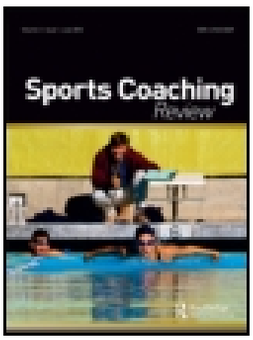

Sports Coaching Review

ISSN: 2164-0629 (Print) 2164-0637 (Online) Journal homepage: http://www.tandfonline.com/loi/rspc20

The cyclical relationship between physiology and discipline: one endurance running coach's experiences problematizing disciplinary practices

Timothy Konoval, Jim Denison & Joseph Mills

To cite this article: Timothy Konoval, Jim Denison & Joseph Mills (2018): The cyclical relationship between physiology and discipline: one endurance running coach's experiences problematizing disciplinary practices, Sports Coaching Review, DOI: 10.1080/21640629.2018.1487632

To link to this article: https://doi.org/10.1080/21640629.2018.1487632

Published online: 26 Jun 2018.

SPORTS COACHING REVIEW
https://doi.org/10.1080/21640629.2018.1487632

Routledge
Taylor & Francis Group

ARTICLE

The cyclical relationship between physiology and discipline: one endurance running coach's experiences problematizing disciplinary practices

Timothy Konoval[a], Jim Denison[a] and Joseph Mills[b]

[a]Faculty of Kinseiology, Sport, and Recreation, University of Alberta, Edmonton, Canada; [b]Department of Sociology, St. Mary's University, Calgary, Canada

ABSTRACT

There have been numerous calls by coaching researchers for Foucauldian-informed coach developers to help coaches change their practices to be less reliant on discipline's techniques and instruments. In this paper, we explored what it might mean for a Foucauldian-informed coach developer to work collaboratively with a male university endurance running coach as he learned how to problematize the use of discipline. More specifically, we examined some of the barriers, challenges, and opportunities that the coach experienced as he attempted to learn, in collaboration with the first author, how to question the unintended consequences of discipline's techniques and instruments and rethink the "total effects" of his coaching practices. The results revealed that the coach was able to show a degree of problematization, however, in the field the deep-rooted connection between endurance running, physiology, and discipline made coaching for him in a less disciplinary way a challenge. To conclude, Foucauldian-informed coach developers working in sports where physiology is the predominant sport science could use specific pedagogical strategies that work with and explicitly complicate the strong cyclical relationship between discipline and physiology to help coaches implement practices that are less dominated by, not absent of, physiology.

ARTICLE HISTORY
Received 19 March 2018
Accepted 22 May 2018

KEYWORDS
Coach learning; problematization; disciplinary power

Introduction

It has long been established that effective coaches need to be developed in order to maximize athletes' performance potential and ensure that they have the greatest opportunity to excel. Research in exercise physiology (e.g. Bompa & Haff, 2009) has helped coaches understand the energy demands of their athletes' bodies, while current sport psychology research (e.g. Côté & Gilbert, 2009) has shown the importance for coaches to develop strong

CONTACT Timothy Konoval konoval@ualberta.ca University of Alberta, 116 St & 85 Ave, Edmonton, AB, T6G 2R3, Canada

intrapersonal and interpersonal skills to become more effective. However, recent sociologically-informed effective coaching research has demonstrated the need for coaches to consider how wider operations of power that circulate in and around every coaching context can limit and constrain the effectiveness of their practices (e.g. Cassidy, Jones, & Potrac, 2009; Cushion, 2010; Denison, 2007; Jones, 2006). More specifically, Foucauldian effective coaching research that has focused specifically on endurance running has clearly shown the need for coaches to develop an awareness and understanding of the objectifying and normalizing effects that their coaching practices can have on their athletes' development (e.g. Denison & Mills, 2014; Denison, Mills, & Konoval, 2017; Mills & Denison, 2013).

Over the last decade, a group of Foucauldian coaching researchers (Denison, 2007, 2010; Denison & Avner, 2011; Denison, Mills, & Konoval, 2017; Mills & Denison, 2013) have used Foucault's (1995) analysis of discipline to show how coaches use a range of disciplinary techniques and instruments to transform their athletes into winning bodies. However, the uncritical use of various disciplinary techniques and instruments can also, unwittingly, make athletes docile (Foucault, 1995). Docility has been shown to be a problematic state for athletes aiming to achieve maximal performances (Barker-Ruchti & Tinning, 2010; Denison, 2007; Shogan, 1999). Consequently, there have been numerous calls by coaching researchers (e.g. Denison, Pringle, Cassidy, & Hessian, 2015; Mills & Denison, 2013) for Foucauldian-informed coach developers to help coaches change their practices to be less reliant on discipline's various techniques and instruments.

In response to this call, in this study the first author acted as a Foucauldian-informed coach developer to work collaboratively with one male university endurance running coach in an effort to develop and implement a number of less disciplinary coaching practices. In what follows, we first outline the relationship between discipline and effective endurance running coaching. Next, we present the rationale for the methodology followed by the results and discussion. We then conclude by suggesting how future coach development collaborations can be more effective.

Discipline and effective endurance running coaching

For Foucault (1995), discipline is a vehicle for power that is comprised of "a whole set of instruments, techniques, procedures, levels of application, and targets" (p. 215). To illustrate how discipline operated, Foucault outlined four specific techniques: 1) the *art of distributions (i.e. space)* that involved how bodies were managed and used in spaces; 2) the *control of activity (i.e. time)* that involved how bodies were shaped by time in these spaces; 3) the *organization of genesis (i.e. organization of movement)* that

involved the way specific bodily practices were categorized and grouped; and 4) the *composition of forces (i.e. planning)* that involved the way bodies were brought together to function as a machine. Importantly, these techniques did not operate in a disjointed or fragmented manner. Rather they worked together to exert their influence over the body through specific instruments: *hierarchical observation, normalizing judgment* and *the examination*. Taken together, Foucault believed the wholesale application of these disciplinary techniques and instruments produced docile bodies.

According to Foucault (1995), *docility* suggests "a hold by another over others' bodies, not only so that they may do what one wishes, but so that they may operate as one wishes, with the techniques, the speed and the efficiency that one determines" (p. 138). A docile body, moreover, can be "subjected, used, transformed and improved" (p. 136) to unquestioningly adhere to the strict orders of those in charge. Though docile individuals can be very productive, Foucauldian-informed coaching researchers have shown that coaches' unquestioned use of a range of disciplinary techniques and instruments that render athletes docile can undermine athletes' ability to develop important skills and qualities related to excellence in sport such as decision making, problem solving, and a greater understanding of their capacities and capabilities (e.g. Denison, 2007; Gearity & Mills, 2013; Jones, Glintmeyer, & McKenzie, 2005; Mills & Denison, 2013; Shogan, 1999). One sport in particular that has been studied by these researchers is endurance running (e.g. Denison, 2010; Denison, Mills, & Jones, 2013).

In 2013, Mills and Denison examined how 14 high-performance endurance running coaches emphatically used disciplinary techniques in their practices and what effects this appeared to have on their understanding of how to coach effectively. For example, all of the coaches controlled their athletes' movements by relying heavily on the use of a stopwatch (i.e. temporal control). This can easily shift a coach's focus away from other important athlete attributes such as breathing and rhythm (Allen-Collinson, 2009; Allen Collinson & Hockey, 2007; Denison, 2010). Furthermore, coaches controlled their athletes' bodies by producing, albeit unintentionally, clear ranking systems (i.e. the art of distributions) in order to make it easier for them to monitor and judge each athlete's progress relative to the others. Interestingly, when the coaches in Mills and Denison's study were made aware of their use and the unintended consequences of various disciplinary techniques and instruments in a follow-up interview they all agreed it was a problem. However, the coaches were at a loss for how to resolve this, as they believed implementing disciplinary techniques in their everyday practices was the only way to be an effective coach. As a result, Mills and Denison concluded that learning how to problematize the unintended consequences of discipline's techniques and instruments could enable endurance running coaches to consider the total

effects of their practices, and lead to more effective coaching practices; especially if athlete peak performance is the ultimate aim.

For Foucault (1978, 1995), problematization is an open-ended form of critical reflection where an individual questions the assumptions that underlie existing ways of practicing. In endurance running, coaches might learn to problematize the strong relationship between dominant sport science knowledges (i.e. exercise physiology, biomechanics, motor learning) and discipline's techniques and instruments and how they operate together to support and determine what can be known as effective coaching practices and what cannot (Denison, Gilbert, & Potrac, 2013; Mills & Denison, 2013). An element that might challenge coaches' ability to problematize their use of disciplinary practices is the dominant place traditional sport science knowledges (i.e. physiology, motor learning, psychology) hold in coaching cultures. Accordingly, certain knowledges frame the "dominant ways of understanding a particular social field (e.g. coaching), as well as understanding the dominant practices within a particular social field (e.g. coaching practices)" (Avner, Jones, & Denison, 2014, p. 43). According to Foucault's view of power (1978), dominant knowledges intertwine with power relations to create a knowledge-power nexus that can act as a powerful tool in determining the practices that individuals are able to use. In endurance running, Mills and Denison (2015) have outlined how physiology, which examines how athletes' bodies adapt and respond to physical stress through training practices, has become the dominant knowledge in endurance running coaching.

To give an indication of what coaching endurance runners in a less disciplinary way might look like in practice, Denison and Mills (2014) provided a number of applied training examples. For example, a coach could disrupt the effects of time by asking athletes to remove their watches during a workout. Such a change might help coaches learn more about how their athletes are responding to various efforts, rather than only understanding their athletes' responses in relation to training times. Furthermore, a coach could disrupt the effects of space by having athletes complete repetition workouts (a staple of endurance running training) over less common distances (e.g. 341m or 787m). This change could help a coach make less judgments and comparisons about athletes' progress through well-known distances, and instead come to understand their athletes' progress in more fluid and nonlinear ways. Importantly, Denison and Mills warned that without being able to "continually problematize and regularly disrupt" (p. 13) the use of discipline in their practices, any changes to coaches' practices will likely still occur within the same controlling framework.

Following numerous calls by Foucauldian coaching researchers (e.g. Denison et al., 2013, 2015; Mills & Denison, 2013) to explore what it might mean for coaches to learn how to problematize the use of discipline

in their practices, this study presents the first attempt at a coach development collaboration between a Foucauldian-informed coach developer and an endurance running coach. More specifically, over a five-month period, the first author acted as a Foucauldian-informed coach developer working collaboratively with a male university cross-country coach to support him in developing and implementing a number of less disciplinary coaching practices. Therefore, framed through Foucault's (1995) analysis of discipline, this study examined some of the barriers, challenges, and opportunities that an endurance running coach experienced as he learned to problematize the use of discipline in his practices. We will now outline the methodology that informed this study.

Methodology

This study was guided by the post-structuralist research paradigm. Instead of searching for one fixed meaning through objectivity, post-structural researchers assume a subjective epistemology as they see knowledge and meaning constantly changing through a complex array of influences that are contextually specific. Furthermore, unlike humanist – interpretive and critical – researchers, post-structural researchers assume an ontology that considers reality to be multiple, fragmented, and continually contested (Markula & Silk, 2011). Foucault's theoretical framework has been situated within the post structural research paradigm because his view of power as relational, omnipresent, and productive, disrupts dualistic views of power and critiques the notion of single objective truths. As a result, post-structuralism allowed us to use Foucault's (1995) concepts, specifically his disciplinary techniques and instruments and his understanding of problematization, to determine our research question, select our methods, and collect and analyze our empirical material. A post-structuralist perspective is particularly well-suited for this study because of its aim to create theory-driven change to problematic practices (Avner et al., 2014). We will now discuss the selection of the research participant followed by the methods we employed for this study.

Sample

This study was conducted with one high-performance university cross-country running team consisting of one male head coach and 20 athletes (10 male and 10 female). To select the coach participant for this study, who we will identify using the pseudonym Cliff, we used criterion-based sampling (Patton, 2002). We arrived at the criteria for the coach participant following the completion of three pilot studies with various endurance sport coaches (i.e. triathlon, swimming, cross-country skiing). More

specifically, the criteria involved a willingness on the part of Cliff to: engage with an alternative coaching knowledge, implement different coaching practices, provide the first author with access to all of his training practices, and meet with the first author regularly to discuss and summarize his understanding of Foucault's concepts (i.e. discipline's techniques) while also discussing his implementation of less disciplinary practices. We deemed Cliff to be an appropriate participant through three informal meetings where we discussed his interest and suitability. Cliff has coached at a national coaching institute, earned a Master's degree in coaching, and has worked both at a regional and national level as an endurance coach educator. As the acting Foucauldian-informed coach developer for this study, the first author has a great deal of experience as a former elite endurance runner and as an endurance running coach at multiple levels. This has given him a deep understanding of endurance running cultures. In addition, the first author had gained an in-depth understanding of Foucault after three years of reading the Foucauldian coaching literature and Foucault's theory, most specifically, his seminal text, Foucault (1995). This close reading, in combination with his pilot study experiences, allowed the first author to become proficient at identifying and discussing Foucault's disciplinary framework in an accurate and applied way with a practicing coach.

Methods

This coach development collaboration took place over a five-month cross country running season that was split into two main phases: a familiarization phase and an application phase. For the familiarization phase that spanned over the first two months, the first author observed eight of Cliff's practices and kept detailed field notes of the presence and activity of Foucault's (1995) disciplinary techniques and the effects these presences and activities appeared to be having on Cliff and his athletes. The overall goal of the observations during this phase was to understand and develop some familiarity with Cliff's common and everyday coaching practices. Observations made it possible to become more aware of the context of Cliff's practices in a way that other methods cannot achieve (Patton, 2002). Following categorizations by Gibson and Brown (2009), some practice observations were done as a passive and known observer, whereas for other practices the first author was an active participant by, for example, assisting Cliff with pylon placement or timing athletes when he asked. All observations were captured in field notes that were recorded within an hour of each practice. Practices took place throughout the season two to three days per week in different parks close to the university (6–10 hours per week).

During the application phase that took place over the remaining three-months of the cross country running season, changes were made to 12 of Cliff's practices using the following three steps. First, the first author conducted "practice development meetings" each Monday to develop new practice(s). These meetings resembled more of a conversation, as they were highly collaborative. Working collaboratively meant that the first author did not go into the meetings with predetermined practices for Cliff to implement. Instead, Cliff or the first author first identified an opportunity for improvement, then the first author introduced how disrupting the unquestioned presence of one of Foucault's disciplinary techniques or instruments could help, and together Cliff and the first author designed a practice that destabilized the chosen technique(s). The disciplinary technique(s) we chose to disrupt were fluid and were wholly dependent on the nature of our discussions and Cliff's interests and needs. Second, the first author observed Cliff's implementation of the new practice(s), typically on a Tuesday, Thursday, or Saturday of the same week. For these observations the first author followed the same approach noted above. After each observation, the first author recorded detailed field notes that captured Cliff's implementation of the new practice in relation to our Foucauldian theoretical framework (Angrosino, 2005; Markula & Silk, 2011). Importantly, all field notes influenced what Cliff and the first author discussed in subsequent meetings, and in turn, what they discussed in the meetings was followed up in the field. Third, during the week that followed the new practice(s), the first author conducted "practice evaluation meetings" to discuss Cliff's most recent implemented practice(s). If needed, they also recapitulated how thinking with Foucault could enable him to coach differently. Meetings were typically 60 to 90 minutes long, and there was crossover between some practice development and evaluation meetings. Overall, this study was informed by 10 audio-recorded meetings between Cliff and the first author, and observations of 20 of Cliff's practices throughout the season. Ethics approval was gained and the participant signed an informed consent.

Data analysis

Post-structuralist research is subjective. This means that researchers are constantly interpreting their own and other individuals' accounts about what they did and why they did it in order to produce informed and theoretically-driven analyses (Denzin & Lincoln, 2008). Therefore, to complete a rigorous analysis of the empirical material we drew heavily on our Foucauldian theoretical framework (Markula & Silk, 2011). To do this, a Foucauldian theory-based analysis technique guided the analysis of all of the meetings and field notes. Our technique for analyzing our empirical material (i.e. meetings and field notes) was as follows: 1) We identified all

possible themes found within our empirical material, 2) We then analyzed the intersections and discrepancies between themes to identify new possible themes, and finally 3) We connected these themes to Foucault's (1995) disciplinary techniques and instruments, Foucault's notion of problematization, and previous Foucauldian coaching literature (Markula & Silk, 2011). The main difference between the analysis of our meetings and field notes was that the first author only wrote field notes that directly related to our theoretical framework, but we analyzed entire meetings. Following recommendations from Markula and Silk (2011), all empirical material was continually analyzed throughout the research process to ensure the coach development collaboration remained theory-driven. We will now present our findings, followed by the conclusion.

Developing less disciplinary coaching practices

Since this coach development study was entirely collaborative, the results will highlight various interactions between Cliff and the first author in order to draw a more accurate picture of their shared experiences of working together. The results are organized according to the three steps of the application phase. These steps were the practice development meetings, practice observations, and the practice evaluation meetings. We will begin discussing our findings by briefly outlining four examples of the 12 less disciplinary practices that Cliff and the first author developed to show the initial intention of the practices and illustrate how the practices were different from Cliff's typical coaching practices. Due to limited space, we choose four practices that most effectively illustrated our main themes. In addition, we believe these four practices provide the most depth to Cliff's overall experiences developing and implementing less disciplinary practices. In the second section, we will return to the four highlighted practices to examine Cliff's actual implementation of these practices based on observations in the field. Our analysis will draw from our empirical material (i.e. field notes, meetings) to illustrate how Cliff's effort to problematize the use of discipline in his practices was at times limited by the dominance of physiological knowledge, which is heavily drawn upon in endurance running to help coaches plan and evaluate their practices.

Practice #1: temporal control

Cliff and the first author began developing less disciplinary practices at the beginning of the application phase. The application phase took place during the third month of the collaboration. One of the first opportunities that Cliff identified in a practice development meeting was a problem with how his athletes' training times often placed boundaries around what they

believed their bodies were capable of doing. In Cliff's words, his athletes were "paying too much attention to their training times instead of honing in on how their bodies are actually feeling." In previous observations of Cliff's practices, the first author noted that Cliff and his athletes used their stopwatches to time and record almost every repetition and its corresponding recovery. With these training times, Cliff could closely monitor his athletes' effort levels in order to assess their physiological progression. However, as Foucault (1995) showed, the precise and constant application of temporal forces can also be used to judge individuals bodies according to fixed norms. Following recommendations by Denison and Mills (2014), the first author explained to Cliff how a consequence of temporal control is that it could lead his athletes to experience a number of unintended consequences, such as those that Cliff sensed: his athletes' unawareness of their bodies. To destabilize temporal control, Cliff developed a practice where his athletes would run various repetitions on the track without the use of a stopwatch. Cliff hoped this practice would help his athletes begin to learn how to listen to their bodies' unique cues and energy levels, rather than judging their effort and fatigue based on their previous repetition times, their teammates' times, or times set by Cliff.

Practice #2: spatial arrangements

In another practice development meeting mid-way through the first month of the application phase, the first author mentioned to Cliff that his athletes always trained in the same training groups and ran in the same order during every practice. Indeed, this spatial control was useful to Cliff because it allowed him to more easily compare and judge his athletes according to their usual rankings. However, Foucault (1995) argued that individuals who are consistently held in a specific rank could come to internalize their rank as a truth. In endurance running, this makes moving into any other rank or position in a practice or race difficult for athletes as they can too easily internalize their ranking as the place they must occupy (Mills & Denison, 2013). After explaining the effects of rank to Cliff, he said, "I agree that pecking orders can be problematic on cross country running teams." The first author then used the example of how if an athlete is consistently ranked fourth in team practices, it might be difficult for him or her to move out of this ranking in a race. After this explanation Cliff agreed that destabilizing his athletes' training groups was worth doing. We subsequently developed a practice where his athletes would run three to five mile repetitions, however, unlike his typical practices where all of the athletes would leave at the same time for each repetition, all of the athletes would wait on the start line for each repetition until Cliff released each athlete at an unspecified time. By doing this, Cliff was

attempting to destabilize the predetermined order his athletes would normally sort themselves into at the beginning of each repetition so that they could experience running in a new position or space, and potentially come to understand their unique capacities in less restrictive ways.

Practice #3: organizational practices

In a practice development meeting at the end of the third month of the study, Cliff was keen to discuss why some of his athletes felt as though they were not able to physically reach the point of exhaustion in their first race of the season. More specifically, Cliff said, "many of the athletes felt as though they were not able to find that next gear and really dig deep in the race." Foucault (1995) demonstrated how organizing successive segments of time into a linear timeframe that progresses to a stable point (i.e. repetition-based training) can, if one is not careful, "make possible a perpetual characterization of the individual either in relation to this term, in relation to other individuals, or in relation to a type of itinerary" (p. 161). Consequently, a series of predetermined repetitions in a practice can easily make it difficult for some athletes to explore their unique personal limits. Predetermined repetitions can also minimize the types of feedback coaches can get from their athletes because they are simply following the coach's set plan. Following Cliff's concern of allowing his athletes to experience running until the point of exhaustion, the first author explained to Cliff that his athletes may have felt limited in races because they typically have to run a "right" number of repetitions in practices (e.g. 8 x 400m) that in turn can make it difficult to run until the point of exhaustion in their races because, as the first author asked Cliff, "How can you expect your athletes to run to their maximum potential in races when their practices are not structured in a way that allows them to experience this?" As the discussion proceeded, Cliff appeared eager to modify the organization of part of his next practice that consisted of 200m repetitions on a grass field, so that his athletes would not have a minimum or maximum number of repetitions to complete, but instead could run until they felt as though they reached exhaustion.

Practice #4: planning practices

In a practice development meeting that followed his team's second race at the beginning of the fourth month of the study, Cliff felt as though there were no opportunities for his athletes to more effectively recover after their races as they felt fatigued. For endurance running coaches, it is important that athletes recover so they can prevent injury from overtraining and feel fresh for future practices. Specifically, Cliff noted that many of his athletes appeared consistently fatigued, and therefore, not performing at an optimal level. Based on this, Cliff and the first author discussed what it might mean to give his athletes

greater control over the structure of their recovery practice, which took place the following Tuesday. For Cliff, recovery practices were done as a form of active recovery, so his athletes would still maintain a degree of fitness. Greater control over the design of their recovery practice was different from Cliff's typical recovery practices where his athletes would complete between five to ten repetitions of two-minute moderate efforts followed by two-minute easy efforts in their typical training groups. Cliff asked the first author to redesign this practice so that he could see what a truly Foucauldian-inspired practice looked like. Accordingly, the first author designed the following practice for Cliff to explain to his athletes:

> The purpose of this practice is for you to do whatever you need to do to feel recovered with no more than 20-minutes of tempo running. However, you can organize this in any way you would like. For example, as two extremes, you could do 20-minutes of straight tempo or you could do 40 x 30-second repetitions. You can also decide to go on your own or with a group. Moreover, you can decide to change the structure of the session at any time. It is important to take some time to think about this and how you are feeling before you start the practice. Please try not to ask me questions about what I think you should do.

This practice was developed to destabilize all of Foucault's four disciplinary techniques as athletes choose the time and space to complete the practice, planned the practice structure (i.e. organization of genesis), and decided to train individuality or in a group (i.e. the composition of forces). In addition, when the practice was presented to Cliff, it was explained that these were general guidelines and he could deliver the purpose of this practice to his athletes in a way that worked for him.

When discussing each of the practices outlined above, the first author weaved in caveats about how these new practices would challenge Cliff because, for example, his modes of evaluating practices using discipline's instruments would change. This would inevitably leave him with no way to judge how his athletes' bodies were progressing. While Cliff indicated he understood the consequences of such a departure from his normal coaching practices in the practice development meetings, in what follows, our analysis of Cliff's experiences in the field suggest that implementing the aforementioned practices was not always so straight forward.

Implementing less disciplinary coaching practices

During most of our practice development meetings, Cliff appeared willing to explore Foucauldian-inspired problematizing of his practices and he was comfortable with having conversations about making changes to his programming – the organization and structure of his coaching practices. Moreover, he was often eager to implement the less disciplinary practices we developed. Specifically, Cliff showed the ability to identify problems

with disciplinary techniques in his practices. This in itself shows a strong degree of problematization. Indeed, this was an encouraging finding that we believe showed a high-level progression for a coach to even entertain this alternative knowledge and be willing to change many of his normal everyday coaching practices. But although the aforementioned practices were developed with the "intention" of destabilizing various disciplinary techniques, and by extension discipline's instruments, in the field, this did not necessarily occur as we anticipated. And in what follows we will discuss how the slight adaptations Cliff made to these practices allowed them to remain informed by physiological knowledge instead of Foucauldian theory. Importantly, we will try to show that these practices were not implemented in this way because of Cliff's reluctance or hesitation, rather we will show that there were broader forces at play that highlight the difficulty in this work.

Practice #1: maintaining temporal control

In the first previously described practice that Cliff and the first author developed to destabilize temporal control, Cliff asked his athletes to remove their stopwatches for various repetitions on the track. But as the first author wrote in his field notes, "Cliff's athletes removed their watches but Cliff did not remove his own watch and continued to time some of his athletes. I should have made it more clear that he also needed to remove his watch." Indeed, some of the athletes appeared to know that Cliff was still timing (read judging) them and proceeded to look to Cliff for guidance as to whether they should speed up or slow down. In this way, while the athletes were uncertain of their training times, they knew their coach wasn't, and that he was still able to monitor their effort levels. As a result, temporal control had not been disrupted in any meaningful way. Rather, it was made clear to the athletes that controlling time was important to Cliff, and by extension should be important to them.

In the evaluation meeting that followed this practice, Cliff expressed concerns with the practice, but not those that we noted. For example, he said, "I don't think the practice was successful at teaching them (the athletes) anything new about their bodies, which was what we wanted." He continued by saying that this practice showed him that his athletes were "not affected" by time because they appeared unmoved by not having their stopwatches. When the first author prompted Cliff to talk more specifically about his evaluation of this new workout, he quickly remarked that for him the practice did not change the way he normally coached. The first author then explained to Cliff that this might be because he was still facilitating temporal control by continuing to time his athletes. Cliff responded by saying he did not fully understand how he was controlling

his athletes because "it was not like I was running behind them with a whip!" This is true. But while timing endurance runners to get a better indication of how their bodies are progressing is a normal aspect of endurance running coaching, this practice was meant to have the athletes focus less on objective feedback about how their bodies were responding and instead experience running beyond temporal constraints. As the meeting came to an end, Cliff remained sceptical about why he also had to be uncertain of his athletes' training times.

The implementation of this practice illustrates how understanding discipline can be so difficult because, as Cliff pointed out, it allows normalizing judgments to be implemented without requiring "excess force or violence" (Foucault, 1995, p. 177). But in talking about the prison guards, Foucault (1995) said, "even if they do not make use of violent or bloody, even when they use 'lenient' methods involving confinement or correction, it is always the body that is at issue – the body and its forces, their utility and their docility" (p. 25). For this practice, the continued reliance on discipline allowed Cliff to, albeit unknowingly, ensure that many of his athletes still achieved the "acceptable" coach-controlled physiological adaptation. Of course, managing athletes' bodies to ensure they achieve the proper physiological response typically illustrates effective endurance running coaching (Mills & Denison, 2013). However, by continuing to time his athletes, Cliff maintained subtle control over his athletes' bodies in this practice because he was still able to employ disciplinary instruments (Foucault, 1995) to hold some of his athletes in very specific ways (Mills & Denison, 2016). As the coach developer, the first author must take responsibility for this discrepancy because he was not able to effectively explain to Cliff how timing his athletes would maintain the dominance of physiological truths about the body, and therefore, would likely minimize the potential impact of athletes running without a watch.

Furthermore, this practice example highlights an important disconnection between Cliff and our focus of the practice changes. Most notably, we were more interested in how the practice changed his coaching and his reliance on timing his athletes to be effective as a coach, whereas Cliff, understandably, was more interested in how the practice effected his athletes' responses to their training. Although the first author often mentioned to Cliff that their collaboration was a coach development initiative, it makes sense that he focused on how the changes were going to affect his athletes. At the end of the day, his employment is judged on whether or not his athletes achieve various performance standards. Moreover, applied sport science interventions are typically designed to elicit specific athlete improvements. In this sense, Cliff was only following the dominant understanding of sport science research initiatives. Whereas there are fewer examples of applied coach development interventions where the outcomes

are intended to affect the coach, with the athletes then benefitting due to the coach changing his or her practices. In this way, this less disciplinary practice may have been framed too much around the changes we hoped the athletes might experience and not enough around the changes Cliff could experience. Thus, the first author likely assumed too much and failed to make it explicitly clear that Cliff had to also change by removing his stopwatch. This important point indicates how coach developers need to constantly problematize the network of power relations surrounding any coaching context that might influence the implementation of less disciplinary practices. Overall, while it can be important to time athletes' repetitions to ensure they are achieving an effective physiological stimulus, timing athletes in this practice reinforced the dominance of physiology and maintained the importance for the athletes to determine their bodily efforts according to time.

Practice #2: sustaining spatial arrangements

In the second previously described practice, Cliff and the first author aimed to destabilize the formation of rank in his training groups. However, the field notes indicated that, "Cliff was not always able to split-up certain partnerships." Specifically, Cliff kept the two top performing (i.e. highest ranked) athletes from his women's team and some of the top performing athletes from his men's team together for some of the repetitions. Keeping his top performing athletes together allowed Cliff to still observe and make judgments about some of his athletes' performances and progressions. When I asked Cliff after the practice why he had decided to keep some of his athletes together, he exclaimed, "athletes will always get the most (i.e. achieve the strongest physiological adaptation) out of each other in a group. And I need certain athletes to train together for every practice."

While Cliff believed his athletes would benefit from experiencing less spatial control by rank, he also had concerns with his ability to "manage all the moving parts" during the practice. Cliff said, "I think where I failed was in the design of the session was that it was just too chaotic which made it too difficult for me to manage in the moment." Cliff felt as though he had to modify the athletes' groupings so that some of his athletes could remain together. However, when the first author suggested to Cliff that the intended effect of the practice might have been minimized by this small but influential modification, he responded with reservations about why he had to split up all of his athletes in the first place. Specifically, Cliff said, "by doing too much destabilization we took away from the fact that we have a group of individuals that will be able to get more out of each other (physiologically) by being together." Without a doubt this makes sense, as

training athletes together can be an effective training technique. We should also note that Cliff has a great deal of experience developing high-calibre athletes. However, in this practice, the dominant view that training athletes together as a unit (read machine) always allows for a more physiologically efficient training practice might have limited the intended effect of destabilizing athletes' rank.

According to Foucault's (1995) composition of forces, training athletes' together in a group means that all individuals can be monitored as one element of a machine, in order to know their place "as well as the accompanying array of habits, behaviours, and idiosyncrasies that determine what he or she should be doing" (Denison, Mills, & Jones, 2013, p. 394). By destabilizing his athletes' regular training arrangement too much, Cliff believed some athletes were not being pushed to run faster by their faster ranked teammates, and therefore, were only gaining a sub-optimal physiological response. When the first author explained how it is critical for his athletes to learn how to push themselves independent of each other as they will in races, Cliff countered by saying that his athletes had "been together for so long that. . .not that I am afraid of this. . .but they will ask why are you splitting us up when you spent four years putting us together?" Indeed, this is a valid point. Athletes can easily become accustomed to training a certain way, and might struggle to accept any sort of change. Following this, Cliff called upon his physiological knowledge to affirm his actions when he said, "For me there are just more (physiological) factors that come into play here that we are not talking about." Here Cliff might have felt pressured to produce the right answer as he fell back on physiological knowledge, knowledge he was confident and comfortable with, to make sense of the discrepancy.

In our practice development meeting, Cliff initially saw the need to destabilize rank in order to allow his athletes to experience their training capacities irrespective of their teammates. However, the realization that his top performing athletes might not be achieving an efficient, coach-determined, and physiological adaptation led Cliff to slightly modify the less disciplinary practice for some athletes. Importantly, underlining the combination of forces becoming such a focal point was Cliff's requirement to have a benchmark of the practice's success for select athletes. Nevertheless, Cliff continued to practice normalizing judgment (Foucault, 1995) because it maintained the effects of discipline by allowing him to know and modify his athletes' bodies in specific ways. Similar to the first practice, it is possible that conversations might have been too focused around how the changes could effect the athletes while not giving enough consideration to how the changes might effect Cliff's coaching. This was the first author's fault as the coach developer because he did not help Cliff consider all the various influences that would be at play that might

minimize the initial practice intention. Regardless, as the meeting concluded, Cliff said he would probably not do a practice that split up his regular training groups again and if he did, he said it would have to be "much more carefully planned out." And again, many endurance cultures and groups look to recruit athletes who can help to push other athletes by training together to achieve a high-quality physiological stimulus. But in this case, training together might have reinforced the dominance of physiological practice outcomes and deemphasized any alternative outcomes that may have been realized by destabilizing rank.

Practice #3: the "right" organizational practices

In the third previously described practice, Cliff intended to destabilize the organization of genesis as each athlete was able to stop a repetition-based practice when he or she felt he or she had reached exhaustion instead of having reached a coach-controlled maximum number. In the first author's field notes, however, he wrote:

> When Cliff talked to his athletes about this practice, he was a little vague about how each athlete had control over when he or she could stop. As the practice unfolded, the athletes seemed to follow the lead of Cliff's senior and top-performing athletes who controlled the pace for each repetition. Some of the younger athletes appeared to be confused about when they should stop. However, after eight repetitions, the senior top-performing athletes stopped and the other athletes followed. Throughout the practice, Cliff watched with intent, as he was curious to see how many they would choose to do. After the practice, Cliff appeared happy because eight is how many they normally do.

Although Cliff gave his athletes the opportunity to run any number of repetitions they wanted, they appeared unable to break away from what they considered to be the "right" number of 200m repetitions. When the first author asked Cliff in the next practice evaluation meeting if he thought the practice was successful in achieving its initial intent, he thought it was because his athletes ran the "right" number of repetitions without him having to tell them. Cliff said, "Eight was a good number given the hard practices that would be coming in the near future." The first author then reiterated to Cliff that our initial intention was for the athletes to take control and run until their individual point of exhaustion. While he understood, he was convinced that eight was the "right" number for everyone to do and that they appeared exhausted to him. As Foucauldians, however, we would argue that the organization of genesis had not been destabilized in a meaningful way. In fact, we will now show how the strength of the training plan, through the combination of the organization of genesis and discipline's instruments (Foucault, 1995),

appeared to make it difficult for the athletes to get beyond running the "right" number of repetitions to ensure the proper physiological response.

Endurance running coaches' training plans have become an important and powerful organizational tool by providing the ideal guide for how to develop the most successful athletes (Denison et al., 2013). A training plan produces a "linear timeframe where all progress orients to a fixed, stable point" (p. 393). In this way, knowing athletes' progress becomes imperative for coaches in order to ensure alignment with their stable and precise plan. A meticulously engineered training plan, therefore, gives coaches and their athletes the assurance that what practices they are doing are the "right" ones. However, Foucault (1995) warned that segments of time precisely organized in a "succession of elements of increasing complexity" (p. 158), such as a training plan, can be used to normalize, shape, and mould individuals to only follow very specific processes. As such, the strength of Cliff's established training plan may have made it difficult for his athletes to move away from Cliff's normal number of repetitions that lead to a very specific physiological outcome to experience running until exhaustion.

Adding to this, as one of discipline's instruments, *hierarchical observation* (Foucault, 1995) allowed discipline to continue to work in the absence of Cliff's direct instruction of when to stop. Cliff often mentioned that because he had a relatively large team and no assistant coach he relied on his senior athletes to help him manage training practices. For example, he said, "My senior athletes basically write their own training programs. I don't have to tell them much." But ironically, Cliff's senior athletes, who had been in his program the longest, were likely the most docile and therefore the least likely to change his practices. As a consequence, when Cliff did not explicitly tell his athletes how many repetitions to run, as he would normally do, he indirectly relied on his senior athletes to become his new eyes – part of the "perfect eye that nothing would escape" (Foucault, 1995, p. 173) – to ensure the younger athletes made the so-called "right" decision regarding the number of repetitions to complete.

Of course, Foucault (1995) was clear that discipline's instruments do not work in isolation. In this way, normalizing judgment and the examination also ensured that "various meanings already established as the 'right' ways to be remained fixed and in place" (Mills & Denison, 2016, p. 4). It is important to reiterate that this did not occur because of something Cliff did. In other words, it was not because of Cliff's direct influence that his athletes stopped at eight repetitions. Hierarchical observation has become an important part of the culture of many high-performance sport teams. But in this practice, its continued operation might have caused the athletes to run a number of repetitions that had been deemed appropriate or correct by their training plan, rather than allowing them to discover

their capacities beyond the usual number of 200m repetitions. As a result, even if an athlete wanted to do more or less repetitions, discipline's instruments worked to support and strengthen the organization of genesis by pressuring the younger athletes to stay in line with what the "normal" number of repetitions is. And no athlete wants to be seen as abnormal.

Later in the same evaluation meeting, Cliff and the first author discussed some of the unintended effects of his senior athletes upholding Cliff's usual training practices that could have limited the younger athletes from running until they reached their sense of exhaustion. Cliff responded by saying, "I certainly think that can happen. But the mature athletes can see beyond those things." He then said that his senior athletes making the decisions in the practice "was a demonstration of me being an effective coach throughout the years," because they knew the right number to do even when he did not explicitly tell them. Put another way, Cliff's senior athletes had internalized his training plan so completely that they determined what was the right number of repetitions to do for the group. Of course, effective coaches are often seen as ones who can motivate and educate their athletes to be able to take more responsibility over their own training practices. Based on this, Cliff was right to say that this practice illustrated that he had effectively created an efficient practice environment for his athletes. However, in this practice, the continued presence of disciplinary instruments may have prevented some athletes from pushing beyond their known physiological capacities to run until exhaustion. And it is also worth asking: Where did eight repetitions come from? Who is able to say this is the right number of repetitions? How did such understandings form and why is it so hard to deviate from? While the athletes are showing they can carry out a good plan, was it really the best plan for each of them?

Perhaps, then, the proposed practice consisting of running to the point of exhaustion presented too much of a physiological risk to Cliff's training plan? It is commonly understood that when planning the most efficient ratio of intensity and volume of running, coaches must always find the optimal balance between overload and recovery to avoid the negative performance related effects that could be caused by overtraining (e.g. Kiviniemi, Tulppo, Hautala, Vanninen, & Uusitalo, 2014; Meeusen et al., 2013). But what is optimal for each athlete is always changing in relation to his or her unique physiology, which is not static (Kiely, 2012). In addition, one would think that having athletes experience running until exhaustion is critical because, as noted above, this is exactly what they will have to do in races. Nonetheless, Cliff explained the physiological risks associated with implementing the "wrong" practice when he cautioned, "one of the fundamental things I learned growing up as a young coach was no one workout can make your season, but it can certainly break one." Of course, when we

consider athletes' training from a physiological perspective this makes perfect sense. However, similar to the aforementioned practices, this practice example shows how dominant the physiological understanding of endurance runners' bodies is, and how this dominance makes it so hard to conceptualize endurance running coaches' practices as having any other purpose then to progress athletes' physiological conditioning. In sum, because of how the organization of genesis and discipline's instruments worked together to support and cement certain physiologically informed practices as the only "right" practices (Mills & Denison, 2016), some athletes experienced a practice that was still dominated by physiological truths and not their own understanding of their bodies.

Practice #4: unencumbered planning practices

The fourth previously described practice was meant to help Cliff's athletes understand what they might need to do to recover more effectively. Field notes indicated that this practice appeared to be successful because the athletes were able to freely choose to do many different practices in different spaces, and either on their own or in a group. When describing his evaluation of this practice Cliff said, "I liked the idea of what we did for yesterday's recovery practice. I actually thought it worked out better than what we had done in the past." In general, Cliff felt as though he was able to get the objective (i.e. to actively recover) of the practice across without having to provide his athletes with the specifics of how to achieve that. Moreover, Cliff exclaimed, "…of the 30 athletes there were probably eight to a dozen different sessions that people did, and certainly after there were a lot of smiles. Almost all the athletes said it was just what they needed." Cliff continued by saying that the recovery practice allowed him to get a better idea of how each athlete preferred to train, which would help him develop more effective future programming.

The implementation of the recovery-oriented practice appeared to be more successful than the previous practices we described. This might have been because the physiological stakes were not as high given that this was "just" a recovery practice and not a building fitness practice. Therefore, Cliff was more open and comfortable to implement a less disciplinary practice that required less physiological demands as, for example, running all out until exhaustion would. In fact, his athletes' understanding how to recover properly would actually support Cliff in further managing risk because his athletes would know how to recover on their own instead of Cliff having to constantly remind them. In this way, Cliff may have been more open to try a less disciplinary practice that supported his agenda for training and did not pose too much physiological risk.

Furthermore, unlike the three practices previously discussed, Cliff was much more accepting, and actually appeared to welcome the ensuing chaos that this less disciplinary practice presented. In other practices, such as the practice that destabilized time, when the chaos, or lack of physiological control, became too much, modifications occurred that Cliff justified by saying things such as, "I changed it a bit because it was just too much chaos." Nevertheless, in the recovery practice, Cliff embraced the chaos and was intrigued to hear his athletes' responses. In Cliff's words, "more than anything, it did change some of the conversations after the practice. It changed because I now had very little information to go on about how the practice itself went." Cliff saw this feedback as giving him a better sense of how his athletes preferred to train: "I was intrigued with gathering information about each individual's practice in terms of what he or she decided to do because to me that was telling." This practice illustrates how when physiological risk was deemphasized, less disciplinary practice outcomes, and subsequently, the use of disciplines instruments, were able to be disrupted with little doubt or hesitation. Discipline's instruments were not required to evaluate athletes' bodies in the recovery practice because the outcome was not to progress athletes' fitness; instead it was just to maintain fitness.

As we alluded to in the literature review, physiological knowledge has become the dominant knowledge to inform endurance running coaches' practices. Consequently, our results have shown that the dominance of physiological knowledge, and by extension the disciplinary techniques and instruments, continued to dictate the types of coaching practices Cliff could implement. Looking back, as the coach developer, the first author might have done more to help Cliff challenge the dominance of physiology in their meetings. But in the meetings the first author was too focused on helping Cliff problematize and change his use of the disciplinary techniques and their effects. This meant that physiology, as the underlying knowledge informing the techniques, remained unquestioned. This might be because problematizing physiological knowledge, which we will soon show can be considered the roots of disciplinary coaching practices, is much more difficult than problematizing the effects of more visible disciplinary techniques. Indeed, it was clear that Cliff was able to change some disciplinary techniques in isolation; however, the dominant place physiological knowledge holds in informing the use of disciplinary techniques in his practices was not always problematized. As a result, we were limited in helping Cliff problematize the total effects of how physiology acts as a powerful tool to solidify and justify the use of a range of disciplinary techniques that have become part of endurance running coaches' everyday practices.

Conclusion

Following a Foucauldian approach, we do not claim to have portrayed Cliff's experiences attempting to coach in a less disciplinary way as the one true reality: as the way he truly experienced this collaboration. Furthermore, this paper was not meant to criticize Cliff's coaching practices as ineffective. Rather, our intention was to present Cliff's experiences as he attempted to learn how to question the unintended consequences of discipline's techniques and instruments, rethink the total effects of his coaching practices, and negotiate the risks of changing his practices. Specifically, what we presented was an account, or more importantly, a constructed account of Cliff's experiences as interpreted through a Foucauldian lens. On a positive note, Cliff was able to problematize his practices by identifying problems with his use of disciplinary techniques to develop less disciplinary practices in our practice development meetings. That is, he was able to challenge disciplinary techniques on a kind of intuitive or programming level. But in the field, our findings showed that many of these practices were challenging for him to implement, as elements of discipline's apparatus remained intact. To explain this, we believe that the power of physiology as the dominant knowledge underpinning what constitutes being an effective endurance running coach prevented the less disciplinary practices from being implemented in a complete way.

The dominance of physiological knowledge in informing effective endurance running coaching is, of course, not a novel finding. In fact, in 2010, Denison argued that the strength of the physiological conceptualization of effective endurance running coaching can make it incredibly difficult for coaches to know any other way of coaching that is not informed by physiology. Following this, Mills (2014) showed that the application of physiological knowledge to endurance running coaches' practices was to help coaches move away from trial and error towards a knowledge that could be used as a rationale for proving their coaching practices to be best practices. Furthermore, Mills and Denison (2015) have shown how the proliferation of physiological knowledge in modern day endurance running training theory has greatly contributed to contemporary coaches' understanding of what type of knowledge can be seen as legitimate. Based on this, it is no wonder that Cliff asked, "If I am not managing my athletes' physiological responses, then what am I doing?" The point to accentuate here is that the far-reaching influence of physiology in endurance running cultures has led coaches, including Cliff, to understand the ability to meticulously and continuously apply physiological knowledge to their athletes' bodies as indicative of effective coaching (Denison et al., 2013; Mills, 2014).

What has not been made clear in the Foucauldian coaching literature, until now, is how endurance running coaches' emphatic use of discipline's techniques and instruments in their practices both *support and are supported by* the dominance of physiological knowledge. On the one hand, disciplinary techniques lend great support to the legitimacy of physiology by organizing and managing physical effort levels in a way that produces knowledge about the athletes' bodies (e.g. training times). In turn, disciplinary instruments use this knowledge to either confirm or deny each athlete's physical readiness and then determine the "right" direction for his or her future training practices. As a result, endurance running coaches can use physiological claims, such as how a specific training practice produces a specific energy system response that leads to a specific physiological outcome, to "prove" to their athletes, other coaches, administrators, and themselves that their practices are scientifically sound, and therefore, legitimate. And on the other hand, physiological knowledge retains its prominent position by being perpetually portrayed as the salient feature in endurance running cultures because it is the only knowledge that "makes sense" to inform coaching practices (e.g. in coach development courses; see Avner, Markula, & Denison, 2017). And as our findings suggest, any changes not informed by physiology will not occur "within the borders of what was deemed acceptable" (Mills & Denison, 2016, p. 12). Adding to the cyclical relationship between physiology and discipline is the scientific logic surrounding effective coaching (Denison et al., 2013) that makes it even more difficult for coaches to reimagine coaching as anything other than implementing practices that are exclusively informed by physiological knowledge. As a result, coaches need to problematize the never-ending cyclical relationship between discipline and physiology if they want to implement less disciplinary practices in a more complete way.

This substantial finding, therefore, leads to important considerations for future Foucauldian coach development collaborations. We ask: How can we expect anything different when coach education is so dependent on teaching endurance running coaches about how to structure their practices using physiology? Coach developers must also remember that Foucault never wanted to replace one truth with another. Therefore, instead of dismissing dominant knowledges, coach developers need to *work with and explicitly complicate* dominant knowledges in their particular sport (e.g. physiology in endurance running) to develop practices that are less dominated by, not absent of, dominant knowledges. For example, in endurance running, while some less disciplinary practices may not appear to offer a specific physiological stimulus, they might actually help athletes understand how to push their bodies in new ways. In turn, this can actually help boost their performances. We believe this recommendation can be

applied to all sports where dominant knowledges might prevent the complete problematization of disciplinary practices.

There is no doubt that developing and implementing less disciplinary practices by unsettling a dominant knowledge, such as physiology, is a difficult task for any coach to embrace given the dominance of bio-scientific knowledges that encompass all contemporary coaching cultures. However, for the purposes of our analysis here, if endurance running coaches could critique the findings of physiological knowledge as only working in laboratory settings – its sampling, its methods, its truth claims – then they might be able to problematize how physiological knowledge only holds true in controlled conditions and not the messy and complex realities of endurance running. Furthermore, physiology applies only to the functioning of the material body in controlled conditions, and cannot help with the negotiation of the psychological, cultural, or social aspects of endurance running coaching. Therefore, we ask: Why does physiology have to continue to be the dominant perspective through which all aspects of endurance running coaching are understood?

Nonetheless, the power to be effective using physiology proved to be a strong social influence in this particular coach developer-coach dynamic. But understanding what some of the barriers and challenges might be for a coach to implement less disciplinary practices was the primary goal of this study, and we believe we did just that.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

Allen Collinson, J., & Hockey, J. (2007). 'Working out'identity: Distance runners and the management of disrupted identity. *Leisure Studies*, *26*(4), 381–398.

Allen-Collinson, J. (2009). Sporting embodiment: Sports studies and the (continuing) promise of phenomenology. *Qualitative Research in Sport and Exercise*, *1*(3), 279–296.

Angrosino, M. V. (2005). Ethnography, pedagogy, and the prospects for a progressive political agenda. In *The Sage Handbook of Qualitative Research* (3rd ed.; pp. 217–234). Thousand Oaks, CA: Sage Publications, Inc.

Avner, Z., Jones, L., & Denison, J. (2014). Poststructuralism. In L. Nelson, P. Potrac, & R. Groom (Eds.), *Research methods in sports coaching* (pp. 42–51). London: Routledge.

Avner, Z., Markula, P., & Denison, J. (2017). Understanding effective coaching: A foucauldian reading of current coach education frameworks. *International Sport Coaching Journal*, *4*(1), 101–109.

Barker-Ruchti, N., & Tinning, R. (2010). Foucault in leotards: Corporeal discipline in women's artistic gymnastics. *Sociology of Sport Journal*, *27*(3), 229–250.

Bompa, T., & Haff, G. (2009). *Training theory and methodology*. Champaign, IL: Human Kinetics.

Cassidy, T. G., Jones, R. L., & Potrac, P. (2009). *Understanding sports coaching: the social, cultural and pedagogical foundations of coaching practice*. Abingdon: Routledge.

Côté, J., & Gilbert, W. (2009). An integrative definition of coaching effectiveness and expertise. *International Journal of Sports Science & Coaching*, *4*(3), 307–323.

Cushion, C. (2010). Coach and athlete learning: A social approach. In R. L. Jones, P. Potrac, C. Cushion, & L. T. Ronglan (Eds), *The sociology of sports coaching* (pp. 166–178). London: Routledge.

Denison, J. (2007). Social theory for coaches: A foucauldian reading of one athlete's poor performance. *International Journal of Sports Science & Coaching*, *2*(4), 369–383.

Denison, J. (2010). Planning, practice and performance: The discursive formation of coaches' knowledge. *Sport, Education and Society*, *15*(4), 461–478.

Denison, J., & Avner, Z. (2011). Positive coaching: Ethical practices for athlete development. *Quest (Grand Rapids, Mich.)*, *63*(2), 209–227.

Denison, J., Gilbert, W., & Potrac, P. (2013). *Routledge handbook of sports coaching*. New York: Routledge.

Denison, J., & Mills, J. P. (2014). Planning for distance running: Coaching with foucault. *Sports Coaching Review*, *3*(1), 1–16.

Denison, J., Mills, J. P., & Jones, L. (2013). Effective coaching as a modernist formation. In P. Potrac, W. Gilbert, & J. Denison (Eds.), *Routledge handbook of sports coaching* (pp. 133–145). Abingdon: Routledge.

Denison, J., Mills, J. P., & Konoval, T. (2017). Sports' disciplinary legacy and the challenge of 'coaching differently'. *Sport, Education and Society*, *22*(6), 772–783.

Denison, J., Pringle, R., Cassidy, T., & Hessian, P. (2015). Informing coaches' practices: Toward an application of foucault's ethics. *International Sport Coaching Journal*, *2*, 72–76.

Denzin, N. K., & Lincoln, Y. S. (2008). *Strategies of qualitative inquiry* (*Vol. 2*). Sage

Foucault, M. (1978). *The history of sexuality, volume 1: An introduction (R. hurley, trans.)*. New York: Vintage.

Foucault, M. (1995). *Discipline and punish: The birth of the prison*. New York: Vintage.

Gearity, B. T., & Mills, J. P. (2013). Discipline and punish in the weight room. *Sports Coaching Review*, *1*(2), 1–11.

Gibson, W., & Brown, A. (2009). *Working with qualitative data*. Sage doi:10.4135/9780857029041

Jones, R. (2006). Dilemmas, maintaining "Face," and paranoia an average coaching life. *Qualitative Inquiry*, *12*(5), 1012–1021.

Jones, R., Glintmeyer, N., & McKenzie, A. (2005). Slim bodies, eating disorders and the coach-athlete relationship. *International Review for the Sociology of Sport*, *40*(3), 377–391;395;398;401;404.

Kiely, J. (2012). Periodization paradigms in the 21st century: Evidence-led or tradition-driven? *International Journal of Sports Physiology and Performance*, *7*(3), 242–250.

Kiviniemi, A. M., Tulppo, M. P., Hautala, A. J., Vanninen, E., & Uusitalo, A. L. T. (2014). Altered relationship between R-R interval and R-R interval variability in endurance athletes with overtraining syndrome. *Scandinavian Journal of Medicine & Science in Sports*, *24*(2), e77-e85.

Markula, P., & Silk, M. (2011). *Qualitative research for physical culture*. Basingstoke: Palgrave Macmillan.

Meeusen, R., Duclos, M., Foster, C., Fry, A., Gleeson, M., Nieman, D., & Urhausen, A. (2013). Prevention, diagnosis, and treatment of the overtraining syndrome: Joint

consensus statement of the European college of sport science and the American college of sports medicine. *Medicine and Science in Sports and Exercise*, *45*(1), 186–205.

Mills, J. P. (2014). *Soldiers, Animals and Machines: A Foucauldian Analysis of the Making of the Contemporary Endurance Running Body*. (Doctoral Thesis, University of Alberta, Edmonton, Canada). Retrieved from: https://era.library.ualberta.ca/items/79000566-08c8-4ff0-be89-5f70b657e45a.

Mills, J. P., & Denison, J. (2013). Coach foucault: Problematizing endurance running coaches' practices. *Sports Coaching Review*, *2*(2), 136–150.

Mills, J. P., & Denison, J. (2015). Charting the development of contemporary endurance running training theory. *In Endurance Running: A Socio-Cultural Examination* (pp. 50–60). Routledge.

Mills, J. P., & Denison, J. (2016). How power moves: A foucauldian analysis of (in) effective coaching. *International Review for the Sociology of Sport*, *53*(3), 296-312. doi:10.1177/1012690216654719

Patton, M. Q. (2002). *Qualitative evaluation and research methods* (3rd ed. ed.). Newbury Park, CA: Sage.

Shogan, D. (1999). *The making of high performance sport: Discipline, diversity and ethics*. Toronto: University of Toronto Press.