between 98% and 100% fidelity across each of the phases. It is important to note that this adherence was consistent regardless of the time in the season or travel or competition demands. These observations were beyond what we as a research team had expected and unique in this context where longitudinal research is sparse due to the typical challenge to access HPC context and participant retention. Nevertheless, the participant engagement was exceptionally high and the majority of the HPCs also participated in the focus groups and the written follow-ups. Key to this outcome was the simplicity of the SMS-diary and its user-friendly design. As such, when undertaking replication or evaluation studies of the intervention, we recommend researchers begin with a small group of coaches (i.e., between 6 and 9) in order to allow the coordinator of the SMS-diary to provide timely responses every night and manage the production of weekly individual summary feedback (dose-delivered). We view this timely response and summary feedback as pertinent to the high fidelity, reach and dose-received in the

present work. Moreover, given the fidelity held for the same participants in Phase 1 and 2, these data can be interpreted as demonstrating fidelity over at least two cycles (i.e., 8 + 8-weeks of SMS-diary, each cycle followed by a focus group) in a high-performance setting which in turn may also better promote sustainable behavior change.

The results of this process evaluation also offer evidence of the rigor of how we, the researchers, engaged with the implementation of the study, by demonstrating promising dose-received indicators via participant feedback, which allowed us to adjust and develop the intervention from phase-to-phase. Further indicators of robust implementation of the process evaluation are provided by the dose-received data for which we have included data on the exposure to and the short (i.e., focus group), and long-term (i.e., 6- and 12-months) impact of the intervention. While sustainable high-performance coaching will depend on numerous complex factors, the results of this study shed light on the importance of mindful self-reflections to increase self-awareness and support self-care and well-being over time (cf. Longshore & Sachs, 2015). These observations are also comparable to reflective practice interventions highlighting benefits for self-care and well-being in practitioners in sports (Huntley et al., 2019). Further, the value of written reflections (i.e., "highlights") conveyed by the participants in this study is in line with findings in non-sport populations, where brief, daily writing on health has been associated with fewer health complaints (e.g., Burton & King, 2008) as well as keeping gratitude diaries promoting well-being (Emmons & McCullough, 2003). Specifically, it would appear that the intervention facilitated the development of well-being and sustainability for HPCs, with those who experience a higher level of well-being noting a positive "spill-over" effect on their athletes due to them being more "open" and better able to facilitate a supportive learning, development, and performance environment (cf. Stebbings et al., 2012). Our findings support previous research demonstrating the need for coaches to self-reflect and become aware of the impact they have on athletes (Thelwell, Wagstaff, Chapman, et al., 2017; Thelwell, Wagstaff, Rayner, et al., 2017). Moreover, Rynne and Mallett (2014) showed that discussions among HPCs and support personnel regarding coach practice may contribute to positive relationships within and between personnel groups and serve as an important source of unmediated learning (cf. Reade et al., 2008). Indeed, the benefits of listening and learning from each other was also noted in the focus group interviews in the present study with participants explicitly highlighting the importance of gaining knowledge from other HPCs.

Despite the brevity of the mindful self-reflection in this study, these data add weight to the growing argument that mindfulness can help to overcome "blindspots" in self-knowledge (see Carlson, 2013). Across all phases in this study, the participants commonly perceived the intervention to enhance their self-awareness and their perspective on vulnerability. Indeed, the participants noted in the focus groups that being open to and acknowledging vulnerability became a positive asset. Nevertheless, the potential "upside" to vulnerability has received limited attention in the context of elite sport (Hägglund et al., 2019). Underpinned by mindful self-reflection, the sharing narratives of vulnerability in the focus groups enabled the participants to observe aspects of themselves in others' stories and enhance their awareness of others' vulnerabilities. This awareness emanated from a variety of sources, including expressions of ongoing or a history of issues of a clinical nature to challenges with recovery, a sense of being

insufficient, and over-commitment to their role. Importantly, HPC participants in this study stated that these opportunities to safely share their vulnerabilities led to changes in help-seeking behavior. Interestingly, this finding also resonates with research that address how important psychological safety may be in order to feel safe to take a risk and to ask for help and how this contributes to well-being (Fransen et al., 2020). Such observations are important given that suppressing and not showing vulnerability can increase stress and burnout (Olusoga et al., 2019) and over-commitment and work-home-interference can result in poor health and high levels of stress (Bentzen et al., 2016).

An increased awareness of one's vulnerabilities, as demonstrated by the participants in the intervention developed here, may also promote sustainable behaviors as conceptualized by self-compassion. More specifically, self-compassion (Neff, 2003) includes behaviors associated with self-kindness (i.e., being understanding to oneself rather than harsh judgment and self-criticism), common humanity (i.e., seeing one's experiences as a part of a larger human experience rather than separating and isolating), and mindfulness (i.e., holding one's thoughts in balanced awareness in the current situation without evaluation). Indeed, several HPCs in the present study noted that the process of mindful self-reflection and increased self-awareness helped them to better approach and meet demands in life with subsequent behavior changes aligned with self-compassionate intentions such as learning from mistakes and less rumination (cf. Ingstrup et al., 2017). Additionally, the participants noted that the SMS-diary prompted them to become aware of their "inner voice" (too often self-critical in nature) and its impact on well-being, which reflects another domain often addressed in compassion-focused therapy (Gilbert, 2009). While self-compassion has only recently received attention within elite sport and with focus on athletes (Röthlin et al., 2019; Walton et al., 2020), the extant and emerging findings reported here relating to the perceived long-term positive behavior changes offer promising indications that self-compassion may help HPCs in their pursuit of sustainable well-being (c.f. Zessin et al., 2015).

Limitations

Despite several positive observations, some study limitations became evident throughout the research process. First, high-performance sport is fundamentally a result-driven enterprise, meaning that the development of a method to support sustainable high-performance coaching may need to include considerations of performance-related measures beyond well-being, such as the coach-athlete relationship, coping with competitive demands and performance stressors, or other key performance indicators (cf. Cropley et al., 2020; Jowett, 2017; Thelwell, Wagstaff, Chapman, et al., 2017; Thelwell, Wagstaff, Rayner, et al., 2017). Given this assertion, researchers undertaking future SMS-intervention research might incorporate relevant pre- and post-assessment measures to better test the effect of such protocols using for example, the guidelines outlined by Mallett and Côté (2006) for valuing and evaluating the quality of HPC's work while also including evaluations from athletes.

Nevertheless, given that we trialed this intervention with different sports, across independent samples of HPCs working across the winter-summer and objectively-subjectively scored sport spectrum, and with a population that is typically inaccessible for longitudinal

research, we believe that the development process undertaken here is adaptable to a variety of sports.

Second, the context of elite sports context remains dominated by males, with the proportion of female HPCs ranging only from 8.4% and 20% in Canada, Norway and Finland (Bentzen et al., 2016: Kidd, 2013), despite initiatives to increase equality and promote change (e.g., Culver et al., 2019). While we took steps to ensure female representation within the present work, our focus was on HPCs as a profession group and did not undertake a gendered analysis. As such, we would agree with the recent sentiments expressed by Kenttä, Bentzen, et al. (2020), who argued for researchers to focus on a more sustainable coaching while also addressing the specific support needs of intersectional and minority populations within the coaching profession (e.g., females and para-coaches). A related sampling consideration relates to the inclusion of participants living in the same European country and that all participants racially identified as being white. While the samples offer a varied representation of gender and sport type, future research must better capture potential cultural, racial, and gender nuances regarding how HPCs engage with this intervention.

Applied implications

The use of process evaluation in this study goes some way to addressing the ubiquitous need for and too often unmet hopes for intervention research conducted in elite sport settings. Moreover, the co-development of a high fidelity, high utility, intervention that can be instantly adopted in elite sport settings might be appealing to HPCs and practitioners. Indeed, taken together, the data from this process evaluation also offer important insights for non-elite coaches and leaders of sport organizations because they provide insights into the value of new ways of working that promote vulnerability, openness, help-seeking and collaboration. Given such behaviors contrast with the typical norms and beliefs regarding vulnerability, help-seeking, and taking for granted perceptions of "what it takes to win" in high-performance sport (c.f. Hägglund et al., 2019), we hope these data will resonate with stakeholders across the sport landscape.

While further examinations of this SMS-diary approach would benefit, we have confidence in recommending that this intervention could provide practitioners with a tool for supporting sustainability among HPCs and which may offer a secondary use as a part of a diverse well-being screening process. Should this intervention be used effectively to these ends it may supply a mechanism for lowering the threshold for help-seeking behavior and early identification of clinical needs and mental ill-health in elite sports (see Gouttebarge et al., 2021). Given these observations, as a research team, we do recommend that the coordinator of the SMS-diary should be actively engaged in adequate professional supervision with clinical experience. This necessity also raises issues of the availability of support systems to HPCs and the responsibility professional organizations have for the training and development of coaches to work sustainably in their profession (Fletcher & Wagstaff, 2009). Finally, and in line with the general discussion points alluded earlier, we see a need for a range of applied intervention work for HPCs drawing on mindfulness (Longshore & Sachs, 2015; Lundqvist et al., 2018) and its effect on energy and mood (Pawsey et al., in press), how reflective practice is

developed (Huntley et al., 2019) and how self-compassion may be cultivated (Mosewich et al., 2019; Röthlin et al., 2019).

Conclusions

This study significantly extends the knowledge of what *contributes* to sustainable high-performance coaching in a real-world context, thereby advancing applied research knowledge beyond people's *experiences* of what may contribute to well-being and sustainability. The process evaluation showcases promising data for the use of a brief, user-friendly, mindful self-reflection intervention which demonstrates high fidelity and lasting behavior changes at 6- and 12-month follow-ups. While these data were encouraging and to some degree serendipitously valued, there remain opportunities to extend this work by directly examining the complex interactions of mindful self-reflection, vulnerability, self-compassion and well-being to support high-performance coaching.

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