Madigan, Daniel J. ORCID:

https://orcid.org/0000-0002-9937-1818, Gustafsson, H., Hill, Andrew P. ORCID: https://orcid.org/0000-0001-6370-8901, Mellano, K. T., Pacewicz, C. E., Raedeke, T. D. and Smith, A. L. (2021) Perspectives on the future of burnout in sport. Journal of Clinical Sport Psychology.

Downloaded from: http://ray.yorksj.ac.uk/id/eprint/5118/

The version presented here may differ from the published version or version of record. If you intend to cite from the work you are advised to consult the publisher's version: https://doi.org/10.1123/jcsp.2021-0045

Research at York St John (RaY) is an institutional repository. It supports the principles of open access by making the research outputs of the University available in digital form. Copyright of the items stored in RaY reside with the authors and/or other copyright owners. Users may access full text items free of charge, and may download a copy for private study or non-commercial research. For further reuse terms, see licence terms governing individual outputs. Institutional Repository Policy Statement

RaY

Research at the University of York St John

For more information please contact RaY at ray@yorksj.ac.uk

Madigan, D. J., Gustafsson, H., Hill, A. P., Mellano, K. T., Pacewicz, C. E., Raedeke, T. D., & Smith, A. L. (in press). Perspectives on the future of burnout in sport. *Journal of Clinical Sport Psychology*.

Perspectives on the Future of Burnout in Sport

Daniel J. Madigan¹, Henrik Gustafsson², Andrew P. Hill¹, Kathleen T. Mellano³, Christine E. Pacewicz⁴, Thomas D. Raedeke⁵, & Alan L. Smith⁶

¹York St John University, UK

²Karlstad University, Sweden

³Springfield College, USA

⁴Saginaw Valley State University, USA

⁵East Carolina University, USA

⁶Michigan State University, USA

Author Note

Correspondence concerning this article should be addressed to Daniel J. Madigan, e-mail: d.madigan@yorksj.ac.uk. Aside from the first author, authors have contributed equally to this manuscript and so all other authors are listed in alphabetical order.

Abstract

The present editorial provides a series of perspectives on the future of burnout in sport. Specifically, for the first time, seven burnout researchers offer their opinions and suggestions for how, as a field, we can progress our understanding of this important topic. A broad range of ideas are discussed including the relevance of the social context, the value of theory and collaboration, and the use of public health frameworks in future work. It is hoped that these perspectives will help stimulate debate, reinforce and renew priorities, and guide research in this area over the coming years.

Overall Introduction

In the past 20 years, we have amassed a great deal of knowledge concerning the phenomenon of burnout in sport. This includes a growing understanding of the factors involved in its development, possible correlates, and its potential consequences (see Eklund & DeFreese, 2020; Gustafsson et al., 2017, Smith et al., 2019 for reviews). The special issue that this editorial belongs to has hopefully also served to reinforce the importance of burnout in sport and exercise psychology more broadly. It seems apt, then, to take this opportunity to contemplate the future of research in this area.

For the present editorial, borrowing an idea from previous work (Benet-Martínez et al., 2015), we have brought together a group of burnout researchers to offer their perspectives on where the field is headed. We have purposely invited researchers at various career stages, with a range of interests and theoretical approaches. Each author was given the freedom to discuss what they considered to be important and relevant. Each contribution was written independently, with minimal editorial oversight. Given the unique nature of this piece, it is worth clarifying that each section has been attributed to each specific author, and that these authors only explicitly endorse their own ideas and opinions, and that the other sections do not necessarily reflect their points of view. This approach, as you will see, has allowed for a diverse, sometimes even contradictory, and stimulating set of perspectives that we hope will help guide the next 20 years of research on burnout in sport.

The Sport Social Context and Athlete Burnout

Alan L. Smith, Michigan State University, USA

Athlete burnout scholarship helps us understand sport motivation as well as athlete well-being, and over the past two decades has increased in volume, conceptual and methodological diversity, and prominence. There are many potential directions for future work on athlete burnout that will yield valuable scholarly and practical knowledge. My

research group studies social and motivational processes in sport, typically among young people. In light of this focus, we see value in future research that will broaden understanding of how interpersonal relationships tie to athlete burnout perceptions, better connect sport group dynamics knowledge to the study of athlete burnout, and leverage perspectives on human development.

Early qualitative research illuminated negative social behaviors and interactions such as pressuring and negative communications as contributors to athlete burnout (Gould et al., 1996; Udry et al., 1997). Yet, subsequent quantitative efforts have focused more heavily on positive social interactions than negative social interactions (Pacewicz et al., 2019; Smith et al., 2019b). Researchers most often examine social support and relatedness, which show lowto-moderate inverse associations with burnout. It is important to consider social constructs that can prevent or mitigate burnout, but equally those that may catalyze burnout. This helps us see burnout as more than an individual phenomenon. We balance consideration of athlete personality characteristics (e.g., perfectionism), motives, and responsiveness to training regimens with attention to the social context of sport. Athlete burnout is understood to be experienced by an individual within a social and organizational context (DeFreese et al., 2021). Importantly, this understanding can be captured from two frames of reference. That is, do we view the athlete as not successfully fitting into the given sport context or do we view the sport context as poorly fitting the athlete? Naturally it can be both, though I believe that adopting the latter vantage in our research will offer a richer view of how athlete burnout presents and can be addressed. This requires attention to the full spectrum of social exchanges within sport.

In framing our work from this vantage, my group has begun to explore negative social interactions such as co-rumination, peer rejection, intrusiveness and others, along with negative social feelings such as loneliness, in predicting athlete burnout (DeFreese & Smith,

2014; Pacewicz & Smith, in press). We also believe that group dynamics have been understudied with respect to athlete burnout. Such dynamics may shape the nature and intensity of social interactions, communication pathways among team members, and how social expectations are interpreted. Our recently published work shows cohesion to link to burnout perceptions by way of sense of relatedness and self-determined motivation (Pacewicz et al., 2020), and our forthcoming work employs social network analysis and other techniques as we explore how communication among teammates may amplify or diminish athlete burnout perceptions.

Emphasizing how the sport context fits athletes also orients us toward alternative conceptual models for exploring athlete burnout. We have productively used stress-based (e.g., Smith, 1986) and motivation (e.g., Deci & Ryan, 1985) frameworks to study athlete burnout. These perspectives incorporate social constructs; yet, as a developmental sport psychologist, I see room to consider broader understandings of the youth sport system that emphasize the collective examination of persons and contexts that surround an athlete (Côté, 1999; Dorsch et al., 2020; Holt et al., 2016; Smith et al., 2019a). Models that consider social development, pathways of sport participation, and other developmental concerns could orient us toward new research questions and approaches that deepen our understanding of athlete burnout.

We often refer to the flame of a candle when characterizing burnout. What makes a candle that once burned bright come to flicker or be extinguished? To understand this, we must not only capture how an athlete leaves the candle idle or blows on it, but how teammates and others do the same, if the candle resides in an oxygen-rich or -starved space, and if the flame must contend with relatively gentle or more extreme drafts. Attending to social, group, and developmental processes could advance knowledge and our ability to help athletes maintain bright-burning flames.

Soft Tests of Theory and Burnout in Sport

Andrew P. Hill, York St John University, UK

It is an interesting exercise to consider where burnout research (or any research, for that matter) may be in 20 years' time. Here, I will focus on one aspiration – in 20 years' time we will have a theory of athlete burnout. This might be considered a surprising aim as we currently have many theories of burnout. Which is precisely the point. In my opinion, we currently have too many theories with many offering alternative and opposing explanations of the phenomenon.

I used to believe that I knew (roughly) what the main cause of athlete burnout was (and therefore which burnout theories offered the best explanation for its development). I thought burnout to be most likely a product of the stress process (and perhaps included psychological need impoverishment in some way). However, the more I revisit the key research in this area, and less popular burnout theories, the less convinced I am that we actually know the causes of athlete burnout or, at least, have been able to confirm them.

As yet, I believe we have actually made surprising little progress in regard to robustly testing and refuting existing burnout theories. This is because, as is general practice in sport and exercise psychology, we are prone to "soft" tests of theory. By this, I mean that we rarely design studies to directly test theories and, in turn, place them in any real jeopardy. As a result, most existing burnout theories remain quite tenable and have so far been unscathed by empirical attempts to refute them.

Our penchant for soft tests of theory is evident in the designs we routinely employ. We have typically relied on cross-sectional designs that offer limited means of differentiating between alternative configurations of variables, are prone to common method variance, and cannot test the causal relationships or intra-individual change which are the focus of burnout theories.

It is also evident in the types of research questions we most frequently seek to answer. There are few examples of studies that compare the predictive utility of variables from opposing theories or have purposefully sought to set different theories against each other in a competitive fashion. As a result, current burnout theories continue to exist in relative harmony, undisturbed by the existence of their alternates and rivals.

There are exceptions, of course, and this research represents some of the best work in this area, in my opinion. Research that has measured intra-individual change in burnout across an entire season (e.g., Cresswell & Eklund, 2006), attempts to isolate specific aspects of theories like shifting motivation regulation (e.g., Lemyre et al., 2006), more complete tests of theories (e.g., Bentzen et al., 2016), and comparison of the predictive ability of key variables from different theories (e.g., Defreese & Smith, 2014) are a few examples.

There has been some attempt to integrate burnout theories, but these inevitably suffer from the fact that their composite parts are untested along with their new formulation. In addition, some burnout theories have underlying contradictions which have so far largely been ignored and still need to be reconciled. For example, whether athlete burnout is best studied from a social cognitive perspective or organismic/humanistic perspective.

With these issues in mind, I hope the next 20 years sees the number of methodologically rigorous and ambitious studies increase in this area, that all existing burnout theories are subject to greater scrutiny, and to eventually have a theory of burnout that sits alongside other major established theories in sport and exercise psychology.

Four Paths Forward

Kathleen T. Mellano, Springfield College, USA

Research efforts have contributed to a greater understanding of the burnout phenomenon in sport but much remains to be explored. Undoubtedly, *how* we answer questions about sport-related burnout will change with methodological advancements, but we

must also be mindful of *what* we ask and *why*. With these considerations in mind, four areas for future work are appealing: (1) examining the long-term trajectory of burnout, (2) understanding burnout experiences within the evolving youth sport context, (3) exploring cultural considerations in the conceptualization of burnout, and (4) engaging in multidisciplinary work to explore burnout antecedents and consequences.

The call for longitudinal designs in burnout research is not new, but the need remains (Gustafsson et al., 2017). Existing knowledge about the dynamic nature of burnout is representative of short-term changes. Further understanding of the trajectory of burnout and the associated consequences will require investigations over longer time periods (e.g., years). Adopting a developmental approach in longitudinal work will help explain how psychosocial and behavioral changes across the lifespan link to the burnout experience (Isoard-Gauthuer et al., 2015), especially within youth populations.

Elite athletes are often targeted for burnout research because of the physical and psychological demands of their sport experiences (Gould & Dieffenbach, 2002). However, the professionalism of youth sport has led to higher training and competition volume as well as pressure to meet inflated performance expectations. Further, the demands of organized youth sport are not only experienced by young athletes themselves, but are felt within their families. Parents may also experience burnout because of the required investments accompanying youth sport involvement and the pressure of elite expectations (DeFreese et al., 2018). Targeting these populations and examining markers of professionalism would enhance our understanding of burnout in the present youth sport context.

When burnout measures such as the Athlete Burnout Questionnaire (Raedeke & Smith, 2001) are adopted internationally, it becomes necessary to consider whether they are reflective of the burnout experience in different cultures. This is particularly crucial regarding the reduced accomplishment dimension as it is reflective of an individualistic perspective.

Perceiving a sense of accomplishment at the group or team level might be more salient in some cultures and may serve as a buffer to the development of burnout.

Finally, a multidisciplinary approach to sport-related burnout research has potential to expand the current knowledge base by exploring new relationships using diverse methodologies. Collaborative efforts with specialists in other domains of sport and exercise science will be invaluable in addressing the relatively understudied antecedents and consequences of burnout. For example, identifying and assessing key physiological aspects of burnout can expand our understanding of the stress-burnout relationship. By using more sophisticated measures of training stress and recovery we may become better at predicting the development of burnout enabling us to intervene earlier in the process.

Work in these areas will enhance knowledge about the development, perception, and experience of burnout in different populations. These efforts may contribute to the development of evidence-based programming to reduce and prevent the presence of burnout in sport.

In Search of Evidenced-Based Treatments for Athletes: A Personal Journey Henrik Gustafsson, Karlstad University, Sweden

Many years ago, I was working as a coach in cross-country skiing at one of the designated sport schools in Sweden. The goal of these schools is to help athletes excel in their sport while simultaneously gaining an education, providing an opportunity for the most talented athletes in the country to reach the international level. One day I got a call from one of the parents. The parent told me that their child had been crying for two weeks and did not want to continue in sport anymore. I was a bit stunned and did not understand what was going on, as this was one of the most talented athletes I had met, who showed no signs of wanting to quit. No one in the support team knew what to do. I was reading Hardy, Jones, and Gould (1996) at the time and, by accident, found a description of burnout. This book referenced

Ronald E. Smith so I sought out his seminal textbook (1990) to read more about burnout. The symptoms he described were like tick boxes for this athlete. However, providing the best possible support was not easy as there were no guidelines available. Today, we have made much progress, but we are still far from being able to provide clear guidelines. Below I have provided three ways in which future work in this area may be able to move in this direction. *Burnout research - where should we go from here?*

Athlete burnout has been established as an important area within sport psychology (see Eklund & DeFreese, 2020). Despite the research interest and its importance for coaches and sport organizations, little is known about its prevalence and even less about the treatment of athletes suffering from burnout. In occupational settings inclusion criteria for burnout are commonly defined as the inability to work (i.e., on sick leave; Stenlund et al. 2009). In sport, however, such studies are difficult to conduct. One approach is to include athletes who dropped out of sport because of burnout. Another possibility is to use a case study design investigating treatment procedures in athletes using diagnostic criteria in order to increase our knowledge about contextual applications of more established treatments. In summary, we need to further investigate what constitutes problematic levels of burnout and how to prevent and treat athletes suffering problematic stress symptoms.

Is burnout a lack of recovery?

Initially when I was interviewing athletes about their experiences of burnout (Gustafsson et al., 2007; 2008), many of them described a lack of recovery as a key issue, something also supported in job burnout research (Almén et al., 2020). Although the importance of recovery is well established (see Kellmann & Beckmann, 2018), the role of recovery in athlete burnout has not been thoroughly investigated. An interesting aspect is the recovery paradox (Sonnentag, 2018) – when recovery is needed the most (e.g., during periods of high stress) it is less likely that recovery activities are available. As one athlete put it: "I

did not train more, I just did not allow myself to recover". Recent research shows promising results of increasing recovery activities in patients suffering from clinical burnout (Almén et al., 2020). Burnout in athletes differs from occupational settings mainly by the training load included in many sports, thus the role of recovery activities as a means to mitigate burnout needs to be examined in more depth in athletes.

But if it works, how does it work?

I recommend that future treatment research in athletes focus on interventions based on Cognitive Behavioral Therapy (CBT). The support for CBT as the first choice of stress management in occupational settings is well established (Richardson & Rothstein, 2008), and there are promising results in treatment of burnout outside of sport (Lindsäter et al., 2018). However, in sport settings CBT is yet to be investigated in detail (Smith et al., 2020). Despite the effectiveness of CBT-based treatments, there is still room for improvement and potential adaptation for athletes. One core aspect appears to be sleep and recent research has shown that sleep quality partly mediates the effect of CBT on exhaustion in clinically burned-out patients (Lindsäter et al., 2018; Santoft et al., 2019). We need to investigate potential mediators in intervention research so as to increase our understanding of how certain programs are effective in helping athletes reduce their stress and burnout. Finding effective ways to prevent severe stress and to treat athletes who have developed long term stress problems must be of main interest in future sport burnout research.

Establishing the Study of Burnout as a Collaborative Science

Daniel J. Madigan, York St John University, UK

Although scientific advances can occur as the result of exceptional individual effort, complex problems are best tackled through collaboration. Take for example the Human Genome Project. The successful sequencing of the human genome required the coordination of over 2,500 individuals from all across the world (Lander et al., 2001). More recently, the

detection of the Higgs boson involved closer to 3,000 people (Aad et al., 2012). This trend for collaboration is also becoming increasingly common in the psychological sciences (e.g., Open Science Collaboration, 2015). In practice, then, collaborative science allows the integration of perspectives, expertise, and resources so that bigger, bolder, and more difficult questions can be answered.

I would argue that the study of burnout too would benefit from an increased emphasis on collaboration. Below I briefly discuss three possible outcomes of collaborative science for burnout research:

- (1) Large prospective cohort studies. To fully get a handle of the antecedents, correlates, consequences, and prevalence of burnout in sport, it is likely that studies of large groups of people which span many years are necessary. These studies are often extremely difficult to conduct given their cost and their inevitable high rates of attrition. Collaboration would provide a feasible means to attempt such ambitious studies.
- (2) Interdisciplinary, integrative research. Bringing together expertise from multiple disciplines will help us move beyond the primarily psychological (and social) lenses through which we have examined burnout. An examination of the psychophysiology of burnout, for example, is likely to help further our understanding of the health and performance consequences of burnout, and the nature of burnout itself. Working hand in hand with those outside of psychology with advanced technical skills will also help place burnout research at the forefront of other disciplines.
- (3) Multi-site randomised controlled trials. In addition to helping provide a stronger theoretical and empirical basis for intervention, wider collaboration will allow rigorous tests of their efficacy and effectiveness. This could include the pooling of resources to be used for expensive randomised controlled trials, and the use of multiple sites (and countries) to ensure their generalisability and success.

Beyond these particular examples, a collaborative approach to research in this area is likely to result in career development opportunities for both early career and more experienced researchers, the sharing and synthesis of burnout research across domains (e.g., sport, education, workplace), and the adoption of a greater variety of methodological and analytical techniques (e.g., Bayesian statistics). It is for these reasons that I suggest this approach should be a priority of the next 20 years' research. Together, we may begin to build a more collaborative, comprehensive, and complete science of burnout.

Social Contributors and Psychological Outcomes of Athlete Burnout Christine E. Pacewicz, Saginaw Valley State University, USA

Research on athlete burnout has expanded over the last two decades, providing us with a formal definition of this psychological phenomenon (Raedeke, 1997), an instrument to measure the construct (Raedeke & Smith, 2001, 2009), and theoretical frameworks to guide our research. As we look to the future, there are key areas that require attention to continue advancing our understanding of athlete burnout. These key areas include assessment of the social contributors of athlete burnout and an examination of psychological outcomes linked to burnout. Embedded in these two key areas are additional priorities including the need for continued multi-time point designs and the need to use developmentally informed methods.

Though early work in the field highlighted the role of social factors on burnout (Cresswell & Eklund, 2006; Gould et al., 1996; Udry et al., 1997), this area has not been a priority. Thus, there is much to learn about the social contributors to athlete burnout. For instance, communication with teammates, both in person or via technology (e.g., text messaging), enables athletes to share information and feelings with one another which may contribute to athletes' perceptions of burnout. Longitudinal designs would afford an understanding of how burnout perceptions change over time due to teammate communication. Additionally, assessment of the distinct verbal or nonverbal messages from

teammates (and other agents in sport) that exacerbate or alleviate burnout perceptions would extend our understanding and inform future interventions.

It is also salient to consider the role of social media when studying burnout in sport. Past qualitative work indicated that media and public pressure can contribute to burnout perceptions (Cresswell & Eklund, 2007). With the growing use of social media over the past fifteen years, athletes are now readily able to socially compare themselves to other athletes. Negative comparisons about one's physical competence and performance may increase vulnerability to burnout. Athletes are also continually connected to the public through various online platforms. These connections may foster perceptions of pressure and the need to always perform flawlessly. The field would benefit from examining how such connections contribute to perceptions of burnout and other salient outcomes (e.g., enjoyment, satisfaction, engagement). Future work should utilize a developmental approach because the role of social media and online connections may vary depending on age, maturation, and competitive level. For example, the ability to socially compare oneself to others and continually be connected to others via social media may be particularly detrimental for adolescents, a population that increasingly uses social media on a regular basis (Twenge et al., 2019). This may be problematic because adolescence is a time marked by changes to the body that occur due to puberty. Such changes can impact young people's body images, perceptions of physical competence, and their actual physical competence. As adolescents navigate this period of change and identity formation, any observed differences among peers can be magnified by the use of social media. Such large-scale comparisons could have negative consequences for youth's motivation, engagement, and burnout in sport.

A second key area that warrants attention is the link between athlete burnout and psychological outcomes. Most of the work in the field has examined antecedents of burnout to inform strategies to reduce burnout perceptions. Consequently, little attention is paid to

outcomes of this psychological phenomenon. Eklund and DeFreese (2015) encouraged the assessment of behavioral outcomes of burnout. Yet, this should be expanded to psychological outcomes (e.g., well-being, depression) as well. The limited number of studies in this area suggests that athlete burnout negatively contributes to perceptions of well-being, indicating that burnout may have consequences for athletes outside of the sport context. More work is needed to understand the effects, both short- and long-term, of burnout on athletes' psychological health and how these effects differ developmentally.

Findings from these key areas will add to our understanding of the social antecedents of athlete burnout as well as the potential psychological outcomes linked to burnout. Such work will inform interventions aimed at reducing vulnerability to burnout and improving psychological well-being of athletes.

Moving Athlete Burnout Research Forward—Public Health Insights Thomas D. Raedeke, East Carolina University, USA

My interest in burnout developed over 25 years ago based on concerns raised within the sport community that were understudied, evident by only a handful of published papers on this issue. Similar to early research in human services (Maslach & Schaufeli, 1993), the burnout construct was met with some skepticism by critics who suggested, while appropriate for locker room conversation, it was pop psychology and not a legitimate scholarly construct. Since then, our knowledge base has proliferated, evident by hundreds of published papers referencing athlete burnout. Research will likely continue with the societal recognition of a potentially dark side to sport that can challenge athlete well-being and render athletes vulnerable to burnout. Outside of sport, the significance of burnout is increasingly recognized such as the World Health Organization including work-related burnout syndrome in its International Classification of Diseases (WHO, 2020). Although I can envision many future avenues for advancing our understanding of athlete burnout, I'll frame my comments from a

public health perspective.

Establish the Public Health Significance of Burnout

I'm commonly asked—how prevalent is burnout? Although most estimates suggest it is low, the actual prevalence is not well documented given a dearth of large-scale epidemiological studies. In addition, no diagnostic criteria or theoretical frameworks exist for identifying what constitutes a maladaptive burnout state on commonly used burnout assessment tools. Linking burnout questionnaire responses to clinically significant markers of ill-being and maladaptive outcomes may facilitate our understanding of its prevalence and public health significance (Raedeke et al., 2014).

Like prevalence, our understanding of the impact of sport burnout on broader athlete well-being is underdeveloped. To date, research examining potential antecedents is more prominent than research focused on burnout consequences. Along with performance impairments and sport discontinuation, a wide range of negative physical and mental health-related outcomes may be connected to burnout. Given that, interdisciplinary research based on biopsychosocial models is well-suited for such scholarly efforts. Delineating the prevalence and negative outcomes associated with burnout's occurrence may help establish its public health significance and thereby generate continued scholarly interest and ultimately strategies to prevent it.

Using Public Health Frameworks for Guiding Interventions

In the early stages of knowledge development, researchers rightfully focused on understanding the nature of burnout and its underlying processes. As our knowledge base expands, research focused on prevention and mitigating negative outcomes is needed. Several themes emerge from public health models that can help guide such efforts.

Community engaged research that ensures key stakeholders are involved in the research process is important (Boyer, 1996). Without their engagement, burnout research will be

unlikely to have a meaningful impact. Expanding to also focus on athlete engagement, the positive psychology anti-thesis of burnout, may increase stakeholder receptivity to research efforts by avoiding the potentially negative stigma associated with burnout and the implication they are doing something wrong.

In guiding intervention development, social ecological models (Sallis & Owen, 2015) provide a useful heuristic given that burnout processes involve the characteristics of athletes themselves, social relationships (e.g., with coaches, parents, peers), organizational structures, and policies governing sport. Including all social ecological model elements within a single study is not necessarily feasible. However, social ecological models provide a framework for guiding intervention development and translating research into practice.

Based on a public health RE-AIM framework (https://www.re-aim.org/), it is important to evaluate intervention effectiveness, but also its reach. Targeting athletes, coaches, and parents is likely the most feasible and potentially has a strong impact. Whereas, interventions targeting the organizational structure and policy might be the most difficult to implement yet have the broadest reach in terms of the number of athletes impacted. Beyond effectiveness and reach, it is also important to evaluate the extent to which interventions are adopted, implemented as intended, and maintained over time. Broadening our theoretical perspectives, developing burnout specific models, and expanding cultural frames of references will enrich our knowledge and help ensure reach/applicability to the widest possible span of athletes.

Ultimately, advancing burnout prevention research will involve assessing the extent to which efficacious interventions are translatable, with the goal that evidence-based practices will be adopted in "real world" sport settings in a sustainable fashion.

When I first pursued this topic, my hope was that research would ultimately make a difference in the lives of athletes and transform the sport landscape. I'm hopeful that future burnout scholars will transform sport in a way that prevents burnout and facilitates athlete

well-being and development. Linking burnout research with public health perspectives may set the stage to do so.

Overall Summary

This is an exciting time for burnout in sport researchers. Burnout is now arguably an integral component of any meaningful understanding of the psychology of sport. The perspectives presented here provide a roadmap to a continued advancement of knowledge on burnout in sport. In this regard, several commonalities have emerged across the contributions. Most notably, perhaps, is the prominence of the social context, the value of theory and collaboration, and the relevance of well-being and public health frameworks for burnout research. Many other fascinating ideas are provided in addition to these overarching themes. It is hoped that these perspectives will help stimulate debate, reinforce and renew priorities, and guide research in this area over the next 20 years and beyond.

References

- Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Khalek, S. A., Abdelalim, A. A., ... & Bansil,
 H. S. (2012). Observation of a new particle in the search for the Standard Model Higgs
 boson with the ATLAS detector at the LHC. Physics Letters B, 716, 1-29.
- Almén, N., Lisspers, J., Öst, L.-G., & Sundin, Ö. (2020). Behavioral stress recovery management intervention for people with high levels of perceived stress: A randomized controlled trial. *International Journal of Stress Management*, 27(2), 183–194. https://doi.org/10.1037/str0000140
- Benet-Martínez, V., Donnellan, M. B., Fleeson, W., Fraley, R. C., Gosling, D., Ling, L. A.,...

 Funder, D. C. (2015). Six visions for the future of personality psychology. In M. L.

 Cooper & R. J. Larsen (Eds.), *Handbook of personality processes and individual*differences. Washington, DC: APA Press.
- Bentzen, M., Lemyre, P. N., & Kenttä, G. (2016). Changes in motivation and burnout indices in high-performance coaches over the course of a competitive season. *Journal of Applied Sport Psychology*, 28(1), 28-48.
- Boyer, E.L. (1996). The scholarship of engagement. *Journal of Public Service & Outreach*, 1 (1), 11-20.
- Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, *13*, 395-417. https://doi-org.proxy1.cl.msu.edu/10.1123/tsp.13.4.395
- Cresswell, S. L., & Eklund, R. C. (2006a). Changes in athlete burnout over a thirty-week "rugby year". *Journal of Science and Medicine in Sport*, 9(1-2), 125-134.
- Cresswell, S. L., & Eklund, R. C. (2006b). The nature of athlete burnout: Key characteristics and attributions. *Journal of Applied Sport Psychology*, *18*, 219-239. https://doi.org/10.1080/10413200600830299
- Cresswell, S. L., & Eklund, R. C. (2007). Athlete burnout and organizational culture: An

- English rugby replication. *International Journal of Sport Psychology*, 38, 365-387.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determined human behavior*. New York, NY: Plenum Press.
- DeFreese, J. D., & Smith, A. L. (2014). Athlete social support, negative social interactions and psychological health across a competitive sport season. *Journal of Sport & Exercise Psychology*, *36*, 619-630. https://doi.org/10.1123/jsep.2014-0040
- DeFreese, J. D., Dorsch, T. E., & Flitton, T. A. (2018). The parent–child relationship and sport parents' experiences of burnout and engagement. *Journal of Clinical Sport Psychology*, 12(2), 218-233.
- DeFreese, J. D., Raedeke, T. D., & Smith, A. L. (2021). Athlete burnout: An individual and organizational phenomenon. In J.M. Williams & V. Krane (Eds.), *Applied sport psychology: Personal growth to peak performance* (8th ed., pp. 475-491). New York: McGraw-Hill.
- Dorsch, T. D., Smith, A. L., Blazo, J. A., Coakley, J., Côté, J., Wagstaff, C. R. D, Warner, S., & King, M. Q. (2020). Toward an integrated understanding of the youth sport system.

 Research Quarterly for Exercise and Sport.

 https://doi.org/10.1080/02701367.2020.1810847
- Eklund, R. C., & DeFreese, J. D. (2020). Athlete burnout. In G. Tenenbaum, & Eklund, R. C. (Eds.). *Handbook of sport psychology* (pp. 1220-1240). New York: John Wiley & Sons.
- Eklund, R., & DeFreese, J. D. (2015). Athlete burnout: What we know, and what we should be finding out about. *International Journal of Applied Sports Sciences*, 27, 63-75.
- Gould, D., & Dieffenbach, K. (2002). Overtraining, under recovery, and burnout in sport. InM. Kellmann (Ed.), Enhancing recovery: Preventing underperformance in athletes (pp. 25-35). Champaign, IL: Human Kinetics.
- Gould, D., Tuffey, S., Udry, E., & Loehr, J. (1996). Burnout in competitive junior tennis

- players: II. Qualitative analysis. *The Sport Psychologist*, *10*, 341–366. https://doi.org/10.1123/tsp.10.4.341
- Gustafsson, H., DeFreese, J. D., & Madigan, D. J. (2017). Athlete burnout: Review and recommendations. *Current Opinion in Psychology*, *16*, 109-113.
- Gustafsson, H., Hassmén, P., Kenttä, G., & Johansson, M. (2008). A qualitative analysis of burnout in elite Swedish athletes. *Psychology of Sport & Exercise*, *9*, 800-816.
- Gustafsson, H., Kenttä, G., Hassmén. P. & Lundqvist, C. & Durand-Bush (2007). The process of burnout: A multiple case study of three elite endurance athletes. *International Journal of Sport Psychology*, 38, 388-416.
- Gustafsson, H., Madigan, D. J., & Lundkvist, E. (2018). Burnout in athletes. In R. Fuchs & M. Gerber (Eds.), *Handbuch Stressregulation und Sport*. Berlin: Springer.
- Hardy, L., Jones, J. G., & Gould, D. (1996). *Understanding psychological preparation for sport: Theory and practice of elite performers*. John Wiley & Sons Inc.
- Holt, N. L., Deal, C. J., & Smyth, C. L. (2016). Future directions for positive youth development through sport. In N. L. Holt (Ed.), *Positive youth development through* sport (2nd ed., pp. 229-240). New York, NY: Routledge. http://dx.doi.org/10.4324/9781315709499-19
- Isoard-Gautheur, S., Guillet-Descas, E., Gaudreau, P., & Chanal, J. (2015). Development of burnout perceptions during adolescence among high-level athletes: A developmental and gendered perspective. *Journal of Sport and Exercise Psychology*, *37*(4), 436-448.
- Kellmann, M., & Beckmann, J. (Eds.). (2018). Sport, recovery, and performance: Interdisciplinary insights. Routledge.
- Lander, E. S., Linton, L. M., Birren, B., Nusbaum, C., Zody, M. C., Baldwin, J., ... & Proctor,M. J. (2001). Initial sequencing and analysis of the human genome. Nature, 409(6822),860-921.

- Lemyre, P. N., Treasure, D. C., & Roberts, G. C. (2006). Influence of variability in motivation and affect on elite athlete burnout susceptibility. *Journal of Sport and Exercise Psychology*, 28(1), 32-48.
- Lindsäter E, Axelsson E, Salomonsson S, Santoft F, Ejeby K, Ljotsson B, Akerstedt T, Lekander M, Hedman-Lagerlöf E. (2018). Internet-based cognitive behavioral therapy for chronic stress: A randomized controlled trial. *Psychother Psychosom* 2018; 87: 296-305.
- Madigan, D. J., Gustafsson, H., Smith, A., Raedeke, T., & Hill, A. P. (2019). The BASES expert statement on burnout in sport. *The Sport and Exercise Scientist*, *61*, 6-7.
- Maslach, C., & Schaufeli, W. B. (1993). Historical and conceptual development of burnout. InW.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 1-16). Washington, DC: Taylor & Francis.
- Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. Science, 349(6251).
- Pacewicz, C. E., & Smith, A. L. (in press). Teammate relationships, loneliness, and motivational experiences of adolescent athletes. *Journal of Clinical Sport Psychology*.
- Pacewicz, C. E., Mellano, K. T., & Smith, A. L. (2019). A meta-analytic review of the relationship between social constructs and athlete burnout. *Psychology of Sport and Exercise*, 43, 155-164. https://doi.org/10.1016/j.psychsport.2019.02.002
- Pacewicz, C. E., Smith, A. L., & Raedeke, T. D. (2020). Group cohesion and relatedness as predictors of self-determined motivation and burnout in adolescent female athletes.

 Psychology of Sport and Exercise, 50, 101709.

 https://doi.org/10.1016/j.psychsport.2020.101709
- Raedeke, T. D. (1997). Is athlete burnout more than just stress? A sport commitment perspective. *Journal of Sport & Exercise Psychology*, *19*, 396-417.

- https://doi.org/10.1123/jsep.19.4.396
- Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete burnout measure. *Journal of Sport & Exercise Psychology*, 23, 281-306. https://doi.org/10.1123/jsep.23.4.281
- Raedeke, T. D., & Smith, A. L. (2009). *The Athlete Burnout Questionnaire manual*. Fitness Information Technology.
- Raedeke, T.D., Smith, A, Kenttä, G., Arce, C., & de Francisco, C. (2014). Burnout in sport: From theory to intervention. In A.R. Gomes, R. Rezende, & A. Albuquerque (Eds.),

 Positive Human Functioning from a Multidimensional Perspective: Promoting Stress

 Adaptation (pp. 113-142). Nova Science Publishers: Hauppauge, New York.
- Richardson, K. M., & Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of Occupational Health Psychology*, 13(1), 69–93. https://doi.org/10.1037/1076-8998.13.1.69.
- Sallis, J. F. & Owen, N. (2015). Ecological models of health behavior. In K. Glanz, B.K. Rimer, Rimer, & K. Viswanath (Eds.), *Health Behavior: Theory, Research, and Practice* (5th Ed., pp. 43-64). Hoboken, NJ: Wiley
- Salomonsson S., Santoft F., Lindsäter E., Ejeby K., Ljotsson B., Ost LG., Ingvar M., Lekander M., Hedman-Lagerlof E. (2020). Effects of cognitive behavioural therapy and return-to-work intervention for patients on sick leave due to stress-related disorders:

 Results from a randomized trial. *Scandinavian Journal of Psychology*. 61(2):281-289.

 doi: 10.1111/sjop.12590. Epub 2019 Nov 6. PMID: 31691305.
- Santoft F, Salomonsson S, Hesser H, Lindsäter E, Ljótsson B, Lekander M, Kecklund G, Öst L-G, Hedman-Lagerlöf E. (2019). Mediators of Change in Cognitive Behavior Therapy for Clinical Burnout. *Behavor Therapy*, *50*(3):475-488. doi: 10.1016/j.beth.2018.08.005.
- Smith, A. L., Erickson, K., & Malete, L. (2019a). Advancing youth sport scholarship:

- Selected directions and considerations. *Kinesiology Review*, 8, 269-277. https://doi.org/10.1123/kr.2019-0046
- Smith, A. L., Pacewicz, C. E., & Raedeke, T. D. (2019b). Athlete burnout in competitive sport. In T. S. Horn & A. L. Smith (Eds.), *Advances in sport and exercise psychology* (4th ed., pp. 409-424). Champaign, IL: Human Kinetics. http://dx.doi.org/10.5040/9781492595199.ch-022
- Smith, E. P., Hill, A. P., Mallinson-Howard, S. H., & Gustafsson, H. (2020). Stress, Burnout and Perfectionism in Soccer Players. In J. Dixon, J. Barker, R. Thelwell, I. Mitchell (Eds.), *The Psychology of Soccer*. London: Routledge.
- Smith, R. E. (1986). Toward a cognitive-affective model of athletic burnout. *Journal of Sport Psychology*, 8, 36–50. https://doi.org/10.1123/jsp.8.1.36
- Smith, R. E. (1990). Psychology: The science of mind and behavior. McGraw-Hill.
- Sonnentag, S. (2018). The recovery paradox: Portraying the complex interplay between job stressors, lack of recovery, and poor well-being. *Research in Organizational Behavior*, 38, 169-185.
- Stenlund, T., Ahlgren, C., Lindahl, B., Burell, G., Steinholtz, K., Edlund, C., ... & Birgander, L. S. (2009). Cognitively oriented behavioral rehabilitation in combination with Qigong for patients on long-term sick leave because of burnout: REST—a randomized clinical trial. *International Journal of Behavioral Medicine*, 16(3), 294.
- Twenge, J. M., Martin, G. N., & Spitzberg, B. H. (2019). Trends in U.S. adolescents' media use, 1976-2016: The rise of digital media, the decline of TV, and the (near) demise of print. *Psychology of Popular Media Culture*, 8, 329-345. https://doi.org/10.1037.ppm0000203
- Udry, E., Gould, D., Bridges, D., & Tuffey, S. (1997). People helping people? Examining the social ties of athletes coping with burnout and injury stress. *Journal of Sport & Exercise*

Psychology, 19, 368–395. https://doi.org/10.1123/jsep.19.4.368

World Health Organization (2020). *International statistical classification of diseases and related health problems* (11th ed.). https://icd.who.int/