Summary of "The Ultimate Performance Enhancer? A History of Ideas About Sleep As A Training Tool in High Performance Sport"

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Context:

Sleep is now regarded by scientific experts and sport practitioners alike as the ultimate tool to maximize athletic performance and athlete health. The embrace of a sleep-friendly culture within elite sporting circles coincides with expanding levels of corporate, commercial, biomedical, and military interest in the potential of "good" sleep habits to produce more productive workers, consumers, and soldiers. In other words, athletes are not alone in their concern with performance enhancement. The heightened visibility of "good" sleep in our culture is linked to an expanding global sleep-health industry that is valued to be in the range of $30 to $40 billion, and that includes sleep technologies, apps, pharmaceutical aids, sleep consultants, and sleep enhancing products and services (Bramley, 2018). The positive regard for sleep in the marketplace is likened to some rather grim realities. Public polling consistently shows that most North American and British adults sleep less well than they would like to. A recent survey of 1,500 randomly selected adult Canadians found that 67 percent of respondents wished they could get better sleep at night (Pelley, 2016). The National Sleep Foundation, a highly influential, non-profit American sleep advocacy organization, recently published Sleep and Health Index Poll (2015) and found that, on average, adults sleep 7.35 hours a night (a little less than the 8 or more hours recommended by the NSF) and that 35 percent of respondents rated their sleep quality as "poor" or "only fair". A 2013 report by the American Centre for Disease and Prevention suggests that 50 to 70 million Americans suffer from sleep disorders and notes that prescriptions for sleep aids tripled from 1998 to 2006 (Chong, Fryar, & Quipig, 2013). The World Health Organization (WHO) estimates that two-thirds of adults who reside in "developed" nations fall below the recommended eight hours of sleep a night (European Society of Cardiology, 2015). Scientific evidence consistently links sleep loss to billions of dollars in lost productivity, illness, and injury. Sleep loss is connected to diminished health outcomes, including increased rates of cancer, heart attacks, Alzheimer's, psychological issues, and premature death (Lockley & Foster, 2012).

In these sleep-obsessed times, ideas about "good" sleep flow from a variety of cultural sources and authorities. My research shows that sport is a key and prominent site in which these ideas are being worked out. Discussions about sport, especially about elite athletes, provide a vehicle through which these ideas circulate among a broader public. An emerging body of scientific research offers support to

the idea that sleep is the best and most effective form of recovery available to athletes. Scientific evidence shows that sleep loss in athletes is linked to diminished physical performance, weakened immune-system responses, and negative effects on mood states, attention span, cognition, learning, decision-making, and pain tolerance (Leeder et. al, 2012; Simpsons, Gibbs, Matteson, 2017). Sleep loss also results in an increased likelihood of injury and illness (Leeder et. al, 2012; Simpsons, Gibbs, Matteson, 2017). In a study designed to examine the effects of "extra" sleep on athletes, Cheri Mah and her colleagues Kenneth Mah, Eric Kezirian and William Dement (2011) found that as college basketball players slept more, they started to perform better in sport-specific physical tasks (e.g. shooting and sprinting) and reported increased ratings of mood, health, and overall sense of wellbeing. Such scientific findings have fueled a new wave of start-up companies, including Fatigue Science and Rise Science, which offer products and services to maximize sleep in order to maximize sport performance.

My dissertation tells a story about how cultural understandings of sleep and the role they have played in helping to produce athleticism have shifted over the course of the twentieth and early twenty- first century. Present conditions in high performance sport regularly expose athletes to experiences of overtraining, tiredness, and lost or restricted sleep. At the same time, athletes are asked to manage their sport-induced exhaustion through highly orchestrated personal sleep habits facilitated by scientific problem-solving and a rapidly expanding sleep industry. This dissertation contends that in addition to being a biological phenomenon, sleep is also social and historical. While the need to sleep is universal and enduring, the critical sleep literature shows that how people sleep and the meanings they attribute to these experiences are always negotiated within specific culture settings. Sleep varies across time and place in accordance with social categories (e.g. race, gender, socio-economic status, etc.), and shared conceptions of aging, safety, security, time, life, and death (Williams, 2005, 2011; Wolf-Meyer, 2012). In other words, there is no "natural" way for people to sleep. An appreciation of the cultural and historical dimensions of sleep allows scholars to recognize this essential bodily process as a complex site of governance in modern life.

Significance of Project:

This dissertation is a feminist historical analysis of dominant cultural explanations of sleep and its relation to athletic performance. It aims to make sense of current beliefs, values, assumptions, and practices that position optimal sleep habits as "the" solution to a range of problems that arise within a competitive sport system that strategically exhausts athletes in the pursuit of performance. I follow the lead of others who have created scholarly accounts that question, refuse, challenge, resist, and try to

contribute ideas about how to minimize the damaging and harmful aspects of a competitive sport culture without losing sight of its unique qualities and contributions to modern life.

To date, there are no critical accounts of sleep within the historical or socio-cultural studies of sport literatures. Sleep is a topic that has been both overlooked and taken for granted. However, this dissertation contends that as an object of study, sleep permits scholars to reflect on the experiences of athletes and the broader conditions which produce them. An investigation of sleep leads to questions about the impact of medical authority in sport, the surveillance of bodies, and the changing cultural and historical dynamics found in the production of high performance athletes.

As sport scholars have paid little attention to sleep, scholars of sleep have paid little attention to sport. The capacity of high performance sport and modern celebrity athletes to influence social views and attitudes towards sleep has been underappreciated within the critical sleep literature. High performance sport is a realm of deliberate and extreme physical practices and its prominence and pervasiveness means that it helps shape popular notions of how bodies might be managed and how far humans might push the limits of physical possibility.

From a political and ethical standpoint, there are many issues at stake in public discussions and scholarship that explore connections between sleep and sport. The rise of a sport-related biomedical sleep discourse in the current moment is often portrayed as if it were a force that might help to create more humane and healthier high performance sport settings. However, my research complicates such a view and argues that, instead of assuming that the promotion of sleep in the lives of athletes is always and inevitably benevolent (and alternatively that the negation or devaluation of sleep in sport is always detrimental and negative), it is more important to recognize the cultural and historical dynamics that shape such prescriptions in the first place. My research encourages sport scholars and practitioners to engage more with the limits of "healthy" high performance sport. For example, I wonder how the emergence of sleep positivity in sport might potentially create new types of medical problems for athletes around a bodily process that was previously somewhat unremarkable. How might discourses and ideas that elevate the role of sleep in the creation of athleticism also permit more and more of the athlete's life to be colonized by the imperative of performance? It is no longer enough to eat right and train hard. Athletes now have to maximize their sleep in order to stay competitive. Athletes can literally be "on" and subject to performance criteria 24 hours a day. What are the implications of athletes becoming more aware of themselves in terms of biomedical sleep science and more vigilant about "good" sleep? What are the implications of athletes beginning to adopt intense practices of self-

regulation and self-surveillance that are required to achieve such ends? How might discussions about sleep and sport obscure the issues and debates that we might be having about the nature of the modern sport system?

Research Questions:

This research is guided by the following questions:

> 1) How have dominant understandings of sleep and its role in helping to produce athletic performance changed over the course of the twentieth and early twenty-first century?
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> 2) How has the convergence of sleep- and sport-related discourses both drawn upon and reinforced hierarchical understandings of social and bodily difference?
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> 3) How do ideas and discourses about sleep circulating in sport move beyond the realm of sport and in ways that could be shaping broader societal understandings of sleep, health, and bodily performance in modern life?

Methods:

Originally I had envisioned this project as one that would focus on various sport sites where conflicting ideas about sleep are visible within the contemporary moment. However, I quickly realized that there were no historical research accounts within the critical sport literatures that did not simply assume the nature of sleep. One of the important findings in this project is that interest in the sleep habits of athletes is not especially "new" despite the growing chorus of scientific and sport experts who claim otherwise. Indeed, the oft-repeated refrain that the sports world is finally waking up to the importance of sleep for athlete performance, health, and wellbeing is one of the persistent ideas in circulation in the sporting realm today. However, shortly into the process of doing research, I realized that the sleep practices of athletes have been widely discussed and variously understood among North American and other sport practitioners, trainers, medical and scientific authorities since at least the late 1800s (Berryman & Park, 1994; Hoberman, 1992).

My research was rooted in a North American context and broadly conceptualized around four key historical moments when major shifts or notable tensions related to sport and sport science, or developments around sleep science and technology became visible. I drew upon a wide range of historical primary documents, including:

- Athletic training and coaching manuals (1900s-1990s);
- Physiology textbooks, educational films, and documentaries (1920s- 1990s);
- Newspapers, popular magazines, and books, and commercial advertisements (1900-present);
- Peer-reviewed scientific journals from the sport and sleep sciences, in particular from journals such as Exercise and Science Review, British Journal of Sport Medicine, Medicine & Science in Sport & Exercise, SLEEP, and Sleep Health (1980s-present);
- The biographies of sports stars and prominent human performance scientists (1980spresent);
- U.S. government documents, reports, and policies (1980s -present);
- Social media feeds and websites of popular "sleep coaches" and sleep promoters (2000 present);
- Websites and online materials of emerging performance optimizing companies (2000-present).

I also traveled to Harvard University to collect historical materials related to the accomplishments of the Harvard Fatigue Laboratory (HFL). The HFL operated from 1927 until 1947 and is seen by historians and scientists alike as the most important institution in the history of modern sport science (Johnson, 2011; Hovarth & Hovarth, 1975). The HFL archives were located in two primary locations on the university campus: The Center for the History of Medicine at the Francis Countway Library and the Historical Collections at The Baker Library located at Harvard Business School.

My methodological framework was contingent upon me reading and re-reading documents and using primary sources to create narratives about shifting and conflicting ideas about sleep in athletic training. I read each document for "interests". At times, this process involved keeping track of whose voices and experiences are included (and excluded) in discussions of sleep and sport performance. At other times, it involves trying to understand how the meanings of sleep and sport in a certain context directly benefit some groups and not others. This approach required an understanding of how conversations about sleep and sport depend on pre-existing relations of power that often run along gendered, raced, and classed lines. For example, a close reading of sleep and sport may reveal underlying ideas about the meritocratic nature of sport and society, dominant understandings of hard work, personal achievement, and individual responsibility.

Ultimately, this project's historical approach allowed me to highlight the unique scientific and cultural trajectories that shape how we come to understand the relationships among sleep, human performance, and athletic potential today.

Findings:

The rise of a sleep positive culture within sport has implications for athletes, coaches, and others who find themselves deeply involved in the pursuit of high performance. I would not deny that the adoption of more "sleep-friendly" attitudes and schedules could have positive effects, as least in the short term, for sport practitioners. As indicated in the scientific literature, longer and better quality sleep could well help athletes to perform better and experience wellbeing. However, I would like to take this opportunity to summarize some of the implications of calls for more and better sleep that are often overlooked in common sense narratives that position sleep promotion as an unquestionable good.

The recent emergence of sleep positivity within sport, as characterized by the expansion of scientific research and the growth of new sleep technology companies, increasingly shapes how sleep-related problems are defined and managed in the sport realm. A promotional sleep culture has the potential to allow more and more of athletes' lives to be taken up and directed by their future sport performance. When sleeping is part of training, the work of being an athlete never stops. My dissertation has shown that there is a long history of managing sleep in athletes. The recent growth of sleep positivity and the proliferation of sleep tracking technologies may intensify longstanding practices that have consistently led to the moral and physical regulation of sleep in athletes. Sleep monitors, apps, and text alerts potentially anchor athletes more deeply into webs of power and create new ways of assessing who is a "good" or "bad" sleeper. As athletes become more intensely aware of their sleep and its relation to performance, new forms of self-awareness develop and novel ways of acting upon the body ensue. For instance, athletes might worry more about sleep quality and quantity. They may begin to restrict non-sport activities to be able to get the long periods of sleep now required. In other words, understandings of sleep in high performance sport have implications that move far beyond this domain.

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