

ABSTRACT

Title of Dissertation: PROTECTION FOR WHOM? A CRITICAL
EXAMINATION INTO THE GOVERNANCE
OF WOMEN ATHLETES THROUGH
POLICIES

Anna Posbergh, Doctor of Philosophy, 2022

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Women's sport remains a contested realm that frequently features standards and regulations implying women are "lesser than," "different from," or "derivative of" men (Cahn, 2015, p. 222). As such, a range of protective policies have been introduced as techniques to ensure the safety and health of women, defend "fair competition" in women's sport, and/or prevent women from violating social and medical boundaries that identify them as women. However, because protective policies rely on divergent rationales in their creation and justification, they elicit different impacts for individuals who are categorized (or wish to be categorized) as women. Previous scholarship has analyzed the underlying issues of science, race, gender, and nationality in individual protective policies and indicated the potential for specific policies (i.e., female eligibility policies) to elicit dangerous health, social, and mental consequences on black and brown women from the Global South. However, there is a paucity of research that investigates protective policies as a broad category to understand their similarities, differences, and nuances. To fill this gap, I examine multiple protective policies to conduct a critical, qualitative inquiry into how

protective policies are created in elite women's sports. I focus on how such policies regulate women's bodies and how different versions of "woman" are constructed by interpreting and selectively drawing from myriad forms of evidence to determine who is protected (and who is excluded), how "protection" is understood, what evidence is mobilized, and how protective policy consequences are justified.

I investigate three policies as case studies: the International Olympic Committee's (IOC) 2014 consensus statement on relative energy deficiency in sport (RED-S), World Athletics' 2019 policy on female eligibility, and World Athletics' 2019 policy on transgender eligibility. These three policies are selected for analysis because they reflect the range of science-supported protective policies. While all seek to protect women, each adopts a different stance on the importance of sex differences, in the process demonstrating the social construction of "sex" and malleability of scientific evidence. Guided by feminist, critical race, and Foucauldian-inspired governmentality studies approaches, I center the relevant discourses, knowledges, and power relations within policy rationales to better understand how protective policies regulate (women's) bodies and maintain social norms. Each case study analysis consists of two data sets: the actual policy texts and nine semi-structured interviews with policy authors, scientists, and other relevant administrators involved in the creation, drafting, and implementation of the three policies. I analyze the data through thematic analysis followed by Foucauldian discourse analysis, informed by a governmentality studies perspective. Using this two-step analytic framework, I first determine *what* was said in document texts and by participants, followed by a deeper level of analysis and contextualization of *how* dominant discourses, knowledges, and power relations were created and mobilized to protect (some) women athletes.

My findings are organized into four empirical chapters. In the first empirical

chapter, I examine the document texts to provide a broad examination into the contexts surrounding their creation, as well as the unproblematized logics that inform their dominant discourses, ways of knowing, and power hierarchies. Based on my analysis, I bring to light the implications of the logics underpinning the documents, including the use of elite medical discourses, the construction of “suspicious” athletes, biologizations of race and gender, and individual diagnoses that lack attention to broader social, political, and cultural dimensions. In the second empirical chapter, I focus on the interviews, or “expert knowledge,” with those involved with researching, drafting, and implementing the three case studies to understand how they draw from (certain) forms of evidence, interpret and/or circulate dominant discourses and knowledges, and navigate the (often) contentious process of creating protective policies (see Wells, 2020). In the third and fourth empirical chapters, I examine both sets of data (policy and interview). In the first of these two empirical chapters, I provide an overview of the “start-to-finish” process behind creating and implementing protective policies and investigate the “tensions” that emerge at each step in the process: from explaining why protective policies exist, to finding or constructing appropriate forms of evidence, to determining the necessity of a separate women’s category, to methods of governing. In the latter empirical chapter, I more closely parse through these “tensions” behind and within the rationales and strategies of protective policies to reveal the complexity reality of such documents, particularly with consideration to (protected) participation, (controlled) unfairness, and (felt) policy implementation.

This dissertation is significant as it elucidates how, if, and when women’s rights and bodies are protected through policies. As sport shapes and is shaped by society, this research illuminates on a societal scale how science and policy shape dominant ways of knowing, particularly regarding gender, sex, race, and human rights. Especially in a time

when legal protections of women's autonomy, bodies, and rights are in question, this project provides insight into how protective policies enact a range of measures to safeguard (some) women's bodies through regulation, discipline, or even exclusion. By investigating how sociocultural and scientific knowledges intersect to determine who qualifies as "woman," who is considered in need of "protection," and how protection is implemented, the findings from this dissertation will hopefully inform organizational and administrative efforts to create more equitable, compassionate, and inclusive policies, both in sport and society.

PROTECTION FOR WHOM? A CRITICAL EXAMINATION INTO THE
GOVERNANCE OF WOMEN ATHLETES THROUGH POLICIES

by

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Dedication

To my partner in life Daylin Russo: you will always make my heart skip.

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inspiring me, for broadening my (Physical) Cultural Studies knowledge, and, of course, for always encouraging me to consider the “so what?” of my research.

Near the end of my first semester at the University of Maryland, I took a leap of faith and emailed Dr. Katrina Karkazis after reading her 2012 article with Dr. Rebecca Jordan-Young, Dr. Georgiann Davis, and Dr. Silvia Camporesi. To my delight and surprise, she kindly responded to my email and a year later, she agreed to be a part of my dissertation committee. In addition to the importance and significance of her work—which was and is foundational to this dissertation—throughout my doctoral journey, she has given so much time, attention, and energy to ensuring the rigor and impact of this project. For this, and so much else, words cannot fully express my gratitude to Katrina for her guidance and mentorship.

In the spring of 2018, I was fortunate to take Dr. Kevin Roy’s qualitative methods course, which was my first significant introduction to qualitative methodologies. It was also one of the most comprehensive and informative graduate classes I have ever taken and was pivotal in conceptualizing the methods and methodology for this dissertation.

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Moving to a new place is always challenging, but I have benefited from friendships within and outside of the PCS program at Maryland. Sam Clevenger and Katie Esmonde were pivotal in helping me find my bearings and being there for me, as colleagues and as friends, for the past five years. Monica Nelson, Brandon Wallace, Sara Olsen, Shannon Scovel, Lilah Drafts-Johnson, Lauren Nowosatka, and Eric Stone have helped to make graduate student life (dare I say) enjoyable, and have been there to endure and empathize through the less-than-joyful moments. Outside of our PCS research group, Dan Shill, Bill Evans, Mia Caminita, and Daniel Trettel have been kind, funny, and understanding friends with whom I have had the joy of celebrating major and small victories, as well as commiserating over the lows. I am particularly grateful to Dan Shill for sharing an office space with me for so many years and always leaving the quirkiest and most supportive sticky notes—comments, observations, and jokes that left an important and everlasting impact, especially during the more difficult and challenging parts of this doctoral journey.

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List of Abbreviations

AFI	Athletics Federation of India
CAS	Court of Arbitration for Sport
DSD	Differences of sexual development
IAAF	International Association of Athletics Federations (now <i>World Athletics</i>)
IOC	International Olympic Committee
IOCCSR	IOC's Consensus Statement on Relative Energy Deficiency in Sport
PCS	Physical Cultural Studies
RED-S	Relative Energy Deficiency in Sport
SRS	Sex reassignment surgery
STS	Science and Technology Studies
TERF	Trans-exclusionary radical feminist
WA	World Athletics (formerly the <i>International Association of Athletics Federations</i>)
WADA	World Anti-Doping Agency
WAFER	World Athletics' Female Eligibility Policy
WATER	World Athletics' Transgender Eligibility Policy

Chapter 1: Introduction

“Science—the systematic pursuit of knowledge—offers the tantalizing prospect of taming wicked problems without all of the messiness that politics and values tend to bring to such issues.”

-Roger Pielke, 2016, p. 201

“Nothing is always so nice and neat as we would like it...The devil’s in the details, as they say.”

-Scientist F (interview participant)

In my first semester as a doctoral student, I took a class titled “Physical Cultural Studies in Technoscience.” We covered a range of topics, but the one that stood out to me looked at the convergence of science and culture in global issues within women’s high-performance sport, specifically regulations on testosterone. I had given a presentation on the *Chand v. AFI and IAAF* case a few years prior in a *Sport and Diversity* class, but this was my first opportunity to fully engage with the gendered, raced, and scientific politics behind limiting the endogenous testosterone levels of women athletes. One of the papers we read was “Out of bounds? A critique of the new policies on hyperandrogenism in elite female athletes,” authored by Katrina Karkazis, Rebecca Jordan-Young, Georgiann Davis, and Silvia Camporesi. At the end of the semester, I took a leap of faith and reached out to Dr. Karkazis, who graciously spoke with me on the phone several times to provide her insights, mentorship, and suggestions for my research. The next year, we met in-person in New York and, in addition to talking about the ethics of including women with high testosterone (e.g., “intersex” women), she brought up the similarities and differences with transwomen athletes—a topic that she believed would be of significant importance in the coming years. Following our conversation, my interests in women with high testosterone as well as

transgender/transwomen athletes flourished and I was convinced that this was what I would study for my dissertation.

Two years later and shortly after passing my comprehensive exams, I was at the North American Society for the Sociology of Sport (NASSS) annual conference when the *New York Times* released an opinion editorial video by former high school track-and-field sensation and Nike athlete Mary Cain. By the end of the day, nearly every critical feminist sports scholar at the conference was talking about the video and at least three colleagues sent me the link. In this video, Cain revealed her years of struggling with relative energy deficiency in sport (RED-S)¹: a condition that elicited multiple traumatic physiological impacts, which she argued was a result of a toxic training culture and systemic forms of abuse (Cain, 2019). I watched her video over and over again and kept reading the academic and public responses to it, for two reasons. First, because I saw myself in her story, following my own struggles with RED-S in my late teens. Second, because I was baffled at the fact that many who were outraged by Cain’s story—specifically, the lack of (organizational, interpersonal, authoritative) action and accountability to change the cultural sporting norms that allow toxic training environments—concurrently expressed their support for stringent female eligibility and transgender eligibility policies. I was perplexed at how so many people could urge sports organizations to better attend to health-related conditions such as RED-S and the problematic sport cultures that permit these horror stories to occur (Ackermann et al., 2020)—this was also around the time of the #MeToo movement and the USA Gymnastics scandal—but turn around and support policies that so many scholars, advocates, and major human rights-organizations have called out for reinforcing these very same cultural norms, and which

¹ Expanding the “female athlete triad,” which included the “triad” of low energy availability, menstrual dysfunction, and poor bone health, RED-S more comprehensively and broadly describes the “impaired physiological functioning caused by relative energy deficiency, and includes but is not limited to impairments of metabolic rate, menstrual function, bone health, immunity, protein synthesis and cardiovascular health (Mountjoy et al., 2015, p. 417).

contribute to similar harms for women athletes (see Bekker & Posbergh, 2019; Pape, 2020b, 2020d; Tannenbaum & Bekker, 2019; WMA, 2019).

As I began to read further into the range of policies regulating women's bodies with consideration to eligibility and/or health, the story became increasingly convoluted and complex: all relevant policies and regulatory documents were supported by science, all expressed a commitment to "protect" athletes, and all discussed the importance of values such as inclusion, safety, well-being, and fairness. Yet, how could these policies that I, and many other critical feminist, race, and sports scholars, found intractable and contradictory (see Bekker & Posbergh, 2022), coexist in the same sporting milieu and even, at times, in the same sport organization? This is the question at the heart of this dissertation. To pursue this question, I examine the ways in which "protective policies" seek to (differently) define women, what forms of evidence they (selectively) draw from and write into policies, and how different bodies are viewed as (not) requiring or deserving protection.

Likewise, since I began researching and writing this dissertation in late 2019, I have noticed (in no rigorous way, but merely through observations and conversations with friends, family members, colleagues, and strangers who find it imperative to tell me their opinions upon learning about my dissertation research topic) an increasing amount of political, cultural, and societal attention on the "issues" associated with each case study. While female eligibility, through chromosomal testing or limiting endogenous testosterone, has remained a contentious issue since the early 20th century (see Heggie, 2010; Pieper, 2016), in the past five years, transgender athlete inclusion has emerged as a particularly vicious political issue—within the U.S. and globally (see Crouse, 2021; Sharrow et al., 2021; Surprenant, 2021). Likewise, since the USA Gymnastics scandal, the broader #MeToo movement, and the publicity of Cain's story, there has also been

more attention by activists, advocates, parents, coaches, and athletes to the unsustainability of sporting cultures, which can contribute to the development of damaging health conditions for athletes of all ages (Ackermann et al., 2020; Komaki & Tuakli-Wosornu, 2021). This has been further reflected in organizational shifts (such as the IOC and the United States Paralympic and Olympic Committee) towards viewing athletes as the “whole athlete,” and more actively centering human rights, inclusion, and non-discrimination in policies and research (see AFH, 2021; IOC, 2021a, 2021b).

Of course, the governance of women’s bodies has long been a part of sporting and physical activity spaces. Even today, women’s sport frequently features standards and regulations that imply women are “lesser than” (through events with shorter distances and/or time periods), “different from” (in terms of rules and equipment), or “derivative of” (“kitten” ball as a derivative of baseball/softball) (Cahn, 2015, p. 222). Attempts to exclude women from participating in sporting activities, or to mitigate against the potential harms of participation, are rooted in long-standing scientific convictions around the incompatibility of the female body and strenuous physical activity—positions that cannot be separated from fears about women violating feminine aesthetic norms (Cahn, 2015; McDonagh & Pappano, 2008; Verbrugge, 2002; Vertinsky, 1994). While these perspectives and accompanying restrictions have been critiqued as strategies of discipline and subordination (Messner, 1988; Schultz, 2018; Theberge, 1991; Theberge & Birrell, 1994), sporting opportunities for women have expanded, especially since Title IX (Cahn, 2015). Nonetheless, women’s sport remains a contested realm, and this characterization is further underscored by the disproportionately higher rates of negative health impacts experienced by women athletes (Brackenridge, 2002; Mountjoy et al., 2016).

The complex biological and social dimensions of women athletes manifest in a “double standard” with regards to the physical demands of sport and gendered expectations of society (Hardy, 2015). Successful athletes, regardless of sex or gender identity, require particular traits such as strength and speed. However, such characteristics are often perceived as “masculine” virtues, which are celebrated for men and perceived as “unnatural” or “suspicious” in women athletes (Kane, 1995). Put differently, women who become “too strong” or “too good” are chastised for violating culturally constructed ideals of femininity and womanhood, and their eligibility to compete in the women’s category is subjected to scrutiny (Cahn, 2015; Heggie, 2010; Schultz, 2018; Verbrugge, 2002). This then leads these women to “impossible choices”: leave their sport and livelihood or undergo (often medically unnecessary) physiological or biological changes to meet arbitrary eligibility criteria (Karkazis & Carpenter, 2018). In this vein, there is a growing body of literature that has connected race and ethnicity to the purported masculinizing effects of sport (Henne & Pape, 2018; Jordan-Young & Karkazis, 2019a; Karkazis & Jordan-Young, 2018; Pape, 2020b) and maintenance of the myth of the Black superior athlete (Carrington & McDonald, 2001; Hartmann, 2012). Women of color, especially Black women, often find themselves at the intersection of these double gender and race standards and stereotypes, as Black women “contend with racial stereotypes that white women [do] not, such as the hypersexualized black female or the natural black athlete” (Lansbury, 2014, p. 6). Indeed, and as Anne McClintock (2013) points out, the typification of racialized women as “unfeminine” or “masculine” is an enduring colonial legacy that sharply contrasts with the presumed “natural” femininity of white women (see also Pearce, Erikainen, & Vincent, 2020).

At the same time, there remains justified concern over the biological reality of harmful conditions, such as RED-S, that have been shown to disproportionately impact women athletes. In

addition to the higher rates of harassment and abuse experienced by girls and women in sporting and physical activity spaces—which may facilitate and contribute to traumatic health conditions (see Ackermann et al., 2020; Cain, 2019; Mountjoy et al., 2016)—RED-S can and does materialize in the form of stress fractures, cessation of menses, and declining performance (Mountjoy et al., 2018). Yet, rather than underscore sex differences to justify organizational action and policy implementation—as is the case for regulations determining eligibility for the female category—recent efforts have shifted to include men. This move towards gender inclusivity is illustrated by the designation of “RED-S” as opposed to the “female athlete triad.” The radically contrasting approaches to differences between men’s and women’s bodies in eligibility categories as compared to RED-S is particularly notable given that the inclusion of men might discount important biological factors such as the protective effects of testosterone, the lower energetic costs of reproduction in men versus women (particularly the absence of ovarian and menstrual cycles, as well as gestation and lactation), and wider bones in men that are less susceptible to fracture (De Souza et al., 2014).

Nonetheless, all policies and formally-issued guidelines that seek to govern some element of women’s participation or success in sport—whether this is their eligibility for the female category or their purported proclivity for developing a dangerous health condition—are united through their “protective” intentions. As such, I use the term “protective policies” in this dissertation to describe such regulatory documents. However, the complexity of protective policies is in their multiple and sometimes divergent understandings of “protection,” which can include ensuring the safety and health of women, defending “fair competition” in women’s sport, or preventing women from violating social and/or medical boundaries that identify them as a ‘woman.’ Furthermore, “protection” can be institutional or individual; motivated by athlete health

or fair competition; implemented as a rule or a guideline; driven by sex-based differences or seeking to reduce these distinctions. Through the interpretation of scientific evidence into policy, which has historically been manipulated to demonstrate the negative health effects of physical activity on women's reproductive systems, menstrual cycles, and sexuality (Cahn, 2015; McDonagh & Pappano, 2008; Vertinsky, 1990), protective policies are (often, if not always) mobilized to conduct political work and further agendas seeking to protect, discipline, and control women's bodies.

Given the nuanced and complicated rationalities and implications of protective policies, in this dissertation, I examine the creation and implementation of protective policies for women athletes, specifically focusing on how “woman” is defined within and across protective policies, what discourses and knowledge forms are used to uphold particular interpretations of protection, and what mechanisms are deployed to implement and enforce protective policies. To do so, I use three policies as case studies for a broader examination of protective policies: the International Olympic Committee's (IOC) 2014 consensus statement on RED-S, World Athletics'² 2019 policy on female eligibility, and World Athletics' 2019 policy on transgender eligibility. These three case studies are specifically chosen because they reflect the range of science-supportive protective policies through illustrating the differing methods of protection, incorporating multiple definitions of “woman,” and differently attending to sex differences. That is to say, while all seek to protect women, each adopts a unique stance on the importance of sex differences, thereby demonstrating the social construction of “sex” and malleability of scientific evidence.

² Formerly known as the International Association of Athletics Federation, or IAAF. The organization changed their name to World Athletics in 2019 to reflect the organization's endeavors to extend athletics beyond “high performance gold medals and records.” In this regard, athletics and, thus, World Athletics' mission, is “also about ‘sport for all’ and about ensuring that the maximum number of citizens are able to participate in athletics” (WA, 2019c, para. 5). With the shift in focus, World Athletics has (re)committed itself to “properly embrac[ing] matters touching on social responsibility, the environment and all matters that help advance athletics as a force to change the world for good” (WA, 2019c, para. 7).

For example, World Athletics' female eligibility policy limits blood testosterone levels to five nanomoles of testosterone per liter of blood (nmol/L) for women athletes with X,Y chromosomes competing in event distances between 400-meters and a mile. Highlighting the importance of sex-based differences, the policy requires impacted women to either undergo medically unnecessary treatments or change their competition events (Karkazis & Carpenter, 2018). These measures are presented within the policy as essential for protecting "fair and meaningful competition" in the women's category and encouraging "gender-affirming" treatment for women with an undiagnosed difference of sex development (WA, 2019a). Likewise, World Athletics' transgender eligibility policy features a five nmol/L testosterone limit for transwomen without any testosterone restrictions for transmen (WA, 2019b). Once more drawing out the relevance of sex-based distinctions, World Athletics notes that its transgender eligibility policy is intended to "protect the health and safety of participants" and "guarantee fair and meaningful competition" for women athletes (WA, 2019b, p. 1).

Conversely, the IOC's consensus statement on RED-S—which seeks to diagnose, prevent, and treat athletes with the syndrome or related conditions—diminishes the assumed significance of sex-based differences. Notably, the statement authors introduce the term "RED-S" to replace "female athlete triad," drawing attention to the fact that male athletes are also impacted. In particular, the authors highlight the prevalence and similar risk level of RED-S in male athletes competing in weight-sensitive sports, which promote leanness and weight monitoring. Stressing the importance of "protecting the health of the athlete" (Mountjoy et al., 2014, p. 1), the authors acknowledge the (historical) role of sporting cultures and training environments in perpetuating damaging gender stereotypes, incidents of harassment and discrimination, and toxic training environments—all of which contribute to the development of RED-S.

All three policies share foci on the governance of women (and their bodies), policy, dominant discourses and knowledge, and sport: connections that are particularly important for Physical Cultural Studies (PCS) researchers to consider. Indeed, recent scholarship has examined several of these themes in varying contexts, such as the geopolitics of physical culture (Chin, 2009; Grainger, 2009; Maddox, 2020), embodiment and biopolitics in spaces of physical culture (Fullager, 2019; Giardina & Newman, 2011a, 2011b; Jette, Bhaghat, & Andrews, 2016; Jette, Esmonde, & Maier, 2019; Silk, Andrews, & Thorpe, 2017), the scientification of sex and gender (Erikainen, 2019; Pape, 2019), representations and essentializations of race in physical culture and sport (Andrews, Mower, & Silk, 2011; Andrews & Mower, 2012; Wallace, 2020; Wallace & Andrews, 2021), and the multiple dimensions of sports injury prevention and safeguarding athlete health (Bekker & Clark, 2016; Bittencourt et al., 2016; Mann et al., 2020; Parsons, Coen, & Bekker, 2021). Moreover, within critical scholarship focused upon individual protective policies there has been extensive analysis on the underlying issues of science (Karkazis et al., 2012; Krieger, Pieper, & Ritchie, 2018; Pape, 2017, 2019a; Tannenbaum & Bekker, 2019; Wells, 2020), race (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018), gender (Bavington, 2016; Cavanagh & Sykes, 2006; Cooky & Dworkin, 2018; Croteau, 2020; Schultz, 2011; Sykes, 2006; Westbrook & Schilt, 2014), and nationality (Bohuon, 2015; Pieper, 2014, 2016).

At the same time, this dissertation empirically, theoretically, and methodologically contributes to existing PCS research. First, while there exists a range of foci with regards to physical culture, physical activity, and sport within previous PCS project, there is a notable gap in examining (sport) policy. Such an area of investigation is important given the fundamental role of policy in regulating individual conduct, as well as reinforcing, negotiating, or challenging (societal) norms. Second, there is a significant body of PCS research that has drawn from

Foucauldian ideas to examine constructions of “healthy” bodies in spaces of physical culture (Esmonde, 2019, 2021; Jette, 2006; 2009; Jette, Bhagat, & Andrews, 2016). By drawing on Foucault’s ideas, particularly governmentality, this dissertation builds on this existing scholarship—in tandem with its empirical contributions—to comprehensively examine the development and implementation of policy. Indeed, the centrality of investigating policy through a governmentality lens is outlined by multiple cultural studies and governmentality studies researchers (see Bratich, Packer, & McCarthy, 2003; Olssen, 2003), yet to date, remains an underexplored area of PCS research. Moreover, the analysis of both textual and interview data to provide deeper insights into how knowledge is understood, justified, and translated into policy texts by scientists and other relevant stakeholders, also provides a unique methodological contribution of this dissertation to the broader PCS project.

Research Questions

Despite this breadth of scholarship, there remains limited research examining the complex, circumstantial, and sometimes contradictory nature of protective policies *as a larger category*. Specifically, there is a lack of scholarship examining how protective policies selectively utilize particular discourses and knowledges to particular understandings of (scientific) evidence, definitions of “woman,” health, and human rights, and the consequences of these contrasting approaches. To address this gap, I draw from document texts and interviews with stakeholders, scientists, and policymakers involved in writing and implementing these regulations. The purpose of using a multi-data set approach is to enable a “thick description” of the complexity of protective policies and investigate the nuances of creating these policies and/or potential divergence(s) between policy texts and participant responses (Geertz, 1973). As I will show in Chapters 6 and 7, the final output (i.e., document texts) often does not fully reflect the contentious and multiple

“expert” opinions. The result, as I argue in these two chapters, are “tensions” amongst and between participants and document texts.

In all, I look to understand how, when, and under what contexts “woman” is defined in protective policies; how these different understandings are justified, and what are their (contrasting) consequences, and; how particular discourses and forms of knowledge are (selectively) drawn upon to construct and privilege certain definitions. To do so, I explore the following research questions:

1. How are notions of “woman” constructed in protective policies, is this category unstable, and if so, how does it shift across policies and/or within a policy?
2. Which bodies are viewed as requiring/deserving protection, which bodies are excluded to afford this protection, and how do varying definitions of “woman” affect interpretations and consequences of protective policies?
3. What counts as evidence in protective policies, and how is science mobilized to do political work? How is knowledge justified and translated into policy, especially when this/these form(s) of knowledge is/are sometimes controversial?
4. How are women and their bodies governed through protective policies, and how do these rationalities and technologies of governing differ between policies?
5. What is the “spirit” or “meaning” of elite women’s sport, and how do policies work to balance the pastoral protection of women rooted in biological sex differences, with the historical structural oppression of women athletes?
6. How do document texts and participant responses contrast and/or converge in their rationales and technologies of governing?

To answer these questions, I look to Michel Foucault's ideas on governmentality (as well as the broader field of governmentality studies) and disciplinary power. As this dissertation centers on protective policies as a technology of governance, a governmentality studies theoretical framework that attends to the workings of disciplinary power is useful to understand the dominant discourses, knowledges, and power relations that form protective policy rationalities. I also use qualitative methodology tools of interviews, policy (document) analysis, thematic analysis, and Foucauldian discourse analysis for both data sets. In particular, I use a two-step analytic approach for both the policy texts and participant responses so as to first understand *what* is being said, followed by a deeper contextualize of *how* these discourses and power relations are created and mobilized.

Dissertation Summary

This dissertation proceeds as follows. In Chapter 2, I detail the theoretical framework for this project, which draws from Michel Foucault's ideas of disciplinary power and governmentality studies. This is followed by a discussion of the substantive literature that informs this dissertation, which is divided into four categories: "protective policies" as a whole and reviews of each individual policy (three, in total). I then outline my methodological framework for this dissertation in Chapter 3, along with the methods and analytic processes used.

The next four chapters, Chapters 4-7, include my results and empirical findings. In Chapter 4, I focus on the documents and conduct a governmentality studies-centered policy analysis to draw out the discourses, norms, and knowledges that are embedded in document texts and discourses. In particular, I highlight the similarities and differences between the policies, underscoring how and when specific and dominant discourses are used to uphold (contextual) definitions of "woman" and "protection."

Next, in Chapter 5, I center my analysis solely on the interviews to examine the values or viewpoints that participants adopt when discussing issues relating to women athletes. In particular, I investigate how they understand “protection” in relation to sport values, sport organizations, and (women) athletes, as well as their opinions on the written guidelines in current protective policies. In doing so, I look to provide a deeper understanding of how, why, and under what contexts the rationalities and technologies of protective policies, as technologies of governance, are conceptualized.

Finally, I compare document texts and interview participant responses in Chapters 6 and 7. I break this comparison into two chapters to first provide an overview of the messy and complex process behind creating, drafting, and implementing protective policies, followed by a closer analysis into the values that underpin protective policies and how, when, or if these values are shared by participants with particular consideration to the four themes that unite protective policies: health, safety, fairness, and definitions of “woman.” In Chapter 6, I draw upon both data sets (documents texts and interviews) to provide a broad overview of the process of creating protective policies, from identifying rationales, to selecting appropriate forms of evidence, to strategies of governing. I find that protective policies, in their final form, often do not reflect the contentious and messy processes behind creating these documents. Moreover, the rationalities and technologies within document texts often fail to reflect the multiple opinions of those involved researching and creating the documents and instead, exhibit a preference for medico-scientific knowledges. From this overview, in Chapter 7, I then more closely investigate the similarities and divergences between participant responses and policy texts with consideration of constructions of “protection” and “woman.” In doing so, I interrogate the tensions between the attempt to convey

scientific objectivity within document texts, with the blending of sociocultural and scientific discourses in participant responses.

I conclude the dissertation with its limitations and avenues for future research. I also reflect on the process of researching and writing a dissertation during a pandemic, my goals for this dissertation, and my hopes for the future of protective policies and sports organizations.

Chapter 2: Review of Literature

This review of literature consists of two broad sections: an overview of the theoretical framework for this dissertation, followed by the substantive literature that informs this project. I first introduce the Physical Cultural Studies (PCS) project and the British Cultural Studies-inspired ideas of radical contextualism and articulation. As I discuss shortly, in addition to constituting part of my theoretical framework, I especially consider the ethos of both radical contextualism and articulation to guide my analyses and discussions in later empirical chapters. From there, I provide an overview of Foucauldian poststructuralism, which leads me to a discussion of the primary Foucauldian ideas that underpin my theoretical framework: disciplinary power and governmentality. Next, I review the relevant substantive literature for this dissertation, which is organized into four sections: protective policies as a whole, followed by an overview of existing literature for each individual case study (three in total). I close by discussing the gaps that remain in the literature and how this project will contribute to the existing literature.

Theoretical Literature Review

PCS as a Field of Study and as a Project

While PCS lacks a fixed origin, definition, history, and disciplinary boundary (see Andrews & Silk, 2016; Silk, Andrews, & Thorpe, 2017), its intention is to respond to emerging contexts and conjunctures by bringing together a plurality of ontological, theoretical, and methodological approaches. To that end, Silk, Andrews, and Thorpe (2017) describe the PCS project as a “dynamic and self-reflexive transdisciplinary intellectual project, rooted in qualitative and critical forms of inquiry...of the diverse realm of physical culture” (p. 5; see also Andrews & Silk, 2011). To further describe their definitional efforts, Andrews and Silk (2016) offer eight main pillars for the PCS

project. First, PCS is empirical, focusing on how physical culture is organized, disciplined, represented, and experienced through power (relations). Second PCS is contextual and anti-reductionist, with PCS research often drawing (explicitly and indirectly) from radical contextualism and articulation (see Grossberg, 1997, 2010; Hall, 1985; King, 2005; Slack, 1996). Third, PCS is transdisciplinary, refusing to limit itself to a single academic discipline to, instead, transcend typical disciplinary boundaries. Fourth, PCS is a political project that is concerned with the distribution, operation, and consequences of unequal power (relations), and investigates sites of political struggle in physical culture. Fifth, PCS is committed to social and cultural theory without heralding a singular theoretical position. Sixth, PCS looks to interpret and understand the social world, driven by social justice goals, and therefore is predominantly a qualitative project. Seventh, PCS scholars are self-reflexive and should be attentive to the specific institutional, societal, and historical conditions that they face. Lastly, PCS is form of public pedagogy, meant to empower, enable, and impact learning communities in and out of academia.

My hope is for this dissertation to engage with all eight elements of PCS research, particularly given the seemingly ever-increasing (societal) attentions to issues of “protection” for women’s sports and women’s bodies. In particular, I aim for this dissertation to “produce knowledge that would *make a difference*” by focusing on the operations of power and the complex and contextual social, political, cultural, and biological dimensions that shape and are shaped by women athletes and their bodies through (protective) policies (Markula & Silk, 2011, p. 43, italics in original).

Radical Contextualism and Articulation

While PCS research is not united through a particular methodological, empirical, theoretical, or axiological thread or school of thought—much like cultural studies which draws

from “multiple theoretical influences, research methods, and sites of analysis (Andrews, 2002, p. 111; see Hall, 1992)—it is an anti-relativist and contextual project (Andrews & Silk, 2011; Silk, Andrews, & Thorpe, 2017). To aid in these endeavors, PCS research often draws from radical contextualism and articulation, which are central to the broader British Cultural Studies tradition and are taken into consideration in this dissertation. Grossberg (1997) has described “radical contextualism” as the heart of the cultural studies project and in particular, when more fully discussing racial contextualism, Grossberg (1997) explains that,

the identity, significance, and effects of any practice or event (including cultural practices and events) are defined only by the complex set of relations that surround, interpenetrate, and shape it, and make it what it is. No element can be isolated from its relations, although those relationships can be changed, and are constantly changing. (p. 19-20).

The importance of attending to the myriad relations involved with a phenomenon or practice is to avoid recycling universalisms, essentialisms, and determinisms that contribute to reductionism. Research that reproduces or reduces complex phenomena in the present, runs the risk of reinforcing “the very relations of domination, inequality and suffering that cultural studies desires to change” (Grossberg, 2006, p. 2).

Radical contextualism is often associated with the theory of articulation (though articulation is also a method and methodology, see Slack, 1996). Grossberg (2006) succinctly describes articulation as an understanding of “history as the ongoing effort (or process) to make, unmake and remake relations, structures and unity (on topic of differences)” (p. 4). The idea of articulation emerged in the 1970s in response to concerns of economic reductionism and class reductionism within cultural studies (Slack, 1996). In particular, Ernesto Laclau, Chantal Mouffe, and Stuart Hall drew on and extended ideas proposed by theorists such as Louis Althusser, Antonio Gramsci, and Karl Marx, to formulate early theories of articulation. For instance, Laclau (1977), in pushing back against class reductionism, suggests that the primary issue is that “not everyone

believes what they are supposed to believe or acts in a way they are supposed to act, regardless of their class belonging” (Laclau, 1977, as cited in Slack, 1966, p. 118). Using Plato’s allegory of prisoners in the cave³, he amends this “rationalist ambition that runs through Western philosophy” to insist that there are no necessary links between concepts and that not all concepts have links with each other (p. 9). Further drawing on Gramsci’s idea of hegemony, which is the result of (ideological) struggles to construct commonsense from a variety of interests, beliefs, and practices (Slack, 1996), Laclau (1977) posits that the connection between articulation and hegemony allows a class to be hegemonic, not because “it is able to impose a uniform conception of the world on the rest of society,” but because it is able to ‘articulate different visions of the world in such a way that their potential antagonism is neutralised” (p. 161). Thus, Laclau’s “articulation” is offered as a means to examine the links between concepts, with consideration to (different, dominant) discourses.

Nonetheless, Stuart Hall’s understanding and contributions to articulation are arguably the most well-known and utilized in cultural studies today, and are how I understand and utilize articulation in this dissertation. In particular, he defines it as

the form of the connection that *can* make a unity of two different elements under certain conditions. It is a linkage which is not necessary, determined, absolute and essential for all time...the so-called ‘unity’ of a discourse is really the articulation of different, distinct elements which can be re-articulated in different ways because they have no necessary ‘belonging-ness.’ The ‘unity’ which matters is a linkage between that articulated discourse

³ In this allegory, Plato describes a group of prisoners who live chained to the wall of a cave their entire lives, with no knowledge of the outside world, and face a blank wall. Behind these prisoners is a fire and in front of the fire (but behind the group of prisoners) are other individuals who carry objects or puppets that cast shadows on the wall. The prisoners name each of these shadows and believe that they are perceiving the actual entities. One day, one of prisoners is freed the cave and enters the outside world. He finds the bright light (i.e., the sun) painful to his eyes and disorienting, but soon learns that the entities around him are real and that the shadows he has seen his whole life are mere reflections of real objects and people. At first, he believes that the shadows are clearer than the “real” objects, as he has lived his whole life in the cave’s darkness. Once his eyes begin to adjust, he is then able to see the objects and people clearly, from his own reflection in the water to the sun itself. He returns to the cave to tell the other prisoners of his discoveries but upon returning to the cave, he finds that his eyes can no longer see in the darkness and that the shadows are difficult to see. The other prisoners dismiss the escapee’s stories and think him stupid and blind, while resisting any attempts to free them.

and the social forces with which it can, under certain historical conditions, but need not necessarily, be connected. (Hall, 1996, p. 141)

In essence, articulation is a process of creating connections and “unity” between different elements in particular and specific circumstances (a “unity in difference,” see Grossberg, 1997, 2006, 2015; Hall, 1980, 1986). Importantly, these linkages are not resolute and concrete for all time and instead, are contingent on the context in which they appear. In the context of this dissertation, I use articulation to help (radically) contextualize how protective policies, individual and as a whole, come to be. In line with Hall’s goals of articulation, I use articulation to understand how protective policies are complexly and contextually developed without reducing these multiple elements to one aspect and instead, attempting to recognize their multiple and unique political, cultural, and social influences.

While I include articulation and radical contextualism in the theoretical overview section of this dissertation, I agree with Slack (1996) in that articulation can also be used epistemologically, politically, and strategically within research. On an epistemological level, articulation provides a way of thinking about the multiple structures and discourses involved, as fragments, to constitute a “unity.” For instance, as I was conducting and comparing my interview and textual analyses, I noticed that there were often discourses of a “level” or “fair” playing field, though there emerged multiple interpretations of how, when, and if ideas of “level,” “equal,” or “fair” manifest. Through incorporating articulation at an epistemological level, I focused on how participants’ (selectively) drew from multiple forms of knowledges, discourses, and sociocultural opinions to advocate for a form of “controlled unfairness”—a process that was not reflected in document texts.

On a political level, articulation centers the importance of power relations and hierarchies, which foreground the relevant structures and social formations. This was particularly relevant

given my incorporation of “expert knowledge” in this dissertation as well as attention to the very real impacts of protective policies on women athletes. Within participants’ “expert” status and influence on creating and implementing protective policies, there is an intended hierarchy between “governed” and “governing” that can and does result in harmful impacts on women athletes, particularly those with underrepresented identities (though often, as I discuss in Chapters 6 and 7, there is resistance to this clear-cut governed/governing binary).

Finally, on a strategic level, articulation offers a means to conceptualize an intervention or solution that is attentive to the relevant contexts, histories, and conjunctures. I draw on this understanding of articulation in my conclusion as I discuss my aims for this dissertation, inside and outside of academic audiences. In sum, I consider the ethos of radical contextualism and articulation as intrinsic to my analyses and discussions.

In this vein, and echoing Katie Esmonde’s (2019) sentiments, I engage radical contextualism and articulation in this dissertation, not to “set it up as the standard for PCS projects” (p. 21), but because they provide guidance on attending to the unique, multiple, and contextual dimensions considered in creating and implementing protective policies. While there are certainly similarities between previous iterations of protective policies and the three examined in this dissertation, my hope for this project is to resist telling “the same stories over and over” (Grossberg, 2010, p. 63). To do so, I believe, would be to ignore the “changing relations of power, inequality, and injustice, especially over the past thirty-five years, as well as in the face of changing affective and ideological investments and struggles” (Grossberg, 2010, p. 65). Thus, articulation and radical contextualism offer a means to consider the complex and seemingly-disparate contexts and social formations that generate a specific phenomenon, that is, protective policies (Hall, 1986; Slack, 1996).

Foucauldian Poststructuralism

My approach towards investigating the nuances of creating, drafting, and implementing protective policies is also influenced by poststructuralism. Emerging in response to structuralism's rigid and universal organizing principles of language of rules (de Saussure, 2011; Olssen, 2003), poststructuralism views reality as "constructed" through language and cultural practices (Weedon, 1997). In particular, poststructuralism posits that language—and by extension, knowledge and power—is contextual, undetermined, and open to subversion (Radford & Radford, 2005). From this perspective, there lacks any type of stable relationship between a signifier (the "form," or a word, sound, or image that an individual interacts with) and the signified (the individual's responding idea or concept associated with the form) (Hall, 1997)—a stark contrast from structuralism, which posits that once a connection is established between the signifier and signified, it "becomes virtually immediate, unitary and stable" (Andrews, 2000, p. 114). More specifically, language becomes a primary focus throughout poststructuralist analyses given that "language is the place where actual and possible forms of social organization and their likely social and political consequences are defined and contested" as well as an individual's subjectivity, or sense of self (Weedon, 1997, p. 21). Subsequently, an individual's subjectivity is not an innate or pre-determined feature, but something that is constructed through discursive and material practices and, therefore, is shifting and open to change. As such, the subject is "never complete, always in process, and always constituted within, not outside, representation" (Hall, 1990, p. 222).

Building on this idea, feminist poststructuralism holds that individuals have agency, which allows them to act within social discourses, adapting to, negotiating, or resisting them (McLaren, 2002; Weedon, 1997). Moreover, feminist poststructuralism posits that "knowledge is contextual produced within certain power relations," which circulate and are constituted by (dominant)

discourses (Markula, 2018, p. 404). While feminist poststructuralism is not united through a single fixed meaning, it has been used as a theoretical framework to understand how women are both subjects and agents within a patriarchal system and provide a lens for understanding how discourses within protective policies are contested and constituted (Allan, Iverson, & Ropers-Huilman, 2010; McLaren, 2002; Mills, 2003). In particular, through their examination of how feminist poststructuralism might benefit policy analyses, Allan, Iverson, and Ropers-Huilman (2010) note that, when tracing the development of policy, such a perspective may help “identify how the embedded assumptions may contribute to consequences of policy solutions that may not have been explicitly intended” (p. 3). I particularly take up this approach in Chapter 4, in which I conduct an analysis of document texts. Specifically, I focus on what and how practices, discourses, and knowledges construct “problems” that emerge as a target for the three case studies.

While poststructuralism is associated with a range of scholars such as Jacques Derrida, Jean Baudrillard, Gilles Deleuze, and Jean-François Lyotard, I look specifically to the ideas and theories of Michel Foucault given his ideas and theories on power, knowledge, and discourse. While Foucault vehemently rejected labels, for this dissertation, he will be referred to as a “poststructuralist,” given that his more well-known and “contemporary” works rebuked structuralism’s rules or laws that adhere to a single universal structure, as well as structuralism’s assumption of sameness of regularities across multiple historical periods and cultures (Mill, 2003; Olssen, 2003).

At the same time, Foucault has been criticized for his androcentric and misogynistic writing and perspectives, which can be grouped into three general categories (see McLaren, 2002; Mills, 2003; Ramazanoglu, 1993). First, as Foucault lacks a normative framework, this can be problematic for feminists who are “committed to the emancipatory political project of ending

women's oppression" (McLaren, 2002, p. 19). An emancipatory framework shares features with other social justice movements, which appeal to normative ideals based on the idea that all humans deserve respect, freedom, and fair and equal treatment. When developing "normative" ideals—equality, human rights, freedom, and autonomy, for example—Foucault's rejection of a normative framework of an objective truth undermines the potential to appeal to such normative ideals. Second, centering on the male experience. Mills (2003) argues that "it is not sufficient simply to add women in to a Foucauldian analysis" and thus, it is vital to address the gender-specificity of Foucault's work and in drawing from a Foucauldian framework (p. 123). Third, Foucault's descriptions and idea(s) of resistance. As Foucault locates the possibility of resistance within power itself, this ultimately overlooks or lacks deeper attention to the agency of an individual to resist oppressive regimes (Markula, 2003).

Still, his work has been used extensively in feminist scholarship, especially his later works, given his problematizing of taken-for-granted "truths" and dominant knowledges (Bordo, 1993; Mills, 2003; Ramazanoglu, 1993). In this vein, McLaren (2002) outlines three key ways that Foucault's work is useful for feminist scholarship. First, his ideas provide a supplement, but not a replacement, to some feminist politics, especially given his understandings of knowledge-power. However, she notes that the study of discourse does *not* replace analyses that focus on political, legal, and economic issues. Second, his ideas are compatible with some feminist ideas given that he is concerned with the exclusionary nature of normative categories. Third, his work challenges the fundamental categories through which feminism also makes political claims such as the body, medico-scientific knowledge, and health.

It is for these reasons that I justify using a Foucauldian framework in a feminist-centered dissertation. In particular, Foucault's work critically analyzed the operation of power in and

through knowledge, discourse, and the body. He was especially interested in how knowledge was produced in fields of study (such as medicine), constructed humans as particular objects, and “how humans subsequently become subject to those scientific truths” (Markula & Pringle, 2006, p. 8). At the same time, I am cognizant of the possible limitations of a Foucauldian framework, particularly given the feminist groundings of this dissertation. To adhere to McLaren’s (2002) suggestions to view Foucault’s ideas as compatible with, and not a replacement of, feminist politics and analyses, I also look to articulation and radical contextualism (as previously discussed) to ensure that my project is attentive to sociocultural, political, and gender-specific issues and processes and approach my research with critical feminist sensibilities (which I will expand on in Chapter 3).

Foucault’s early work, such as *The Archaeology of Knowledge* (1972), was predominantly focused on history and discourses. Specifically, this phase of his scholarship was seen as historically-based studies of what discourses within the archive were permitted to be stated authoritatively (Mills, 2003). Through uncovering dominant and suppressed discourses, Foucault’s archeological investigations sought to expose discursive changes and transformations (Andrews, 1993; Jette, 2009). “Discourse” is one of Foucault’s most enduring concepts and can be understood in multiple ways. Broadly, “discourse” is understood as the general domain of all written or spoken statements (Foucault, 1978; Markula & Pringle, 2006). However, “discourse” can also be understood as singular sentences or a group of statements (Mills, 2003). Throughout these myriad understandings, Foucault (1972) was most interested in examining the set of structures and rules that constitute a discourse rather than the actual discourses themselves (Hall, 2001; Mills, 2003). His interest in structures and rules that constitute discourse stemmed from the understanding that discourses do not reflect an objective perception of the world. Instead, discourses are constituted

to convey a particular normalized “truth” about the social and material worlds (derived from particular structures and rules), which subsequently maintains dominant discourses in circulation while rendering other discourses invisible or forgotten (Foucault, 1978, 1984).

For Foucault, “dominant discourses” constitute forms of knowledge that are circulated and accepted as “truth,” which then have the potential to shape how individuals make sense of and act in the world. Power, which Foucault (2003b) understood as relational rather than possessed, functions through the creation of “norms” within which individuals compare themselves, thus encouraging them to monitor and discipline their own bodies. Put differently, for Foucault, the workings of power shaped how interactions created, constrained, and normalized behaviors and events (Mills, 2003). In a Foucauldian sense, “normal” is established as a principle of coercion to impose uniformity across a population, but remains individualizing through measuring gaps and determining different values based on those differences (Foucault, 1977). Through comparisons between individuals in this ranking system, bodies that conform are placed at a higher “value” (or normalcy) than those that do not. Yet, “normal” remains socially constructed and culturally contingent (Hall, 2001). For protective policies, the construction of “normal” bodies is central to determining *who* is protected, particularly as the creation of “normal” and “abnormal” permits identification and disciplining of “deviant” bodies⁴ (Markula & Pringle, 2006).

Soon after *Archaeology*, Foucault accepted a chair at the Collège de France, where his methodological groundings began to shift from archeology to genealogy as evidenced in *Discipline and Punish* (1977) and *History of Sexuality: Volume I* (1978). In this second phase of his scholarship, Foucault drew attention to the workings of discourse and power, aiming to raise

⁴ As with “normal,” “deviant” (or “abnormal,” as Foucault might describe) is also a constructed idea and is a malleable idea within protective policies. Likewise, “discipline” for protective policies can adopt multiple forms as well: exclusion, mitigated inclusion, or unnecessary medical treatment. I will discuss these ideas more at length in Chapters 4 and 7.

critical consciousness of their relationship. Within the relationships with knowledge and the body, he was especially interested in how certain bodies, preferences, discourse, and desires come to constitute and shape individuals, and the “mechanisms of power that underpin these complex processes” (Markula & Pringle, 2006, p. 14). The body was especially central in his genealogical analyses, linked to the operation of power, dominant discourses, and specific forms of knowledge (Dreyfus & Rabinow, 1982). The consistent focus on the body as a site of power and knowledge prevailed through his different conceptions of power and governance (Foucault, 2003b; Markula & Pringle, 2006), which will be explained in further detail below.

Disciplinary Power

In this dissertation, I draw from Foucault’s (1977) idea of disciplinary power, which he traced as emerging as punishment became less of a physical spectacle around the end of the 18th century and beginning of the 19th century. In particular, disciplinary power contributed to “producing discourses of truth that in a society such as ours are endowed with such potent effects” (p. 93; as cited in Markula & Pringle, 2006, p. 38). These “potent effects,” as Markula and Pringle (2006) describe, include control, judgement, and normalization of individuals, which seek to construct the body as the “object and target of power” (Foucault, 1978, p. 136). Through the body, power relations, knowledge, and discourse work so that the actions of an individual or individuals, material artifacts, words, hierarchies, and norms can “help guide another’s *conduct* or direct ‘the possible field of action of others’” as part of larger regimes (Markula & Pringle, 2006, p. 35, italics in original). Looking specifically at the prison system in *Discipline and Punish* (1977), Foucault explored the transition from forms of public violent punishment to disciplinary power. Disciplinary power did not utilize corporeal force, but rather, subjected the body to particular behaviors, rules, and authority in order to produce a disciplined body (Andrews, 1993; Foucault, 1977). Essentially,

rather than *punishing*, disciplinary power focuses on *reforming* bodies. Identifying three techniques of control—hierarchical observation, normalizing judgment, and examination—the individual is made docile, knowable, and disciplined (Foucault, 1977). In this way, the undisciplined, unmanipulated body is superseded by the subjected and disciplined body:

In becoming a target for new mechanisms of power, the body is offered up to new forms of knowledge. It is the body of exercise, rather than of speculative physics; a body manipulated by authority, rather than imbued with animal spirits; a body for useful training and not of rational mechanisms, but one in which, by virtue of that very fact, a number of natural requirements and functional constraints are beginning to emerge. (Foucault, 1977, p. 154-155)

The transformation to the disciplined body was supplemented with the technique of surveillance, for which Foucault identified Jeremy Bentham's Panopticon as an ideal example. Featuring a center guard tower surrounded by circular prison cells, each prisoner was isolated in his own cell. The structure of the apparatus was designed so that a single guard standing at the center of the guard tower could see each inmate in his cell, without the prisoner knowing or being able to return the gaze (Foucault, 1977). With the ever-present possibility of observation, the prisoners began to self-regulate and exert control over their behaviors and actions, no longer necessitating the constant vigilance of the guards (Markula & Pringle, 2006; Mills, 2003). With the internalization of the constant disciplinary gaze, individuals conformed to a model of homogeneity, contributing to categories of "normal" and "abnormal," with a range of techniques emerging for "measuring, supervising, and correcting the abnormal" (Foucault, 1977, p. 199).

Through the transition of hierarchical observation to self-regulation, discipline consists of an internalized control to the point of "naturalness." In other words, disciplinary power operates on and through individuals and the human body to the point where they speak, think, and behave similarly (Foucault, 1977). While originating from institutions, the disciplinary norms become so thoroughly embedded to the point that it is nearly impossible to conceptualize life *without* these

prescribed actions, behaviors, and functions (Mills, 2003). Shaped by systems of knowledge and dominant discourses, the linkage of power, knowledge, and discourse collude to understand, control, and discipline the human body (Andrews, 1993; Lilja & Vinthagen, 2014). In effect, the body becomes a site for the operation of power relations, shaped by privileged discourses and bodies of knowledge. While disciplinary power operates on and through the individual body, it concurrently acts on the species-body (i.e., populations or communities) as a “technology of power,” through ranking bodies and establishing categories of (ab)normality (Foucault, 1977, 1984; Mills, 2003).

Within this dissertation, I utilize disciplinary power—and the process by which bodies become disciplined—to understand how (different, contrasting) definitions of “woman” are defined and implemented in the name of “protection.” Through the understanding that protective policies operate as technologies, and despite the labelling of “protection,” I will show that protective policies seek to identify and discipline women’s bodies (through multiple “treatments,” medical or otherwise) to maintain constructed categories of “normal” and “abnormal.” While engaging heterogeneous and multiple rationales to justify their actions, ultimately, protective policies are united through attempting to seek out “suspicious” bodies, whether it is for reasons of “health,” “safety,” or “fairness.” While document texts primarily engage medico-scientific discourse—and thereby circulate and maintain such knowledges as a privileged form and propelling a veneer of objectivity (see Fausto-Sterling, 2000; Jordan-Young & Karkazis, 2019a; Markula & Pringle, 2006)—those involved with researching, creating, and implementing protective policies frequently and strategically draw upon cultural, political, geographic, and social ways of knowing. Doing so ultimately naturalizes and normalizes binary categories of “normal” and “abnormal,” under the premise of “protection.”

Biopower

Following Foucault's idea of disciplinary power, he introduced a new type of power—biopower—in his lectures at the Collège de France, which later informed his idea of “governmentality.” In particular, he introduced “biopower” as a theoretical concept that described “the set of mechanisms through which the basic biological features of the human species became the object of a political strategy” (Foucault, 2007, p. 16). Put simply, biopower is comprised of rationalized strategies and attempts to govern over life, through forms of knowledge and regimes of authority (Rabinow & Rose, 2006).

During Foucault's development of biopower, he also began to discuss a genealogy of (Western) racism, often looking to Nazism as an example (Foucault, 1978; 2003c). In particular, Foucault proposed racism as a “form of biopolitical government that impinges on individuals in their most basic relationship to themselves and others,” rather than merely a type of “irrational prejudice, social discrimination, or political ideology” (Rasmussen, 2011, p. 35; Foucault, 2003c). For Foucault (1978), racism was found at the intersection of disciplinary interventions focused on the body and political strategies that targeted the population (Lorenzini, 2021; Rasmussen, 2011; Taylor, 2011). In particular, he notes that

[R]acism justifies the death-function in the economy of biopower by appealing to the principle that the death of others makes one biologically stronger insofar as one is a member of a race or a population...the specificity of modern racism...is not bound up with mentalities, ideologies, or the lies of power. It is bound up with the technique of power, with the technology of power...The juxtaposition of – or the way biopower functions through – the old sovereign power of life and death implies the workings, the introduction and activation, of racism. (Foucault, 2003c, p. 258; as cited in Rasmussen, 2011, p. 40).

In essence, racism operates as a technology of authorities (or “government”) to regulate and control populations by dividing individuals into human groups or “races.” Contemporary scholars such as Ellen K. Feder (2004, 2007a, 2007b) and Ladelle McWhorter (2004, 2009, 2011, 2017) have

extended Foucault's connections between biopower and race(ism), while also drawing connections to Foucault's work on sexuality and sex. That is to say, they demonstrate how institutions and practices supporting modern concepts of race emerge out of networks involving disciplinary normalization and biopower that similarly construct modern ideas of sex.

In the context of protective policies, the intersection of Foucault's biopolitics and race(ism) is useful for understanding how (white, Western) constructs of "healthy" and "normal" bodies are put forth and maintained through both policies and authority figures (i.e., scientists, policymakers, researchers, organizational administrators). In other words, race remains a "ghost variable," particularly in science, technology, and medicine contexts (Karkazis & Jordan-Young, 2020). As I discuss throughout all empirical chapters, but especially Chapters 4 and 6, race is made both implicit and explicit as it is operationalized to explain or justify differing forms or levels of protection for women athletes.

Government(ality)

Lastly, I draw heavily from Foucault's idea of "governmentality" in this dissertation, which emerged after disciplinary power and biopower. Building on his idea of biopower, Foucault introduced the idea of "government" to describe the strategies, tactics, and devices employed by authorities, systems, or institution, to create modes of knowledge, govern a population, and achieve a particular end (Mills, 2003). Reimagining the relationship between the individual, the population, and power—and extending disciplinary power to power over and through biological and societal bodies—Foucault focused especially on connections between the micro- and macro-workings of power, particularly in the context of the influence of authorities over populations (Foucault, 2003a). Foucault (2003a, 2003b) has also describe governmentality as the "conduct of conduct," meaning, the organization and implementation of standards of behaviors for individuals, with

“conduct” defined as the set of behaviors exercised by individuals (Dean, 2010; Lemke, 2001; Miller & Rose, 2008; Mills, 2003).

In essence, governmentality, or the “art of governing,” was a framework to understand the complex arrangement of (expert) knowledges, structures, and technologies developed to “know” a population and help guide individual conduct (Foucault, 2003a). Such objectives were meant to arrange “things in such a way that, through a certain number of means, such and such ends may be achieved” (Foucault, 2003a, p. 237; Rose & Miller, 1992; Rose, O’Malley, & Valverde, 2006). To do so, government privileged particular modes of knowledge, often framed as ostensibly neutral “expert knowledge,” to categorize and normalize society (Markula & Pringle, 2006). Thus, the focus of society and purpose of laws and tactics became a scheme of practices, designed to create normal and acceptable behaviors (Rose & Valverde, 1998).

Within proposing his idea of governmentality, Foucault (2003a) also outlined his concept of “pastoral power,” which is “distinctive in the way it attends to the wellbeing and moral propriety of both individuals and communities simultaneously” (Martin & Waring, 2018, p. 1293). In particular, pastoral power bestows on particular individuals⁵ to instruct, care for, and be legitimated by the community to which they attend (Holmes, 2002; Martin & Waring, 2018). In doing so, the exercise of (pastoral) power aligns with expertise or forms of “expert” knowledge, which seek to achieve the (constructed) normalization of individuals and populations (Dean, 2010; Foucault, 2003b; Holmes, 2002; Rose & Miller, 2003). Though Foucault did not explicitly draw out the connections with governmentality, governmentality studies scholars have deployed Foucault’s idea of pastoral power within a governmentality framework, especially when discussing

⁵ In Foucault’s specific example, he uses pastors, hence, “pastoral” power (Foucault, 2003a, 2003b).

expert knowledge and expert power (Holmes, 2002; Howley & Hartnett, 1992; Perryman et al., 2017; Wilson, 2001).

Governmentality Studies. Since Foucault first proposed the idea of governmentality, the related field of governmentality studies have further developed governmentality (and its connection with pastoral power) as an analytic tool, particularly as a means to understand how populations are structured and analyzed to achieve a particular goal while *governing at a distance*⁶ (Cisney & Morar, 2016; Miller & Rose, 1990, 2008). In particular, governmentality studies scholars have teased apart two⁷ distinct aspects to the art of governing: rationalities or programmes and technologies (Dean, 2010; Miller & Rose, 1990, 2008; Rose & Miller, 1992). *Rationalities* or *programmes* refer to the reasons behind government's created system, which dictate the programmable and calculable created reality, constituted of non-neutral knowledge (Miller & Rose, 1990, 2008; Rose, O'Malley, & Valverde, 2006). *Technologies* speak to the actual mechanisms that shape, normalize, and instrumentalize the conduct of individuals (Miller & Rose, 2008). Together, the rationalities or programmes and technologies of government created practices that were not usually challenged or questioned by others, and instead, were relatively taken for granted (Dean, 2010). In the context of sport and gender, Cole (1993) has discussed "technologies

⁶ This was a term coined by Miller and Rose (1990), which drew on Latour's idea of "action at a distance." Latour's concept of "action at a distance" describes how knowledge or "information" can travel through well-connected networks, which are then brought together in "centres of calculation." Those in these "centres of calculation" can then control or at least influence what happens in multiple other, distant contexts (Hor & Iedema, 2015). Latour (1987, 2005) and Callon (Callon & Law, 2004) later incorporated "action at a distance" into Actor Network Theory (ANT).

⁷ It should be noted that in their early and more extensive engagements with governmentality, Miller and Rose (1990, 2008) actually draw out *three* components of governmentality: rationalities, programmes, and technologies. Programmes refer to the "particular mode of 'representation'," which involve the elaboration of a language that represents a reality that is provided in a form that is "amenable to political deliberation, argument and scheming" (Miller & Rose, 1990, p. 6). Doing so renders the "objects of government thinkable in such a way that their ills appear susceptible to diagnosis, prescription and cure by calculating and normalizing intervention" (Miller & Rose, 2008, p. 62). Put simply, through (specific) language, programs of government connect rationalities to regulatory aspirations. In their later works along with Mariana Valverde (Miller & Rose, 2008; Rose, O'Malley, & Valverde, 2006), they continue to draw attention to programmes of government, though sometimes group it together with rationalities, thus creating two categories: rationalities or programmes and technologies. Other governmentality studies scholars have also typically outlined the two categories of rationalities or programmes and technologies (Dean, 2010; Lemke, 2015).

of femininity,” which is understood as “knowledges, practices, and strategies that manufacture and normalize the feminine body” (p. 87). With the understanding that women’s bodies are “more docile, malleable, and impressionable than the masculine body,” technologies of femininity aim to develop a “feminine body,” or a body that is slim, flexible, and tight (p. 87-88). In a similar way, previous scholars investigating individual protective policies, especially those policing the boundary of eligibility for the women’s category, have illustrated how these policies maintain and circulate Western constructions of appropriate “femininity” (Bavington, 2019; Cole, 2000; Pieper, 2016).

Rose, O’Malley, and Valverde (2006) explain how governmentality studies research that examines the development and connections between rationalities and technologies seeks to “identify these different styles of thought, their conditions of formation, the principles and knowledges that they borrow from and generate, the practices that they consist of, how they are carried out, their contestations and alliances with other arts of governing” (p. 84). Put simply, governmentality studies research asks questions around what is to be governed, why and how they are governed, and to what ends they are governed, while closely investigating the technologies of government.

Additionally—and relevant to the focus of this dissertation—a natural area of research for governmentality studies has been the development and implementation of policies (Bennett, 1992; Bratich, Packer, & McCarthy, 2003). As Olssen (2003) writes,

Foucault’s concept of governmentality is relevant to how governmental technologies insert themselves into practical policy development and implementation at a particular historical juncture. There are indeed a number of elements involved. While the concept of *political reason* pertains to the broad discursive frame of reference through which political problems and solutions are identified and considered and which determines the focus and objects of governance, the concept of *technologies of governance* pertains at the level of operationalization and involves a consideration of the techniques and means through which practical policies are devised and inserted. (p. 197, italics in original)

Given that the primary purpose of policies is to govern the conduct of individuals and populations, it is a “codified, instrumentalized and institutionalized” key technology in the art of governing from a distance (Bratich, Packer, & McCarthy, 2003, p. 8). Consequently, the creation of policy—for whatever type of organization, be it federal/state governments or sport federations—inherently seeks to achieve particular (political) agendas, set in place by authority figures and those creating policies (as well as the governed, see Dean, 2010). As a result, policy is formed across multiple knowledges, discourses, and subjectivities that encodes cultural and social “norms” (Rose & Valverde, 1998). Governmentality, as a framework, subsequently allows critical examination into the political rationalities within policy and facilitates the problematization of taken-for-granted assumptions underpinning policy guidelines (Miller & Rose, 2008). Additionally, through articulating the intricate relationships between power, knowledge, culture, and subjectivity, research on the intersections of policy and governmentality allows insightful and potentially impactful policy advocacy (Bratich, Packer, & McCarthy, 2003).

Extending beyond policies and sovereign authority, technologies of government and interventions also can include discourse and language (as has been popular in cultural studies), networks, “experts,” authorities, culture, and technologies of the self (Barnett, 1999; Bennett, 1992; Bratich, Packer, & McCarthy, 2003; Foucault, 2003b; Miller & Rose, 2008; Rose, O’Malley, & Valverde, 2006). Indeed, investigating privileged “expert knowledge” with consideration to pastoral power and governmentality has been especially important in critical governmentality studies analyses. As Packer (2003a) writes, critical governmentality studies work “tends to focus upon the formation of expert knowledges that produce normative standards that support the enactment of policy that insures the general ‘well being’ or security of populations” (p. 142). To this point, and in an interview with Jeremy Packer, Toby Miller and Lawrence Grossberg speak of

balancing the micro and the macro as essential to avoid both “an extraordinary totalization” and a “total specification” in a governmentality studies analysis, with attention to the construction and circulation of knowledge (Packer, 2003b, p. 33). In other words, a governmentality studies approach must act as a form of articulation, investigating power relations in a phenomenon or culture through contextual and critical attention to dominant and distinctive knowledges, expertise, rationalities, and techniques, while seeking to avoid telling “the same old bad stories over and over again” (Grossberg, 2010, p. 64).

Foregrounding these questions is the appearance of a problem, and the necessity of a response (Miller & Rose, 2008). Simply, if a population is deemed to require conducting, that means there is a problem, as conceived by the rationalities of government (Packer, 2003a). When something is viewed as a problem, an intervention is subsequently conceived and staged through the technologies of government. One such example is in the context of “risk.” Understood as an illusion rather than a real problem, risk becomes a vessel to rationalize interventions or technologies to normalize the identified “problems.” While deconstructing phenomena such as “risk” help to understand government, Foucault warns against the simplification of rationalities into reductive categories. That is to say, while there may be historical similarities between rationalities, *they are not “cookie-cutter typifications or explanations”* (Rose, O’Malley, & Valverde, 2006, p. 97; italics added for emphasis). Foucault’s warning against merely recapitulating rationalities repeatedly is characteristic of his broader argument against totalizing categories (see Foucault, 1977, 1984; McLaren, 2002). Rather, government, and especially rationalities, is never a finished process, and is constantly undergoing changes to contextualize and respond to phenomena while retaining certain characteristics and preferences (Rose, O’Malley, & Valverde, 2006).

In the context of this dissertation, a governmentality studies approach is useful for investigating the rationalities and technologies that protective policies draw from to govern and discipline women athletes. In this, I recognize that “protective policies” is a bit of a misnomer. As I discuss in Chapters 6 and 7, participants advocate for multiple technologies of governance in addition to written policy. Moreover, while all the case studies examined in this dissertation share an intention to “protect” some element of women athletes and their bodies—whether this involves health, fairness, safety, or inclusion—ultimately, protective policies do not evenly protect all women. This disparity in protection is consequent of the contextual and distinct definitions of an “eligible” or appropriate woman athlete or, in a Foucauldian sense, divergent (political, social, cultural, biological) rationalities. Using a governmentality studies approach to center the relevant discourse, knowledges, and power relations that guide (selectively utilized) rationalities within protective policies allows me to parse through how, when, and why these different reasons are used. In terms of “expert knowledge,” the ideas of pastoral power and governmentality also aid in understanding how some women’s bodies are deemed needing more protection, as compared to other women’s bodies who need protecting from. Moreover, and by framing protective policies as interventions that function as technologies of power, I also explore the varying techniques, tools, discourses, and affective elements that are mobilized to discipline individual bodies in order to regulate the social body (i.e., maintain the “rules” of fair competition, identify and “fix” or eliminate “suspicious” bodies).

Substantive Literature Review

In this section, I examine the substantive literature on protective policies. To attend to both protective policies as a broad category and the individual case studies, I organize this section into two parts. First, I examine the substantive literature on the three themes that unite protective

policies: safety and health, fairness, and the sociocultural and medical boundaries of “woman.” When discussing women’s safety and health, I highlight the social, cultural, political, and scientific complexities of women’s bodies, particularly given historical manipulations of science to illustrate the “inferiority” of women’s bodies, in combination with the material reality of harmful health conditions such as RED-S. I then link the issues of “health” and “safety” to “fairness,” particularly through the dominance of medico-scientific knowledge in defining “fairness,” as well as sport’s dominant use of sex segregation. Finally, I discuss the sociocultural and medical boundaries of an acceptable “woman” with consideration to biologized ideas of sex, gender, and race.

I then turn to each of the individual case studies: the IOC’s consensus statement on RED-S, WA’s female eligibility policy, and WA’s transgender eligibility policy. Within the discussions for each policy, I first provide the historical background on the policy, followed by more concerted overviews on the gendered, raced, and scientific implications and impacts of each document. I close this section by outlining the gaps that remain in the literature and how this dissertation will address these gaps.

Defining, Protecting, and Governing Women Athletes

Part of the complexity behind protective policies is in their differing rationales, strategies of governance, and impacts. Taken together, these sometimes contrasting, sometimes similar, and always complex components create “tensions” that are intimately linked to their contextual definitions of “woman” and “protection.” At the same time, protective policies (including the three examined in this dissertation) rely on forms of (selective) science to validate and justify their protective intentions. Consequently, scientific evidence can be interpreted or manipulated differently to align with the intentions of (sports) organizations and/or those involved with researching, creating, and enforcing protective policies. Though the scientific evidence is often

presented as “objective,” scholars have demonstrated how science is impossible to detach from politics and culture (Andrews, 2008; Foucault, 1978; Jette, 2011; Jette & Rail, 2013; Jordan-Young & Karkazis, 2019a). In the context of protective policies, the subjective nature of science contributes to multiple definitions of “woman” and mechanisms of protection. Subsequently, some bodies are afforded protection, and some are excluded.

Nonetheless, protective policies remain united through their alleged “protective” intentions, despite these divergences. In particular, and as explained in the first chapter, I argue that there are three broad “protective” aspects of protective policies: (1) ensuring women’s safety and health; (2) defending “fairness” in women’s sports, and; (3) preventing the violation of sociocultural and medical boundaries that define who “counts” as a woman. As I will show throughout my empirical chapters, all three case studies incorporate and uniquely interpret these three broad characteristics, thereby illustrating the versatility of “evidence” in science-supported protective policies. In turn, this then contributes to different definitions of “woman.”

Ensuring women’s safety and health

For centuries, women have engaged in various forms of physical activity, whether through dancing and games, or horseback riding and early forms of badminton (Verbrugge, 2002). However, most, if not all, of these involvements have been significantly moderated, often by drawing upon arguments of “safety” or “health” (Bohuon & Luciani, 2009). Sport historians typically highlight the late nineteenth and early twentieth century as the key moment when a “new culture of active womanhood” began to emerge (Verbrugge, 2002, p. 55). As women had begun demanding (more) access to male-dominated social, cultural, and political spaces, sport and physical activity became no exception (Cahn, 2015). Concurrently, physicians and “body experts” began to develop research and studies on the “science of exercise” (Verbrugge, 2002; Vertinsky,

1988). This area of research sought to answer physical activity-related questions around how the body moved, how the body could move efficiently and effectively with consideration to strength and speed, and what other bodily processes were involved in exercise.

One relevant factor that many (but not all⁸) researchers considered without question was the principle of sex differences. Though the types of differences (i.e., biological, social, cultural) were debated, most body experts assumed that reproductive systems were the most significant difference between women and men (Hargreaves, 2002; Verbrugge, 2002). However, there were varying stances on the impacts of physical activity on women's reproductive systems. This was a significant concern, as womanhood was associated with maternal responsibilities, caregiving, and child rearing (Lenskyj, 1986). While some argued that physical activity was safe for women, even during menstruation, others looked to physical activity as the reason behind every "frantic report of menstrual dysfunction, miscarriage and even sterility" (Verbrugge, 2002, p. 56). In doing so, medical approaches to women's bodies coalesced with social expectations of gender, fostering a paternalistic logic constructing women as "inferior" to men (Vertinsky, 1988, 1990). Furthermore, these particular types of events prompted attention towards biological evidence that purportedly sustained "female frailty" (Dowling, 2001). In turn, body experts and other proponents of women's health encouraged women to engage in moderate forms of exercise. As Cahn (2015) describes,

Nineteenth-century medical science characterized women as the physiologically inferior sex, weakened and ruled by their reproductive systems. Given evidence of women's poor health—chronic fatigue, pain and illness, mood swings, and menstrual irregularities—experts theorized that the cyclical fluctuations of female physiology caused physical, emotional, and moral vulnerability and debilitation. (p. 13)

⁸ Verbrugge (2002) contends that those who allege to have not considered sex differences were most likely drawing from a white male standard. Today, many have highlighted the moral, scientific, and health-related impacts of assuming white male subjects as the "universal model" (see Dresser, 1992; Oh et al., 2015).

At the same time, gendered expectations around women's bodies continued to underline efforts to moderate women's inclusion and participation. In particular, while women gained access to sports and spaces of physical activity, their participations were still moderated in order to achieve the "ideal feminine body," which aligned with Western constructs of heteronormativity and the "naturalness" of the sex/gender binary (Markula, 2003).

Building on the efforts of sport historians to underscore the confluence of medical and social influences on women's bodies, contemporary critical sport, feminist, and race researchers have revealed similar findings. Indeed, there exists a breadth of scholarship from multiple disciplines and fields that has demonstrated the material, social, and cultural reality of women's safety and health in spaces of physical culture, sport, and physical activity. In other words, concerns for women's safety and health in these realms *are* valid as girls and women experience disproportionately high incidents of harassment and abuse as compared to men (Brackenridge, 2002; Mountjoy et al., 2016) and are thought to be at higher risk for developing damaging health conditions such as RED-S, which is associated with toxic and unsustainable sporting cultures (Mountjoy et al., 2014, 2018). The combined influences of biological and social dimensions on women's experiences in physical activity and sport, ultimately demonstrate the importance of attending to both, especially with regard to issues of health and safety (Alaimo & Hekman, 2008; Blackman, 2008; Cole, 1993; Jette et al., 2017; Jette, Esmonde, & Maier, 2019; Markula, 2019; McLaren, 2002; Thorpe, 2014, 2016; Wilson, 2015). Likewise, an abundance of scholarship has examined social influences on women's bodies, illustrating the hegemonic gendered power relations in sport that privilege the "masculine" male body (see Birrell & Cole, 1994; Cahn, 2015; McDonagh & Pappano, 2008; Messner, 1988): a norm that can contribute to and permit exploitative, toxic, and even abusive environments (Brackenridge, 1997). Likewise, sport

historians and sociologists of sport have extensively illustrated and argued against characterizations of women as the weaker sex (Cahn, 2015; McDonagh & Pappano, 2008; Verbrugge, 2002; Vertinsky, 1988). To do so, they have critiqued how biology has been manipulated and used to exclude women from sport and physical activity, or to limit their involvement, as discussed above.

While recognizing the continued importance of challenging biological determinism in sporting spaces, feminist sociologists and science and technology studies (STS) scholars have more recently redrawn attention to the materiality of women's bodies as entangled with political and sociocultural elements (Jette et al., 2017; Pape, 2021; Thorpe & Clark, 2020; Thorpe, Clark, & Brice, 2021). Through doing so, they seek to counter the tendency to simply ignore the materiality of bodies for fear that biology will be mobilized to justify sexism in sport (Cole, 1993; Fullagar, 2017; Jette, Esmonde, & Maier, 2019; Markula, 2019). The importance of this research lies in the *material* reality of health and safety in sport and spaces of physical activity. In other words, while such concerns cannot be extracted from social and cultural dimensions—as illustrated in historical concerns over women's reproductivity—sport and sporting environments have the potential to enact short-term and long-term damage on women's bodies. For example, in the case of RED-S, its biological reality often materializes in the forms of stress fractures, cessation of menses, and/or declining performances, as indicated in both RED-S scholarship (Mountjoy et al., 2018) and accounts by athletes who have had this condition (Ackermann et al., 2020; Cain, 2019). At the same time, the social and cultural politics embedded in sporting cultures that permit and maintain a toxic, exploitative, and unsustainable training environment, thus contributing to the disproportionate incidents of such health conditions in girls and women, cannot be ignored (Brackenridge, 1997; Bekker & Posbergh, 2022).

This project contributes and extends existing literature by examining how and when sex differences in protective policies are emphasized, overlooked, or somewhere in-between. I investigate how participants interpret sex differences (specifically, certain medico-scientific and/or sociocultural aspects of sex differences, such as testosterone levels, levels of harassment and abuse, or societal expectations) and how these understandings make (or do not make) their way into document texts. from dimensions of sex differences and how/when these distinctions make their way into policy writing. In particular, I attend to how participants and policies differently or similarly define “healthy” (women’s) bodies and what strategies they endorse to uphold guarantees of safety. To contextualize these “solutions,” I also look to understand how participants justify or contextualize health- or safety-related “problems” and what forms of knowledge they draw from to explain their viewpoints.

Defending “fairness” in women’s sports

Along with safety and health, a key pillar of organized, competitive sport is that of “fairness.” However, the challenge with implementing constructed notions of “fairness” is the fluid interpretations and definitions of this idea. That is to say, while all sports organizations purport to uphold principles of “fairness” or “fair play,” there often lacks clear explanation as to what these phrases actually mean (Krieger, Pieper, & Ritchie, 2019). To answer this question, specifically in the context of including transgender (specifically transwomen) athletes, a multitude of understandings around how “fairness” is balanced or prioritized within (women’s) sports have been offered. Some, like Gleaves and Lehrbach (2016), argue that the inclusion of transgender and intersex athletes “*must move beyond the idea of fairness...a better rationale emphasizes that sport is about meaningful narratives*” (p. 14; as cited in Pike, 2021, p. 156, italics in original). In other words, “fairness” alone is not an acceptable justification for excluding or significantly mitigating

participation opportunities for (women) athletes. Instead, sports must prioritize other societally-based values that emphasize meaningful experiences and inclusion. Some, like Pike (2021), contend that sport federations should adopt a “lexical priority” system wherein values (e.g., safety, fairness, and inclusion) are organized by the first principle, then the second, and so on. Some, like Loland (2004, 2020, 2021), suggest that fairness is implementing classification systems that combines social, cultural, and biological considerations to regulate relevant inequalities⁹ between individuals—a stance that ultimately supports a (biocentric, binary) sex classification. Indeed, the range of opinions on what constitutes fairness and how to effectively implement “fairness” in sports competitions is illustrative of fierce debates over how to “fairly” include athletes who transcend normative boundaries of “female” and “male” (Devine, 2019; Gleaves & Lehrbach, 2016; Kerr & Obel, 2018; Pitsiladis et al., 2016; Teetzel, 2006).

However, questions of fairness are often shaped and guided by medical and scientific techniques and knowledges: a result of the interrelations between issues of doping and sex testing in the mid-twentieth century, and the medical groundings of the committees (i.e., the IOC Medical Commission) enlisted to address these issues (Krieger, Pieper, & Ritchie, 2019). In addition to the medical roots of fairness in sports organizations, the veneer of objectivity within medico-scientific knowledge further bolsters endeavors to regulate women’s bodies and eligibility (as is especially the case for transgender and female eligibility policies) through “scientific” techniques (Henne, 2014; Karkazis & Jordan-Young, 2018; Pape, 2020c; Schultz, 2021). At the same time, “assumptions of ‘fairness,’ inextricably connected as they were (and still are) to Eurocentric

⁹ The denotation of “relevant” inequalities is important, as Loland (2021) acknowledges that there are some factors, such as climatic conditions, order of starting position, or pitch halves, that are uncontrollable and changing. As such, Loland (2021) argues that “inequalities between competitors in external conditions are considered irrelevant” (p. 1478). Likewise, he maintains that inequalities arising from “system strength,” which is the “strength of the material, financial, technological, and scientific resources supporting an athlete or a team” are also irrelevant (p. 1478).

amateur and gender ideals,” validated the necessity and accuracy of medical and scientific procedures (Krieger, Pieper, & Ritchie, 2019, p. 1560). The result is an unproblematic incorporation and enforcement of “fairness” as a scientific “problem” and “solution.” Yet, as Beamish (2009) argues, science cannot “serve as the moral compass for the modern world”—which includes determinations of fairness—for three reasons (p. 8). First, science is committed to only one particular value and cannot unbiasedly judge all other values. Second, the world is far more complex and cannot be understood or defined through one approach. Lastly, scientists cannot separate their own personal opinions, biases, and interests from their research, thereby rendering “objective” science an impossibility (Jordan-Young and Karkazis, 2019a). In *Gut Feminism*, Wilson (2015) has summarized these arguments as “taking biomedical data seriously but not literally” (p. 13).

Nonetheless, today, medicine and science remain central to determining “fairness,” especially in women’s sports. In addition to doping tests and contentious testosterone limits for women athletes—which overtly demonstrate the elevation of medico-scientific knowledge—sex segregation, as the dominant categorization model across the sporting milieu, also demonstrates the privileging of science. More than deploying scientific discourses though, sex segregation engages the *entanglement* of scientific and social factors, in the name of “fairness.”

Part of sport’s characterization as a “male preserve” (Dunning, 1986) is influenced by the separation of women’s sports from men’s sports (McDonagh & Pappano, 2008). Tännsjö (2000) outlines four primary reasons in support of sex segregation within sports (or, as he calls it, “sexual discrimination”). The first is that separating women and men is merely another categorization method and is no different than the use of weight classes in sports such as wrestling and Olympic lifting (Loland, 2021). Second, if women and men compete together and some women defeat some

men, this may provoke violent responses from men. In order to protect women from these potential aggressive outbursts, it is vital for women and men to compete separately. Third, without sex segregation, women will most likely find that they are always defeated by some men, which will be discouraging for them¹⁰. Lastly, women's sports hold a unique value that differs from men's sports and, through integrated both competition categories, its distinctiveness would be lost.

At the center of each argument is the assumption of the “frail” female body, influenced by historical and contemporary medical concerns around the impacts of strenuous activity on women (Erikainen, 2019; Hargreaves, 2002; Vertinsky, 1990). More than “health” and “safety” arguments though, is the implication of “fair” competition for women and the women's category. However, “fair competition” or the idea of a “level playing field” has been soundly debunked¹¹ (see Buzuvis, 2010; Cooky & Dworkin, 2013; Cooky, Dycus, & Dworkin, 2013; Pape, 2020d; Vilain & Sánchez, 2012). Nonetheless, the fusing of health, safety, and fairness for women and the women's category subsequently prompts the need to protect, separate, or exclude women athletes¹².

¹⁰ Given the extensive campaigns and advocacy/policy efforts to allow women into sports and spaces of physical activity, some argue that this runs counter to the hard-earned victories of the broader women's movement (see Coleman, 2017).

¹¹ Specifically, the characterization of a “level” playing field as a “myth” is rooted in the impossibility of controlling all the variables that are likely to enhance an athlete's performance (and thus, render the playing field “uneven”). Erin Buzuvis (2010) discusses this level playing field “myth” by noting the differences in coaching and at what age athletes receive such coaching, access to technologically superior equipment, environmental advantages or disadvantages, and even some physical advantages obtained by “unnatural means” such as laser eye surgery or ligament replacement surgery: all of which create an uneven playing field, but are related to characteristics that are difficult and improbable to regulate (see Murray, 2018 as well, for a discussion over discussions of “fairness” and a “level” playing field). A “level” playing field implies that athletes succeed primarily (if not solely) based on hard work and their meritocracy, yet when considering the myriad factors involved in athletic success, scholars have repeatedly concluded that a level playing field is a misconception.

¹² It should be noted that, although sex segregation emerges as a strategy to “fairly” and “safely” allow the inclusion of girls and women, a growing number of scholars have questioned the reasons behind sex segregation practices in sport, particularly as they reinforce problematic biologizing ideas of gender and sex (see Anderson, 2008; Channon et al., 2018; Kerr & Obel, 2018; Tännsjö, 2000). McDonagh and Pappano (2008) summarize these rationales as three “T”s: (1) women's *inferiority* compared to men; (2) the need to protect women from *injury* in competition with men, and; (3) the *immorality* of women competing directly with men. As such, women's sports frequently feature standards and regulations predicated on social and biological differences between male and female bodies that imply women are “lesser than,” “different from,” or “derivative of” men's sports (Cahn, 2015, p. 222).

This dissertation contributes to ongoing discussions around “fairness” in elite women’s sports by examining how “fairness” corresponds to “protection,” especially in terms of “protecting” the meaning or integrity of women’s sports (in other words, meaningful competition for women athletes). In particular, I look to understand how document texts and those involved with creating and enforcing protective policies interpret ideas of “fairness,” what characteristics they deem to be “fair” or “unfair,” and what forms of knowledge they draw from in order to justify their definitions. Through examining these aspects, I also consider how these dimensions of “fairness” correspond to how “woman” is defined, as well as why and under what contexts (certain) women athletes are protected.

Preventing the violation of sociocultural and medical boundaries that define who “counts” as a woman

In all, the intricate, messy, and complex understandings of women’s bodies, along with organizational values of safety, health, fairness, and, more recently, inclusion (see IOC, 2021a, 2021b), create an equally complicated sporting experience for women athletes (though not all women athletes’ experiences are the same). While participation for girls and women in sports and physical activity is at an all-time high today (Boucher et al., 2021) and the recent 2021 Tokyo Olympic Games featured its first-ever transgender and non-binary athletes—victories for the women’s movement and inclusive sport advocates—men are still generally more enthusiastically welcomed than women into competitive sporting environments (Cahn, 2015; Messner & Sabo, 1990). Conversely, strong women are identified as unnatural, violating, and unacceptable, *despite the fact* that sport is a physical demanding activity for all participants, regardless of gender or sex (Kane, 1995).

The necessities of women athletes to both navigate traditional ideals of femininity while maintaining necessary strength and size often leaves them in a double bind (Burrow, 2016; Cahn, 2015; Hardy, 2015). Especially in high-level sport where successful athletes, regardless of sex, require “masculine” virtues—which are celebrated in male athletes—women athletes are often met with stigmatization, ridicule, and even exclusion. To typify these unique overarching struggles of women athletes, scholars have coined the phrase the “female apologetic,” a process by which women over-emphasize their femininity in an attempt to *apologize* for their necessarily strong bodies (Davis-Delano, Pollock, & Vose, 2009; Hardy, 2015). On the other hand, male athletes are encouraged to embrace forms of masculinity, even to the point of potentially developing long-term physical, emotional, psychological and relational damage (Pringle, 2003; Zhang et al., 2011).

The alleged clear-cut separation between “femaleness” and “maleness” through biological and sociocultural factors, ultimately constructs binary ideas of appropriate “women” and “men.” With this in mind, Cahn (2015) discusses how policies based on “difference” were enacted to preserve sport’s identity as a “male preserve” and to uphold culturally accepted understandings of sex and gender:

Through athletic policies that regulated space, time, touch, and dress, masculinity and femininity were designated as separate but not equal. Femininity was typically constituted around the edges of sport through references to female beauty and sex appeal. Within sporting activity femininity was defined as ‘lesser than’ (shorter distances, time periods), ‘different from’ (women’s rules, special equipment), to ‘derivative of.’ (p. 222)

Ultimately, while policies based on “difference” created new opportunities for women athletes, the same policies policed the boundaries of acceptable or appropriate appearances, which were based on Western constructs of gender, sex, and sexuality. To do so, the creation of these policies strategically drew upon sociocultural and political expectations of women, which were then incorporated into policy texts that regulated the physical performance of women. In doing so, and

with the infusion of sociocultural perceptions and implications under the authority of “biological” or “physiological” reasons, women were characterized as “lesser than,” “different from,” and “derivative of” men. That is to say, policies based on “difference” were underpinned by biological determinism or “biologization”: the understanding that constructs of “gender” and “sex” (and “race,” as I discuss in the following paragraphs) are neutral ways to categorize individuals into groups based on their biology, with supposed biological “differences” used to justify social policies and guidelines to potentially harmful effect (Fujimura, Duster, & Rajagopalan, 2008; Martin & Parker, 1995).

Black women are particularly impacted by such policies, as they are confronted by the intersections of racism and sexism. Race itself is not a biological category, but the health disparities and embodied experiences in persons of color reflect the internalization and biological response to situations of extreme stress (Gravlee, 2009). Yet, in sport, race has endured as a predictor of athletic aptitude and performance, mirroring the consequences of racial discrimination in society (Epstein, 2014). Correspondingly, assumptions in sport and (sport) science that draw on notions of race as biologically determined subsequently link black bodies to either athletic potential and success (Carrington & McDonald, 2001), or violence and crime (Andrews, 1996; Hartmann, 2012). Despite race’s biological untenability, a growing body of STS research illustrates the opportunistic and strategic manipulations of scientific studies and data to “discover” genes and phenomes for traits like aggressiveness, violence, and risk-taking (Fujimura, Duster, & Rajagopalan, 2008; Fujimura & Rajagopalan, 2010; Jordan-Young & Karkazis, 2019a; Karkazis & Jordan-Young, 2018, 2020).

In particular, and as Lansbury (2014) observes, Black women athletes remain forced to “contend with racial stereotypes that white women [do] not, such as the hypersexualized black

female or the natural black athlete” (p. 6). This is particularly the case for historical and contemporary female eligibility policies. While purporting to base each policy iteration on up-to-date science (i.e., physical examinations, sex chromatin tests, testosterone limits), critical scholars have highlighted a number of concerns with the specific policy guidelines, the disproportionate impacts of female eligibility policies (particularly in its current iteration) on black and brown women from the Global South, and the overall need to “confirm” femaleness¹³.

Nonetheless, proponents of particular protective policies often tout the scientific backing of policy guidelines, regardless of the consequences. Especially for female eligibility policies, the use of testosterone is described as a “fair,” “objective,” or “reasonable” biological boundary of eligible femaleness. Yet, as Jordan-Young and Karkazis (2019a) explain, there remain many misconceptions around testosterone, as its narrative is riddled with cultural folktales and relies on contentious (and sometimes dubious) science, especially in topics such as ovulation, risk-taking, parenting, and violence (see also Fausto-Sterling, 2000; Roberts, 2007). In the context of sport, the classification of testosterone as a “male hormone” ultimately denies the complexity of sex and instead, relies on biocentric, binary, and cultural stereotypes of “acceptable” bodies and enforces narrow perceptions of (white, Western) femininity (Karkazis & Jordan-Young, 2018; Schultz, 2011). Thus, rather than a singularly “biological” determination of an eligible woman, the boundary of femaleness is derived from biological *and* sociocultural dimensions.

While the intentions of this dissertation are not to closely interrogate and scrutinize the scientific evidence supporting protective policies, I build on and extend the existing literature by investigating how and in what contexts forms of (scientific) evidence are drawn upon to rationalize and implement protective policies, especially in situations where scientific data has been

¹³ I will discuss the specifics of this later in this chapter when discussing World Athletics’ female eligibility policy.

characterized as contentious or dubious by others in the scientific community¹⁴. To do so, I examine how particular forms of scientific knowledge are interpreted, and how they interact and remain entangled with sociocultural dimensions. This is particularly accomplished through my interviews with those involved with creating protective policies, which consist of an elite, close-knit, and difficult-to-access community.

The IOC's 2014 Consensus Statement on RED-S¹⁵

I now turn to the individual case studies, starting with the IOC's consensus statement on RED-S. In what follows, I first provide a historical overview of the policy, beginning with its origins in the "female athlete triad." Next, I review feminist engagements with RED-S, drawing attention to how scholars have considered the biological and social dimensions of the condition. I then explain the racial assumptions and implications of the consensus statement, especially as it cites a "lower risk" for athletes of color (especially Black athletes), despite a lack of research on the intersections of race and RED-S. Throughout both sections, I draw attention to scientific concerns and assumptions related to issues of sex, gender, and race within the IOC's consensus statement and RED-S.

Historical overview

The idea of the "female athlete triad" was first introduced at a workshop sponsored by the American College of Sports Medicine (ACSM) in 1992 (Yeager et al., 1993), and was defined five years later as a "syndrome often observed in physically active girls and women with three distinct medical disorders: disordered eating, amenorrhea, and osteoporosis" (Marcason, 2016, p. 744; see

¹⁴ For example, and as I will discuss later in this chapter, World Athletics' female eligibility policy has been at the center of intense scientific scrutiny with several criticisms of its failure to adhere to scientific integrity and ethics standards (see Pape & Pielke, 2019; Pielke, Tucker, & Boye, 2019; Tannenbaum & Bekker, 2019).

¹⁵ At the time of writing this dissertation, the 2018 update was the latest RED-S-related document commissioned by the IOC. While Dr. Mountjoy and colleagues announced at the 2021 IOC World Conference on Sport Prevention and Injury Conference that a new update will be published in late 2022, I only discuss the published three consensus statements in this dissertation.

Otis et al., 1997). In particular, researchers who initially coined the term, the “female athlete triad,” maintained that the condition often resulted from “pressure placed on young women to achieve or maintain unrealistically low body weight” (Otis et al., 1997, p. i). These external and internal pressures on girls and women, which included societal pressures of thinness, abuse, low self-esteem and self-efficacy, could consequently result in disordered eating, amenorrhea, and/or osteoporosis: the “triad” of the female athlete triad. In turn, these three conditions could lead to decreased estrogen production, short and/or long-term morbidity, decreased performance, stress fractures, and even mortality (Otis et al., 1997; Nattiv et al., 2007). Ten years later, the triad was redefined to include energy availability, menstrual function, and bone health, which could then manifest in conditions such as eating disorders, amenorrhea, and osteoporosis (Nattiv et al., 2007). Additionally, the urgency behind raising awareness of the female athlete triad stemmed from the surge in girls and women participating in sports following the implementation of Title IX (in the United States). In particular, researchers, athletes, and coaches increasingly became aware of the potential for significant and long-term damage, and the prevalence of the triad in athletes of *all* age groups (Matzkin, Curry, & Whitlock, 2015; Torstveit & Sundgot-Borgen, 2005a, 2005b).

As such, other organizations such as the IOC began to focus on the promotion and protection of the health of women athletes, especially with consideration to the female athlete triad. In the case of the IOC, such endeavors fell under the purview of the IOC Medical Commission, which was primary IOC committee responsible for protecting athlete health and safety through issues such as doping and gender-related topics¹⁶ (IOC, 1967). In particular, the Medical

¹⁶ “Gender-related topics” include gender verification/female eligibility, transgender eligibility, oral contraceptives, pregnancy, and the capabilities of women to run farther than 800-meters. Indeed, the IOC Medical Commission was created in 1967 with the idea that its responsibility “placed a particular emphasis on medical controls concerning both doping and the establishment of sex” (IOC, 1967). One year later was the first that Olympic athletes were drug tested and women athletes were subject to the first standardized verification tests. In more recent years, and particularly since the advent of the World Anti-Doping Agency (WADA), the IOC Medical Commission has expanded its attentions on other health-related issues, especially those that impact younger athletes such as burn-out and training

Commission guides the IOC Session, the IOC Executive Board, and the IOC President on matters of “athletes health, the promotion of health and physical activity, and the protection of clean athletes,” as well as overseeing the provision of health care and dope controls during the Games (IOC, 2022a). Though affiliated with the IOC, the IOC Medical Commission’s findings are also shared with and often utilized by other sports organizations (Weston, 2017). This is often done through the organization of consensus meetings—which can include members from other international federations—and result in IOC-commissioned consensus statements.

Such is the case for the female athlete triad. In 2005 and in response to expanding research on the female athlete triad, Dr. Barbara Drinkwater and Dr. Patricia Sangenis coordinated a consensus meeting to bring together a series of experts to issue an IOC-commissioned statement on the female athlete triad. In this document, the authors acknowledged the equal importance of the social environment and biological responses of the triad, as women athletes often feel “the pressure to meet unrealistic weight or body fat levels,” which potentially leads to them slipping into patterns of “excessive dieting” or “disordered eating” (Sangenis et al., 2005, p. 2). Though any one of the three components of the triad can occur in isolation, the authors acknowledged that “inadequate nutrition for a woman’s level of physical activity often begins a cycle in which all three occur in sequence” (Sangenis et al., 2005, p. 2). In other words, the social environmental pressures placed on women, result in material and bodily consequences. Additionally, the resulting IOC position statement detailed the prevalence, symptoms, and risk factors of the syndrome, as well as recommendations for management and treatment (Sangenis et al., 2005). Notably, the authors focus exclusively on girls and women, given that they face unique social pressures such

recommendations (see Henne, 2010; Ljungqvist, 2012). In this vein, since the early 2000s, the Medical Commission has held multiple consensus meetings meant to take an active role in promoting the health of athletes, from issues of nutrition, to harassment and abuse, to sex reassignment and youth athlete training guidelines.

as equating decreased body weight to improved performance, preference for “good athlete” traits from coaches (traits which are also often found in individuals with eating disorders, excessive exercise, perfectionism, and over-compliance), and associating unrealistically thin bodies with success.

In the following years, continued scholarship, scientific evidence, and clinical experience re-articulated the primary factor underpinning the female athlete triad to be “an energy deficiency relative to the balance between dietary energy intake and the energy expenditure required to support homeostasis, health and the activities of daily living” (Mountjoy et al., 2014, p. 491). Put differently, in situations which had previously been understood as one or more of the female athlete triad components, relative energy deficiency is the primary culprit. Other symptoms such as low energy availability, irregular menstrual function, or compromised bone health may also appear, but ultimately indicate the occurrence of this relative energy deficiency. Through this shift, scholars also acknowledged that existing literature on energy deficiency largely focused on women athletes, who were thought to be the most affected (Mountjoy et al., 2014). Yet, men athletes remain at risk as well (Tenforde et al., 2016).

Thus, in 2014, the IOC commissioned an expert panel to update the 2005 consensus statement on the female athlete triad. Recognizing the central issue in the female athlete triad as relative energy deficiency as well as its prevalence in men, the IOC consensus group introduced a more comprehensive and inclusive term for the overall syndrome (in lieu of the female athlete triad): Relative Energy Deficiency in Sport (RED-S)¹⁷ (Mountjoy et al., 2014). This new term was accompanied by a consensus statement and detailed other factors that often accompany energy

¹⁷ The IOC was the first to introduce and coin this term in their 2014 consensus statement, and it has since then been utilized by research in multiple fields such as exercise physiology, sports medicine, and social science (Mountjoy et al., 2015).

deficiency such as disordered eating and hormonal imbalance. Contextualizing the condition in sport (which is signified by the “-S” in “RED-S”), the authors also explained the health and performance consequences, diagnosis, and treatment strategies of the condition. From this synthesis of literature, they provided a clinical model for return-to-play and recommendations for addressing RED-S at the athlete, healthcare, organization, and research levels. New to the 2014 consensus statement was research on male athletes and athletes of “non-caucasian ethnicity.” Though the authors acknowledged the limited supporting research, their intentions were to demonstrate the widespread prevalence of the condition.

Following its release, the IOC Consensus group has written two updates to the original document (see Mountjoy et al., 2015, 2018). The first addition emerged in response to an editorial in the *British Journal of Sports Medicine* that critiqued both the use of the term “RED-S” in lieu of the female athlete triad, and the scientific basis of the 2014 consensus statement (see De Souza et al., 2014). In particular, De Souza et al. (2014) criticized the absence of attention in the 2014 IOC consensus statement to the substantial published evidence supporting the female athlete triad, incorrect application of the scientific evidence of RED-S in women athletes to men, and the poorly developed return-to-play suggestions. Their editorial closes by providing a detailed categorized list of the “most important and blatant errors” from each section of the consensus statement (p. 1462). Voicing their concern for subsuming the term ‘female athlete triad’ under the new label of “RED-S,” and for the confusing, misleading, and potentially dangerous errors in the consensus statement, De Souza et al. (2014) called for the IOC authors to publish a correction of the errors noted. To accommodate their request, the 2015 consensus statement addition further explicated the points of confusion, error, and criticism outlined, particularly involving research on RED-S in male athletes and the return-to-play model. Though acknowledging the importance and influence

of research on the female athlete triad, Mountjoy et al. (2015) explained the shortcomings of the term through a breakdown of the problematics with each word: “female” (relative energy deficiency also affects men), “athlete” (relative energy deficiency can develop in recreational exercisers), and “triad” (there are more than two negative outcomes of low energy availability), which prompted the introduction of the new term “RED-S.”

In 2018, another update, meant to address earlier gaps, was published as a result of scientific progress in the field (see Mountjoy et al., 2018). Specifically, the authors focus on scholarship involving male athletes and para-athletes, as well as research that has explored the role of race in the development of RED-S. Though continuing to admit the necessity for further research into these populations, Mountjoy et al. (2018) provide a comprehensive examination of the health effects of low energy availability, especially on different organ systems (e.g. endocrine, cardiovascular, reproductive), screening for RED-S, and treatment/interventions.

Gender, the body, and the case for RED-S

The dual importance of the social and the biological in the case study of RED-S connects to historically complex relationships with women’s bodies, especially those in the sociology of sport (Alaimo & Hekman, 2008; Blackman, 2008; Cole, 1993; Markula, 2019; McLaren, 2002; Thorpe, 2014, 2016). While feminist have illustrated and critiqued the ways that biology has been manipulated and twisted to exclude women from sport and physical activity, or to limit their involvement, through drawing out the privileging of medical and scientific discourse on women’s bodies, the material body is often overlooked, resulting in silences among feminist sociologists of sport (Alaimo & Hekman, 2008; Cole, 1993; Jette, Esmonde, & Maier, 2019; Markula, 2019; Thorpe, 2016; Thorpe, Clark, & Brice, 2021). To account for the complexity of women as simultaneously political, social, and biological, scholars have introduced a myriad of terms, such

as naturecultures (Barad, 2007; Haraway, 2003), biocultural (Davis & Morris, 2007; Fausto-Sterling, 2012), and embodiment (Blackman, 2008; Krieger, 2005).

The case of RED-S presents an opportunity for researchers to acknowledge the importance of both the social and biological in women who develop the condition. For example, Thorpe, Clark, and Brice (2021) explore the embodied experiences of sportswomen through a ‘biocultural’ approach. Situating their project in both biological and social understandings of women’s bodies, the authors examine the blurring of and relationship between “sporting cultures and sportswomen’s biological bodies,” as their participants describe navigating cultural expectations of gender performance and appearance, along with biological limits and necessities (p. 5). Likewise, Mountjoy et al. (2014, 2018) contextualize the embodiment of cultural factors, social pressures, and misplaced belief in the association between successful performance and thinness (albeit briefly, as I argue in Chapter 4), in the appearance of RED-S and associated symptoms. Further evidence of the importance of the cultural and biological has been most recently illustrated in the narratives of elite women athletes affected by RED-S, such as Mary Cain, former professional Nike runner. In a 2019 opinion editorial video for the *New York Times*, Cain spoke to the pressures from her coach and training environment that contributed to her development of RED-S, numerous stress fractures, low sense of self-worth and self-efficacy, and ultimately, deteriorating performances (Cain, 2019). Highlighting the consequences of toxic environments and pressures on women to conform to an unrealistic ideal of thinness, Cain speaks to her personal experience of multiple stress fractures, three years without a menstrual cycle, self-harm, and suicidal thoughts (Dure, 2019).

While describing the introduction of “RED-S” to indicate the existence of the condition in all athletes, including men, some have pushed back on this shift. More specifically, despite

commending the IOC authors on advocating for more research in multiple populations, critics warn it should not “at the expense of a focus on and priority of the female athlete” (De Souza et al., 2014, p. 1461). As they explain, the shift in terminology from “female athlete triad” to RED-S as part of an effort to include men has the potential to discount important biological factors such as the protective effects of testosterone, the lower energetic costs of reproduction in men versus women (particularly the absence of ovarian and menstrual cycles, as well as gestation and lactation), and wider bones in men that are less susceptible to fracture¹⁸ (De Souza et al., 2014, p. 1462). In this vein, other scholars have indirectly questioned how the masculinized space of sport contributes to potentially harmful biological responses (i.e., RED-S) in girls and women more than boys and men (Cahn, 2015; McDonagh & Pappano, 2008). This is particularly of concern given that recent athletes have urged sport organizations to address toxic training cultures and abusive/exploitative coach-athlete relationships, which disproportionately impact girls and women and contribute to the development of RED-S and associated symptoms (Ackerman et al., 2020; Cain, 2019).

In this dissertation, I contribute to the existing body of literature on gender and RED-S to examine the relative importance of social and/or biological dimensions in understandings of sex and gender, particularly in the context of elite women’s sports. Specifically, I look to understand how scientists, policymakers, and others involved with RED-S-related research reinforce, reject, or negotiate biological and social factors when determining which bodies are at a high risk for

¹⁸ More specifically, De Souza et al. (2014) remark that there is neither sufficient data to support the extrapolation of data on women’s bodies onto men’s bodies, nor is it scientifically accurate to assume sameness between populations especially men and women. Without denying that men athletes are also affected by RED-S, differences in reproductive system, hormones, and skeletal systems indicate these sex differences (as described previously), “[protect] men against the serious clinical consequences of energy deficiency that afflict women” (De Souza et al., 2014, p. 1462). In other words, according to De Souza and colleagues, though RED-S may (and does) impact men, the prevalence and severity is less likely to be as high in men athletes as women athletes. By extending literature on women athletes to men athletes, the authors argue that the recommendations made in the consensus statement risk overlooking these key sex differences. In turn, the clinical guidelines for both sexes are based in faulty science.

developing RED-S; which bodies are not considered in need of protection; and what solutions are most appropriate and effective. Additionally, I consider how “woman” is defined (with consideration to sex, gender, and race) when “protection” is broadened to include men and how protective mechanisms differ or resemble protective policies that prioritize sex-based differences.

Accounting for, and ignoring, the issue of “race”

A significant research gap exists at the intersection of race and RED-S, which the IOC consensus authors acknowledge throughout the document. Nonetheless, from the IOC consensus statement and its update, Mountjoy et al. (2014, 2018) cite an overall lower risk of osteoporosis, fracture, low energy availability, disordered eating, and menstrual dysfunction in athletes of color, especially black athletes. However, they simultaneously note the dearth of previous scholarship on racial discrepancies or that intentionally includes a multi-racial sample of participants (see Pernick et al., 2006¹⁹ for an exception). Importantly, both the IOC’s consensus statement’s conclusions (i.e., the concurrent lower risk for athletes of color and lack of data to support this assertion) are representative of the dominance of white, male subjects for medical research (Dresser, 1992) and racial biases in medicine (Bowser, 2000; Hoffman et al., 2016; Penner et al., 2000).

More specifically, when discussing “athletes of non-caucasian ethnicity” in the original 2014 consensus statement, Mountjoy et al. (2014) cite studies using military populations (Lappe, Stegman, & Recker, 2001), adolescents (Adams Hillard, 2008; Pernick et al., 2006; Rhea, 1999), and non-athletes (Wright, Bota, & Havemann-Nel, 2012) for their broader claims of lower incidence of RED-S in non-white women athlete populations. Moreover, from the eight studies in total they cite for this section, only one explicitly investigates the intersection of race and the

¹⁹ As one of the few studies examining racial differences in the presence of disordered eating, which is considered a symptom of RED-S, Pernick et al. (2005) found that Latina and white high-school athletes were at a higher risk than their black peers, with Latinas at the highest risk for binge eating.

female athlete triad (Kark et al., 2012²⁰), with another surveying the prevalence of the triad among elite Malaysian athletes (Quah et al., 2009). Four years later, in the 2018 consensus statement update, the IOC authors continue to cite four of the studies from the original consensus statement, but utilize ten studies in total for their “race and low energy availability” section. Of the six new studies incorporated, four feature Kenyan and Ethiopian runners’ bone health, nutrition, and body builds, with the other two examining adolescent sport nutrition knowledge, and a clinical reflection of stress fractures in athletes.

In all, despite the dearth of scholarship investigating racial dimensions, race is presented as a protective factor for (women) athletes in the IOC’s consensus statement. Put differently, although the consensus statement authors suggest a “lower risk” for athletes of color, particularly Black athletes, to develop RED-S and its symptoms, there is an absence of significant research to support such claims. However, through doing so, their assertions correspond to the broader perception (and subsequent exploitation) of the “strong” black athlete (Carrington & McDonald, 2001; Epstein, 2014; Harrison & Lawrence, 2004). With this in mind, this dissertation contributes to the dearth of scholarship by investigating the assumption of race as a protective factor for (women) athletes in the IOC’s consensus statement and RED-S. More specifically, I examine how understandings of race impact which bodies are understood to need (or not need) “protection.” In particular, I explore how scientists, policymakers, and other individuals involved with RED-S related scholarship reinforce, challenge, or negotiate the biologization of race, especially as it relates to RED-S, and how those understandings inform the IOC’s consensus statement.

²⁰ While the fifth author has this cited on her curriculum vitae as a published abstract (from a thematic poster presented), when searching through the volume/issue listed, in the journal cited (i.e., *Medicine and Science in Sports & Exercise*), I was unable to locate this article.

World Athletics' 2019 Female Eligibility Policy

In this section, I will first provide a historical overview of female eligibility policies in both World Athletics and the IOC. Next, I will explore the most prevalent themes in previous critical analyses of sex testing—gender, race, and science—focusing especially on concerns and critiques that scholars have raised with past and contemporary regulations. In particular, and a significant criticism that critical researchers have highlighted, is the narrow definition of “acceptable” femininity upheld by sex testing and female eligibility documents, which ultimately bolster sport’s adherence to a biocentric and binary classification system (Cooky & Dworkin, 2013; Pieper, 2016; Schultz, 2011). In doing so, sex testing and female eligibility policies reinforce dominant ideas of male/masculine and female/feminine. The result is both the codification of strong women as unnatural and violating, thereby maintaining the “alleged biological basis of the gender binary” (Pape, 2019b, p. 5; Cahn, 2015; Cavanagh & Sykes, 2006; Kane, 1995). Another area of critique, for which there is a growing body of literature, draws attention to the imposition of Western ideals on black and brown Global South women (Batalaan & Abdel-Shehid, 2021; Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Krane, Calow, & Panunti, 2021; Magubane, 2014). A third concern is specific to the science behind and within female eligibility policies, such as underscoring the dubitability of scientific “evidence” associating testosterone with performative excellence (Jordan-Young & Karkazis, 2019a; Karkazis et al., 2012), or the scientification of gender and sex (Karkazis & Jordan-Young, 2018; Pape, 2019a, 2019b; Wells, 2020). With regard to World Athletics’ current female eligibility policy, scholars have even questioned its scientific integrity and interpretation of data (Pielke, Tucker, & Boye, 2019; Tannenbaum & Bekker, 2019), an idea that I discuss both in this section, as well as Chapter 4.

Historical overview

Both the IOC and World Athletics (formerly the International Association of Athletics Federations, or IAAF) share in a long history of determining female eligibility through a variety of nomenclatures: gender-verification testing, sex testing, sex control, femininity testing, femininity control, and, most recently, female eligibility (Pieper, 2016). The earliest forms of standardized testing protocols manifested in “nude parades” in 1966, in which women athletes walked naked in front of three doctors for inspection of their external genitalia (Heggie, 2010; Schultz, 2011). A year after their implementation, these protocols were deemed invasive, leading the IOC and IAAF²¹ to transition to less intrusive and more scientific approaches such as testing for the presence of Barr bodies (chromatin found in cells with XX chromosomes) in 1968, and the absence/appearance of the SRY gene (a DNA-binding protein found only on the Y sex chromosome) in 1991 (Henne, 2015; Ljungqvist et al., 2006). If an athlete’s test result confirmed that her sex was “female,” she was then presented with a certificate of femininity: a small laminated card that was required at all subsequent international sporting events to prove its holder had passed her gender-verification test and was eligible to compete (Gleaves, Llewellyn, & Wrynn, 2015; Schultz, 2011).

The transition to chromosomal testing marked a significant change in defining women’s athletic eligibility. Prior to the use of the Barr body test, no athlete had been officially identified as “not female” in competition²². However, with the implementation of the Barr body test,

²¹ While their name is now “World Athletics,” I refer to the organization as “IAAF” prior to their name change in 2019.

²² Prior to the implementation of sex testing, there have been a few publicized cases of athletes with a “suspicious gender,” but this list includes Stella Walsh, Helen Stephens, Irina and Tamara Press, and Heinrich Ratjen. As the story is most frequently told, Ratjen revealed his story to a journalist in the 1950s, twenty years after competing: through loyalty to Hitler, he bound his genitals and competed as a woman named Dora to increase Germany’s medal count. Finishing fourth, he was ultimately unsuccessful in his endeavor (Schultz, 2011; Erikainen, 2017). However, Heggie (2010) cautions this account, along with that of Stella Walsh, arguing that their stories have been reimagined to fit

identification of women athletes as ‘not female’ ensued, which persisted in the IOC shift to the polymerase chain reaction (PCR) test in 1991 (Vannini & Fornssler, 2011). The reliance on chromosomal testing, in both the Barr body and PCR tests, were troubling for multiple reasons:

1) There is a lack of disciplinary specificity or consensus about how sex is defined; 2) The tests and their results are unreliable and easily misinterpreted; 3) The tests have failed to account for psychological or social status; 4) They violate civil, legal, and human rights to privacy; and 5) The sex chromosome test is ineffective in determining unfair athletic advantage. (Schultz, 2011, p. 232)

That is to say, chromosomal testing regulated biological traits that did not relate to athletic performance, failed to account for incongruences in the chromosomal composition of the athlete, and disrupted the livelihoods, personal lives, and identities of affected women athletes, as evidenced in the narratives of María José Martínez-Patiño, Ewa Klobukowska, and Santhi Sandarajan (Buzuvis, 2010; Mitra, 2014; Pieper, 2014; Schultz, 2011). With the myriad of ethical and scientific concerns surrounding chromosomal testing, and increasing pressure from scientists, athletes, and even IOC/IAAF Medical Commission members, the IOC and IAAF ultimately ended mandatory testing in 1991 and 1999, respectively (Croteau, 2020; Schultz, 2011).

However, testing remained permissible in the event of a “masculine” or “suspicious” appearing athlete. Such were the rationales used in 2009 when Caster Semenya, a young black South African, won the women’s 800-meter race at the IAAF World Championships in Berlin. Following her win, critics drew attention to her “deep voice, muscular build, and rapid improvement in times,” thus questioning her eligibility as a female athlete (Associated Press, 2009; as cited in Cooky, Dycus, & Dworkin, 2013, p. 32). The IAAF subsequently subjected Semenya to an invasive examination of her genitalia, which purportedly revealed that she had “an intersex condition that left her without a uterus or ovaries and with undescended testes producing androgens

“the conventional narrative about the history of sex testing: one a tool of a fascist regime, the other Eastern European, if not strictly a Communist athlete” (p. 158).

at three times the typical level for females” (Karkazis et al., 2012, p. 4; Levy, 2009). After an eleven-month investigation, IAAF officials permitted Semenya to compete again under the condition that she take oral contraceptives and hormone-blocking injections (Gibbs, 2019). From 2010 to 2015, Semenya continued the IAAF’s imposed pharmacological treatment, which left her “physically sick and mentally foggy” (Gibbs, 2019).

Two years after Semenya’s performance at the 2009 World Championships, the IAAF reinstated a new form of sex control for women athletes with the introduction of their Hyperandrogenism Regulation, which sought to limit the endogenous testosterone in women athletes to ten nanomoles per liter (Karkazis et al., 2012). To rationalize their focus on endogenous testosterone in women athletes, the IAAF explained: “the difference in athletic performance between males and females is known to be predominantly due to higher levels of androgenic hormones in males resulting in increased strength and muscle development” (IAAF, 2011, p. 1). In the (rare) cases where women athletes have higher-than-normal levels of endogenous testosterone, the IAAF contended that women “often display masculine traits and have an uncommon athletic capacity in relation to their fellow female competitors” (p. 1). While not requiring testing of all women athletes, the policy remained unspecific in how to identify a “suspicious” athlete: a characterization and theme that is found in all three case studies, and which I more closely explore in Chapter 4. The consequence of the ambiguity around “suspicious” is a normalization of traditional Western and white notions of femininity, concurrent with a policing of those who violate these standards. This is particularly reflected in the disproportionate number of black and brown women from the Global South who are impacted by female eligibility policies with testosterone limits (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018).

In 2014, Dutee Chand, a sprinter from India, was barred from elite track and field competitions for “ostensibly having ‘violated’” the 2011 IAAF Hyperandrogenism Regulations (Pape, 2019b, p. 1-2). She subsequently challenged the legitimacy of the policy before the CAS on the grounds that the policy unlawfully discriminated against women athletes and athletes with a particular physical characteristic, lacked factual evidence to support the relationship between testosterone and athletic performance, and were an unauthorized form of doping control (CAS, 2015, p. 2). The CAS ruling partially upheld Chand’s appeal by suspending the Hyperandrogenism Regulations for two years and allowing Chand (and other affected athletes) to compete in IAAF-sponsored athletics events. Within the two-year policy suspension, the IAAF was permitted to submit evidence and expert reports to demonstrate the “actual degree of athletic performance advantage sustained by hyperandrogenic female athletes compared to non-hyperandrogenic female athletes by reason of their high levels of testosterone” (CAS, 2015, p. 160).

Three years later and following the renaming of the IAAF to “World Athletics²³,” the organization unveiled their updated female eligibility regulation in 2018. In particular, the new policy reduced the limit of endogenous testosterone in women athletes competing in “Restricted Events,” or events between distances of 400-meters and 800-meters, from ten nanomoles of testosterone per liter of blood to five. In 2019, it was revised to expand “Restricted Events” events between 400-meters and a mile (IAAF, 2019). Citing new research by Berman and Garnier (2017) to justify the focus on testosterone, the choice in limiting the event distances tested was due to “women in the highest tertile (top 33%) of testosterone levels perform[ing] significantly better

²³ The reason behind this organization name change, as World Athletics explains, is in response to a broad recognition that “athletics is no longer just about high performance, gold medals and records, but also about ‘sport for all’ and about ensuring that the maximum number of citizens are able to participate in athletics” (World Athletics, 2019c, para. 4). In doing so, World Athletics seek to “properly embrace matters touching on social responsibility, the environment and all matters that help advance athletics as a force to change the world for good” (para. 6).

than women in the bottom tertile (bottom 33%)” (WA, 2019a, p.20; IAAF, 2018). While this particular study was published during the suspension of the 2011 Hyperandrogenism Regulations, it is important to note that limitations on endogenous testosterone appeared several years before supporting scientific evidence was made available²⁴. As a result, some have questioned the objectivity, rigor, and integrity of this scientific study, which I will discuss later in this chapter.

Soon after its introduction, Semenya and Athletics South Africa (ASA) challenged the policy on similar grounds as the *Chand v. AFI & IAAF* case. Namely, that the regulations unfairly discriminate against women athletes because they only apply to women athletes, and women athletes who have certain physiological traits; and that the regulations lack a sound scientific basis (CAS, 2019, p. 2). Yet, on May 1, 2019 in a 2-to-1 decision, the CAS ruled that the restrictions on permitted levels of endogenous testosterone were discriminatory, but that such discrimination was a “necessary, reasonable and proportionate means” (CAS, 2019, p. 160). As such, since May 9, 2019, the female eligibility policy has been in effect for all World Athletics competitions.

Gender issues in gender testing

There is a robust body of feminist scholarship on sex testing/gender verification that has drawn attention to the utilization of medical and scientific discourse to police women’s bodies (Cahn, 2015; Cooky & Dworkin, 2013; Jordan-Young & Karkazis, 2012; Karkazis et al., 2012; Pape, 2017; Pieper, 2016), enforce narrow definitions of womanhood (Dworkin, Swarr, & Cooky, 2013; Heggie, 2010; Karkazis & Jordan-Young, 2012; Wackwitz, 2003), and essentialize race and nation within constructions of appropriate femininity (Bohuon, 2015; Doyle, 2013; Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014; Pape, 2020b). With regards to the 2011

²⁴ Jordan-Young and Karkazis (2019a) introduce the term “opportunistic epistemology” to describe the process of creating a policy, then locating scientific support. In their words, opportunistic epistemology is “reverse engineering that starts with a course of action, a policy, or a conclusion and searches for evidence to support it” (p. 194). This idea of creating science to support a policy, whether or not it is “good” science, is one that I discuss further in Chapter 6.

and 2019 regulations, STS scholars have drawn attention to the use of testosterone, drawing attention to its (mis)characterization as a “male hormone” (Jordan-Young & Karkazis, 2019a, 2019b; Karkazis & Jordan-Young, 2018), incorrect assumptions of binary and clear-cut “male” and “female” ranges (Cooky & Dworkin, 2013; Heggie, 2010; Karkazis et al., 2012; Pape, 2019b, 2020a), and purported correlation between testosterone levels and performance outcomes (Karkazis et al., 2012; Jordan-Young & Karkazis, 2019a, 2019c; Pape, 2020a).

The influences of the cultural and the biological in testosterone’s narrative has manifested in what Karkazis and Jordan-Young (2018, 2019a) have dubbed, “T talk,” or “the web of direct claims and indirect associations that circulate around testosterone both as a material substance and as a multivalent cultural symbol” (Karkazis & Jordan-Young, 2018, p. 7). Through T talk, testosterone becomes the essentialization of masculinity, and illustrative of the purported “natural” binary between women and men. In cases of “too much testosterone” for women athletes (or, “hyperandrogenism,” in medical vernacular) women are believed to have a medical problem, regardless of (lack of) symptoms (Karkazis & Jordan-Young, 2018).

Within testosterone’s narrative as a “male hormone” lies the myth that testosterone levels predict athletic performance. There remains no scientific evidence supporting this conclusion: at the individual level, the relationships between testosterone and greater speed, strength, muscle size, and performative outcomes (by extension) are inconsistent (Karkazis et al., 2012; Karkazis & Jordan-Young, 2012, 2018, 2019a, 2019b). Nonetheless, the cultural narratives and taken-for-granted assumptions surrounding testosterone has contributed to its regulation in women’s sport to protect the integrity of the women’s category.

However, the establishment of testable boundaries to determine female eligibility remains at the expense of unjustly excluding women who fall outside of prescribed “normal” testosterone

levels. Put differently, the testosterone regulation becomes a mechanism for protecting the women's category from women with an "unfair" and biologically "masculine" trait. Thus, armed with T talk, testosterone regulations include both pastoral protections of women and concerns around permitting/cultivating overly-masculine or non-feminine women. Relating to the structures within sport organizations, testosterone operates as a mechanism to enforce a binary model of sex, thereby excluding women who fall outside of this paradigm. As Pape (2017, 2019b) perspicaciously notes in her discursive analysis of Dutee Chand's 2015 court case, sport institutions such as the CAS and World Athletics remain bound to a binary and two-category model of biological difference. Women athletes suspected as "men competing as women" or "gender frauds" are identified through their "masculine" appearances, indicating the binary classificatory system of sport, upheld through narrow definitions of gender (i.e., masculine/feminine) appearances (see Heggie, 2010).

The importance of maintaining a binary model of sex and protecting women athletes, even at the expense of limiting who is permitted to compete as a woman, was most starkly illustrated in the executive summary of the CAS decision in *Semenya & ASA vs. IAAF* as the CAS arbitrators for the case wrote,

The Panel found that the [World Athletics regulations] are discriminatory but that...such discrimination is a necessary, reasonable and proportionate means of achieving the legitimate objective of ensuring fair competition in female athletics in certain events and protecting the "protected class" of female athletes in those events. (CAS, 2019, p. 160)

Thus, while the designation of women athletes as a "protected class" is based in the belief of the biological inferiority and weakness of women athletes (Cooky & Dworkin, 2013; Henne, 2015; Schultz, 2011), it is concurrently motivated by fears of developing "mannish" women (Cahn, 2015; McDonagh & Pappano, 2008; Schultz, 2014).

Sport has historically privileged male bodies and masculine characteristics, while ostracizing women who violate feminine sporting norms²⁵ (Cahn, 2015). As such, these constructions of ideal femininity and masculinity have continued to shape protective policies. Building on the works of Heggie, Schultz, and Cahn, Pieper (2016) focuses on the role of the Cold War in shaping the privileging of Western femininity (e.g. thin, flexible, pliant) in contrast with Eastern European femininity (e.g. muscular, powerful, strong) (see Cahn, 2015; Heggie, 2010; Schultz, 2011, 2014). With the media often describing Eastern European women athletes as “masculine” and cheaters, the concurrent development of research around ingested testosterone as a performance-enhancing drug led to linkages between doping and masculine-appearing women athletes. Similarly, critical feminist scholars have also discussed the “disruptive” existence of “deviant” non-conventional feminine women (Cole, 1993; Kane, 1995). Such female bodies have the most potential to disturb the sex/gender binary, a core premise of sport (Cooky, Dycus, & Dworkin, 2013; Linghede, 2018).

This dissertation contributes to the robust body of literature on the sexed and gendered dimensions of female eligibility policies through two avenues. First, through investigating how and what forms of evidence are (selectively) drawn upon to create “problems” and “solutions” relating to protection and, within these constructions, how “woman” is defined with consideration to other protective policies. As I draw from both textual and interview data, I look to create a comprehensive examination into the process of rationalizing, writing, and implementing World Athletics’ female eligibility policy, in the context of protective policies.

²⁵ As discussed in the sub-section on the IOC’s consensus statement, the “female apologetic” describes the contradicting demands of women athletes. In other words, how women athletes reconcile the necessity of “masculine” traits in sport and “acceptable” forms of femininity (Cahn, 2015; Hardy, 2015; McDonagh & Pappano, 2008). The female apologetic often manifests in overemphasized appearances of femininity through dress, behaviors, and self-expression of women athletes (Hardy, 2015).

Second, through interviews with scientists, policymakers, lawyers, academics, and others involved with researching and implementing protective policies broadly, and World Athletics' 2019 female eligibility policy specifically, this dissertation adds to the limited existing scholarship that has incorporated interviews with individuals involved with such policies (i.e., coaches, scientists, athletes, officials, policymakers, etc.). In particular, this dissertation builds on and extends the works of Bavington (2016) and Pape (2019a, 2020b). Lisa Bavington (2016) was one of the first to include interviews with those behind the scenes of the then-IAAF's female eligibility policy—specifically, Alison Carlson, Malcolm Ferguson-Smith, Albert de la Chapelle, and Arne Ljungqvist. Madeleine Pape (2019a, 2020b) conducted interviews with 64 stakeholders in elite track and field, which included athletes, coaches, team staff, media personnel, and athlete managers following the Rio de Janeiro 2016 Summer Olympic Games. Through focusing on the 2019 policy²⁶, I will build upon their respective analyses of the 2014 policy, paying particular attention to the opinions and viewpoints of relevant scientists, while also examining how, when, and why certain forms of knowledge appear in document texts (and why some do not).

Race and place in sex testing and sport

In addition to discussions involving the influences of nationalism and the Cold War in shaping appropriate forms of femininity in previous female eligibility policies (Cahn, 2015; Heggie, 2010; Pieper, 2016; Schultz, 2011, 2014), critics have also illustrated how the current testosterone regulations disproportionately affect women athletes of color from the Global South (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Pape, 2020b). The narratives of the two most recent athletes subject to these examinations (i.e., Dutee Chand and Caster Semenya²⁷) are

²⁶ Both Bavington and Pape focus on World Athletics' 2014 female eligibility policy (while the policy was in effect and while it was challenged before the CAS), as their data collection occurred prior to the release of the 2019 policy.

²⁷ Caster Semenya is from South Africa, and Dutee Chand is from India.

indicative of this trend and reflect the “entanglement of race and nation with normative constructions of femininity” (Pape, 2020b, p. 225). The privileging of Western knowledge is particularly reflected in the context of World Athletics’ female eligibility regulation through the specification of “differences of sexual development.”

Diagnosing bodies that fall under this medical category is a protocol dominantly located in Global North, and more broadly reflects the colonial production of intersex conditions (Henne & Pape, 2018; Magubane, 2014). As such, the result is a higher number of bodies diagnosed with a DSD in the Global South, and an over-representation of intersex characteristics among black and brown persons from the Global South (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014). The divergence between the Global North and the Global South knowledge of bodies, and subsequent medicalization and diagnoses, contributes to the raced and regional outcomes of the regulation. In particular, Henne and Pape (2018) explore the pervasiveness of Northern ideologies of sex and gender in sex-based *abnormalities* in women athletes from the Global South through the lens of Northern versus Southern theories of understanding. Specifically, the characterization of “deviant” Black women’s bodies have been labeled as such through Northern perspectives, reflecting a larger negated or underappreciated perspective from the Global South. Their textual analysis of the 2015 case involving Chand’s challenging of the World Athletics’ testosterone regulation policy and interviews conducted following the 2016 Olympic Games reflected a racialized discourse that constructs ‘suspect’ athletes from African and Global South countries.

Extending previous scholarship that has investigated the essentialization of race and region (see Cooky, Dycus, & Dworkin, 2013; Doyle, 2013; Hoad, 2010; Magubane, 2014), Karkazis and Jordan-Young (2018) were the first to investigate why it is black and brown women from the

Global South are consistently impacted by the “supposedly new, neutral, and scientific [testosterone] regulation” (p. 6). They begin by discussing a report written by doctors affiliated with the IAAF and in particular, highlight the extensive medical examinations and surgical and medical procedures conducted on four young women aged 18-21 from “rural and mountainous regions of developing areas” (Fénichel et al., 2013, p. E1056). Following a brief textual analysis of the descriptions in the report, the authors remarked, “the genital surgeries in the report suggest that something beyond [testosterone] and athletic performance motivates the regulation, and indicate that it’s not just compliance with the [testosterone] regulation that drives the interventions” (p. 4). Later, they explained that the intricacies of the regulation correlate to historical associations of “appropriate” femininity with whiteness, thereby incorporating racial and regional policies of knowledge while also reifying the “racialization of gender and national or regional tropes of ‘the modern West’” (Karkazis & Jordan-Young, 2018, p. 7).

In other words, through the vehicle of testosterone, ideas of gender, race, and advantage are essentialized, buttressed through the privileging of supposedly objective Western science. Today, the racial consequences of this policy were reflected in team rosters for the recent 2021 Summer Olympic Games as several former 800-meter runners have either switched events (e.g., Francine Niyonsaba) or did not compete in the Games (e.g., Caster Semenya). Yet, no such similar reports emerged from Western or Global North countries.

Through focusing on the process of justifying, creating, and enforcing protective policies, including World Athletics’ female eligibility policy, I contribute to the existing body of literature that examines the intersections of female eligibility, race, and science by contextualizing and examining how biologized understandings of race are normalized in policy discourses of “health” and “normal.” In turn, I focus on how these racialized taken-for-granted concepts inform

definitions of “woman” and how, when, and why (certain) bodies are viewed as needing protection whereas others are not. I also consider how ideas of “protection” and woman,” as grounded in scientists’ beliefs and documents, reinforce geopolitical and hierarchical power relations between (Global North, dominantly white) sport organizations and (women) athletes, particularly those from the Global South.

The science behind sex testing protocols

Following the suspension of the 2011 regulation and one year prior to the release of the 2018 version of World Athletics’ policy, Bermon & Garnier (2017) released a study meant to justify the use of endogenous testosterone to separate male and female track and field athletes. However, as discussed above and as previous scholarship has pointed out, both the study and the interpretation of the study’s findings in the regulations have been widely contested. Citing anomalous data, conflicts of interest, and incongruence with the events regulated in the policy itself, scholars have called for its retraction (Pielke, Tucker, & Boye, 2019; Tannenbaum & Bekker, 2019). Additionally, the ASA and Semenya, who was believed to be the target of the policy, submitted a challenge of the policy to CAS soon after the regulations were introduced though, as noted above, the policy has gone into effect as of May 9, 2019. Still, World Athletics executives such as its president, Sebastian Coe, medical personnel, and the creators of the policy have continued to defend both the science and resultant policy, with Bermon and colleagues (2018) submitting a response to criticisms of their study.

At the same time, there exists a small but notable body of literature that looks to understand the science behind female eligibility policy, especially the perspectives of various stakeholders’ (e.g., athletes, coaches, administrators, scientists, World Athletics’ personnel) on such regulations. Focusing on the opinions of those involved with creating female eligibility policies, Bavington

(2016) interviewed four IAAF-associated scientists to examine how and why policymakers support or believe in endogenous testosterone regulations as a “better policy” than previous iterations. Placing her interview data in conversation with archival materials, policy documents, and other primary sources, she found that policymakers strategically assemble evidence to reinforce claims that endogenous testosterone confers an unfair advantage in women and must be regulated, thus establishing hyperandrogenism as a particular type of “problem” in women’s sports. Her findings were supported by Pielke’s (2017) critical policy analysis, which indicated the inseparability of gendered and sexed assumptions in scientific evidence, which contradicts the purported clear-cut, neat divisions of two competitive categories (i.e., male and female).

In arguably one of the most extensive research projects yet, Pape (2020a) interviewed 64 “athletes, coaches, team staff, managers, officials, governing body representatives, media personnel, academics, and activists” regarding the regulation of women with high testosterone and the science behind it (p. 226). She found that interview participants adhered to various forms of misrepresentation, commitment to political/policy agendas, and resistance to knowledge in three forms: ignorance-as-misinformation, ignorance-as-ideology, ignorance-as-avoidance. That is to say, though stakeholders were aware of the contentions around the science behind the testosterone regulations, they continued to express belief in the purported relationship between testosterone and performance. In all, Bavington, Pielke, and Pape drew attention to a central contradiction in the regulations: the use of scientific language despite insufficient evidence to justify the creation of regulations that assume a relationship between performative advantage and elevated levels of testosterone.

Within the last year, one of the most significant renouncements of the science behind World Athletics’ female eligibility policy came in 2021, when Bermon and Garnier (2021) quietly

published a correction to their 2017 paper, noting that “there is no confirmatory evidence for causality in the observed relationships [between testosterone levels and athletic performance among female athletes in the restricted events]...we recognise that statements in the paper could have been misleading by implying a causal inference” (p. 1). Nonetheless, despite their statement and expert concerns with the relevant scientific evidence, World Athletics’ policy remains in effect today.

As previously noted, I do not intend to closely interrogate the design and execution of scientific studies that support protective policies in this dissertation. Rather, I build on existing STS and feminist research that examines the science behind female eligibility regulations by investigating how those involved with researching, writing, and implementing protective policies—including World Athletics’ female eligibility policy—interpret, rationalize, and incorporate (particular) forms of (scientific) evidence into policy documents. Specifically, and in the context of the female eligibility policy, I look to understand how and why contentious and often-criticized scientific evidence is justified and translated into policy, what counts as “evidence,” and how these contextual and fluid interpretations influence which athletes are protected and why.

World Athletics’ 2019 Transgender Regulations

Finally, I turn my attention to the third case study in this dissertation: World Athletics’ 2019 transgender eligibility policy. I first provide a historical overview of transgender athletes in sport as well as the development of formal organization-issued transgender eligibility policies, such as the IOC’s Stockholm Consensus (2003) and World Athletics’ multiple transgender eligibility policy iterations. Following this overview, I discuss existing gender, race, and scientific critiques of transgender athletes, bodies, and policies in sport.

Historical overview

Organizational attention to the inclusion of transgender athletes largely began in 1976 with the identification of the young and talented Renee Richards, a former ranked United States Tennis Association (USTA) men's tennis player (Birrell & Cole, 1990; Pieper, 2012). Having undergone sex reassignment surgery (SRS) the year prior, Richards announced her intention to play in the women's division, specifically women's singles at the 1976 U.S. Open. U.S.T.A., the Women's Tennis Association (WTA), and the U.S. Open Committee responded by requiring Richards to take the Barr body test, to which Richards refused (Birrell & Cole, 1990). In response Richards was denied entry to the U.S. Open. Richards subsequently took her case to the New York Supreme Court a year later, claiming that the refusal of the U.S.T.A., W.T.A., and U.S. Open Committee to allow her to compete in the women's division "violated her civil rights, the right to earn a livelihood and the right to equal opportunity" (Pieper, 2012, p. 682). With testimonies from the surgeon who performed Richards' SRS, her gynecologist, and John Money²⁸, the New York Supreme Court ruled that "this person is now female" and requiring Richards to pass the Barr body test was "grossly unfair, discriminatory and inequitable, and violative of her rights" (*Richards v. USTA*, 1977, p. 272; as cited in Birrell & Cole, 1990). As such, Richards won her right to compete until her retirement in 1981. It is important to note that "this marks the only instance in which a court has held that a sex discrimination statute...protects a transgender athlete's right to participate in a sex-segregated sport competition" (Buzuvis, 2011; as cited in Love, 2014, p. 378). In other words, aside from the Richards' case, no other legal dispute or challenge based in sex

²⁸ John Money was a psychologist interested in sexual identity and gender construction/identity, notably working with intersex children as he developed theories of gender acquisition following gender (re)assignment surgery (Karkazis, 2008).

discrimination and involving a transgender athlete has resulted in protecting the transgender athlete's right to participate in sport.

Since Richards, organizations have increasingly implemented formal regulations around transgender athlete inclusion/exclusion, with one of the earliest being the IOC's 2003 Stockholm Consensus Statement. Utilizing puberty as the dividing point between male-to-female (MTF²⁹) and female-to-male (FTM) transgender bodies, the Stockholm Consensus detailed that all transgender athletes who had SRS after puberty, must also have "legal and governmental recognition of their gender conferred by their country of citizenship; hormonal therapy administered by medical [personnel] to minimize 'gender-related advantages' in competition; and live for a minimum of two years in their newly assigned gender" (Cavanagh & Sykes, 2006, p. 76). On the other hand, athletes who had undergone SRS before puberty were allowed to compete as their self-identified sex. Hence, SRS was a universal requirement for all transgender athletes both pre- and post-puberty. Though the policy was considered progressive in some circles, given its attempts to include transgender athletes in elite sporting competitions, scholars and advocates expressed deep concern around its narrow and biocentric definition of "gender" and similarity to gender-verification tests (see Cavanagh & Sykes, 2006; Sykes, 2006; Teetzel, 2006).

Nonetheless, the Stockholm Consensus prompted several other international sporting organizations to implement policies regulating transgender athlete participation. While some organizations, such as the National Collegiate Athletic Association (NCAA), released less

²⁹ While I use the terms "MTF" and "FTM" sporadically in this historical overview section to reflect the language in the respective IOC and World Athletics' policies, throughout my dissertation, I predominantly use "transwoman" and "transmen" to describe individuals whose gender identity does not correspond with their assigned sex at birth. I do so for the same reason I use "woman" instead of "female" when discussing women athletes and women broadly: to recognize the multiplicity of gender, beyond just its biological dimensions. Indeed, at my dissertation proposal meeting, one of my dissertation committee members encouraged me to reflect on my feminist politics and epistemology in these particular discursive choices. Since then, I have viewed this as an opportunity to engage in self-reflexivity throughout my research and writing and thus, become a more mindful PCS scholar and feminist.

stringent policies that did not require SRS, other organizations (including World Athletics) mirrored the IOC's surgical requirement (Jones et al., 2017; Love, 2014). However, with increased critical attention to transgender athletes and regulatory policies, the necessity of SRS as a pre-condition for transgender athlete competition soon came under scrutiny.

In 2015, the IOC released another consensus statement that replaced the Stockholm Consensus and removed the SRS requirement, explaining that requiring irreversible surgery was potentially “[inconsistent] with developing legislation and notions of human rights” (IOC, 2015, p. 2). Additionally, a distinction was made between transwomen (i.e., MTF individuals) and transmen (i.e., FTM individuals). Specifically, transmen athletes were eligible to compete in the male category without restriction while transwomen athletes needed to declare their gender identity as female without changing that declaration for at least four years, lower their testosterone levels to below ten nanomoles per liter (nmol/L) for at least a year prior to their first competition, and maintain these testosterone levels during the entirety of their desired eligibility period (IOC, 2015). Despite the shift in the IOC's guidelines in 2015, several international organizations retained the Stockholm Consensus as their policy prior to the 2016 Rio Olympics, including World Athletics.

However, on October 1, 2019, World Athletics released their new and updated transgender participation policy. Drawing from their previous policy (i.e., the Stockholm Consensus), the IOC's guidelines, and discussions between “medical experts, sport physicians, legal counsel, human rights experts, and transgender representatives” (World Athletics, 2019b, p. 3), World Athletics removed the requirement of SRS for all transgender athletes. Instead, all transgender athletes were required to provide a written and signed declaration of gender identity. MTF athletes were also obligated to lower their testosterone levels to 5 nmol/L for at least a year prior to her

first competition, and maintain that testosterone level during the entirety of her desired competition eligibility. Notably, this change paralleled the testosterone limits in World Athletics' female eligibility policy, which had been released five months earlier, despite the difference between women athletes with DSD/hyperandrogenism/intersex athletes, and transgender athletes.

Gendering transgender athletes and bodies

Gender concerns around transgender athlete participation policies closely mirror feminist critiques of gender-verification/female eligibility policies as both regulate gender(ed) bodies to uphold a conventionally feminine image of women athletes (Gleaves & Lehrbach, 2016; Karkazis & Jordan-Young, 2018; Linghede, 2018; Pieper 2012, 2016). The dominant ideology undergirding both policies, especially those for transgender athletes, is the belief that men outperform women in sport. While the basis for this assumption is not entirely misplaced³⁰ given the biological distinctions between women and men, especially when concerning performance-related qualities such as muscle-mass ratio, the reasons for this performative difference remain unresolved and multiple (Karkazis et al., 2012; Jones et al., 2017; Jordan-Young & Karkazis, 2019a; Schultz, 2011).

In this vein, medical and cultural beliefs in the inferiority of women athletes contribute to fears that transwomen athletes retain their “male” performative advantages and thus, violate the “fairness” of the women’s competition (Gleaves & Lehrbach, 2016). However, “fairness,” as has been previously discussed, is an ambiguous and constructed idea with underlying gendered assumptions. As Teetzel (2006) rightly points out, much of the controversy surrounding transgender athlete participation emerged from an “underlying disbelief that an athlete who was born a female could compete alongside elite ‘naturally superior’ male athletes” (p. 230).

³⁰ It is generally accepted that there is about a 9-12% performative difference between women and men, favoring the latter (Jordan-Young & Karkazis, 2019b).

Subsequent associations of performative excellence with men and weaker performative outcomes with women is further realized through the labeling of women's competition as a "protected class" (Birrell & Cole, 1990; McDonagh & Pappano, 2008).

Despite the need to protect women from external harms such as harassment and abuse—which disproportionately impact girls and women (Brackenridge, 2002; Mountjoy et al., 2016)—the characterization of the women's category as a "protected class" also draws from assumptions that women are ubiquitously inferior to men and, as a result, require "special care" to ensure fair competition for all women (McDonagh & Pappano, 2008). Without denying the uniqueness of women's bodies and the detrimental impacts on women due to sport's identity as a "male preserve," this labelling contributes to arising suspicion around the inclusion of transgender athletes, especially transwomen.

While organizations may not overtly seek to exclude transgender athletes³¹ and indeed, vociferously prohibit gender- and sex-based discriminations, discourses involving fears of transwomen retaining the "advantageous traits" found in men persist (Teetzel, 2006). In particular, these apprehensions involve transwomen athletes, even in situations where a transwoman has undergone hormonal treatments or SRS (Gleaves & Lehrbach, 2016; Sykes, 2006; Teetzel, 2006). As such, transgender eligibility policies—including World Athletics' regulation—specifically focus on regulating and policing transwomen athletes.

A range of factors presumably contribute to the performative difference between women and men athletes, such as height, body fat percentage, and other predetermined sport-specific

³¹ There are exceptions to this, as illustrated in World Rugby's current ban on transwomen athletes. However, in their ban, they explicitly look to the presumed "unfairly advantageous" traits that transwomen have, as a result of their former maleness. Specifically, World Rugby notes that "the size, force- and power- producing advantages conferred by testosterone during puberty and adolescence, and the resultant player welfare risks" creates insurmountable performance differences between women and men (World Rugby, 2021).

characteristics (e.g. wingspan, feet size, hand size). Nonetheless, recent policies have centered on the regulation of testosterone in transwomen athletes. This narrowed focus, despite the plethora of factors contributing to performance and the lack of clear correlative data between testosterone and guaranteed performative outcome, reflects an enduring and deeper conviction in the gendering of hormones, which supports the image of a biological and natural sex/gender binary (Fausto-Sterling, 2000; Jordan-Young & Karkazis, 2019a; Richardson, 2015; Roberts, 2007). In tandem with the cultural narrative of testosterone, particularly its characterization as the “male hormone” and association with the male body, the hormone is viewed as largely incompatible with the female body and thus, women. This uncompromising position manifests, *despite the presence and necessity of testosterone in all human bodies* (Jordan-Young & Karkazis, 2019a). In the context of sport and transgender eligibility policies, these biologized and binary ideas are reflected in the stringent testosterone limits for transwomen athletes and minimal restrictions for transmen athletes.

Contributing to sport’s constructed and perceived image of gender, Cavanaugh and Sykes (2006) write that organizations are also concerned with the management of *muscles* in their transgender policies. Specifically, how muscles factor into images of male bodies and female bodies to construct normative masculine male bodies and the feminine female bodies. As scholars have pointed out, female muscularity remains a contested ground (Halberstam, 1998; Krane et al., 2004; Pieper, 2016) and further contributes to the “threatening” nature of the transgender athletes. That is to say, the transgender body complicates the perceived binary between women and men athletes by challenging conventional understandings of gendered bodies (Cavanaugh & Sykes, 2006). Yet, these gender and sex binaries are constructed, not biological, and thus transgender (and athletic) bodies are *made* rather than *born* (Cavanaugh & Sykes, 2006). In other words, “muscle

does not have gender,” despite attempts to allocate particular amounts of muscle to a sex (Ian, 2001, p. 75; emphasis added). Much like bodies, muscles are untethered to a socially constructed binary and are an essential part of sport, regardless of gender.

In sum, concerns involving transgender athlete inclusion, particularly transwomen athletes, are embedded in a constructed but seemingly impenetrable sex/gender binary. Furthermore, the binary and biologized notions within sex and gender are constructed as opposites. The feminine and “inferior” woman’s body is assumed to be incompatible with the masculine and “strong” man’s body, thus rendering women’s bodies as incompatible with the demands of sport (Westbrook & Schilt, 2014). Reinforced with cultural understandings of testosterone, these gendered discourses and knowledges generate an assumed incompatibility of transgender athletes with sport: in terms of its biocentric and binary classification system, and pillars of “fairness,” which are purportedly derived from values of hard work, natural talents, and dedication rather than “unfair” biological advantages such as elevated testosterone or a male puberty (Teetzel, 2014).

The findings of this dissertation contribute to the existing body of literature on the intersections of sex, gender, and transgender athletes/bodies by examining how social and biological forms of evidence are entangled and/or strategically drawn upon to rationalize and justify definitions of “woman” and which bodies are considered in need (or not) of protection. More specifically, I investigate how science is (selectively) mobilized to reify, reject, or modify gendered assumptions of women’s bodies, particularly to create “problems” and “solutions” relating to protection and transgender athletes.

Racial and colonial interpretations, impositions, and implications

Reflecting on the intersections of race, colonial knowledges, and the transgender(ed) body, Cavanagh and Sykes (2006) write, “sex-changes reveal the essential mutability of the body... [yet]

in the western, Olympic, imperial white imagination, [there is] a desire for corporeal homogeneity, bio-centric gender demarcation and stable corporeal body boundaries” (p. 97). The privileging of Western knowledges and subsequently, conventional Western bodies, reflects a global power hierarchy which remains present in sport. Relating largely to the dominance of masculine and white male bodies, the centering of Western knowledge in sport maintains binary constructions as they relate to sex, gender, sexual orientation, and race (e.g. white, non-white). Within these binary categories, athletes who are “not white, male, upper class, able-bodied and of Protestant religion (Cunningham, 2011) were relegated to the bottom of the respective power hierarchies” (Carter-Francique & Flowers, 2013, p. 75).

Persisting in sport, the gendered politics of including transgender athletes are compounded by the racial dynamics accompanying and engrained perception of the “superior black athlete” (Carrington, 2010; Epstein, 2014). Fischer and McClearen (2020) elaborate on the raced and gendered framings of Fallon Fox, one of the few known transgender athletes in sport, to demonstrate the coherence of sexist *and* racist assumptions in discourses about trans identity. As the first openly transgender and mixed-race black MMA fighter, she faced accusations of both benefiting from greater bone density and testosterone levels, and the false historical belief in the biological superiority of the black athlete: both products of scientific racism.

Yet, her first loss against Ashlee Evans-Smith became a moment of rejecting oppressive normalizing paradigms, as she both “failed” in a gendered sense (i.e., as a transwoman athlete) and in a racial sense (i.e., as a mixed-race black athlete) (Fischer & McClearen, 2020). Carrington (2010) characterizes this place of failure as a site of agency and a “sense of liberation,” as well as a space to overcome historically racialized (and gendered) narratives of black athletes in sport (p. 98). Though there are consequences such as loss of prize money, promotions, and sponsorships

that accompany “failure,” dominant (and false) narratives around sex and gender simultaneously collapse. In other words, the purported “natural superiority” of transwomen athletes and the “genetic advantages” of black athletes over white athletes fall apart (Fischer & McClearen, 2020). While presenting a “queer mode of undoing” (Fischer & McClearen, 2020, p. 150; see Halberstam, 2011; Muñoz, 2009), transgender athletes, especially those of color, continue to face multiple oppressions with regards to false gendered and raced narratives.

The convergence of race and gender continues to impact transgender athletes in the case of testosterone and other forms of “scientific” knowledge. More specifically, the focus on testosterone, more specifically, and scientific knowledge, more broadly, in eligibility policies reflects the racialized foundation of binary sex and gender norms. As with the making of transgender and athletic bodies through constructed gender/sex binaries, “nobody has ‘race,’ but bodies are racialized” (Saldanha, 2006, p. 12; as cited in Gill-Peterson, 2014). In the context of eligibility policies (transgender, but also female), this occurs despite the purportedly objective nature of scientific evidence supporting these policies (Jordan-Young & Karkazis, 2019a; Karkazis & Jordan-Young 2018; Pape 2020b).

Medicine and ideas of the “normal” (female) body have *always* been racialized though, as illustrated in the example of the “Tanner scale”: a “five-point diagram of ‘normal’ puberty progression” (Gill-Peterson, 2014, p. 413). Through developing a scale to determine “normal” puberty progression, Gill-Peterson (2014) importantly notes, “black and Latina girls are medically categorized by a supposedly ‘earlier’ puberty than white girls, echoing the much older colonial hypersexualization of and medical interest in the genitals of the black and brown female body” (p. 413). The hypersexualisation of black women mirrors scientific “discoveries” of genes that maintain beliefs in black biological athletic superiority, which contributes to stereotypes of black

women as either the “hypersexualized black female or the natural black athlete” (Lansbury 2014, p. 6). In this way, race and sex/gender are both intricately connected to constructed bodily norms and ideals, which are reinforced through eligibility discourses.

As a further example of the relationship between race, testosterone, and biology, Karkazis and Jordan-Young (2018) describe a presentation by Stéphane Bermon, a member of World Athletics Medical and Anti-Doping commission and key scientist in the newest World Athletics policy on female eligibility. In it, he presented juxtaposing images of Kenneth “Flex” Wheeler³² and *La Maja Desnuda*³³ as a rationale for banning women with high testosterone. As the authors remark:

But insisting that [testosterone] is what drives the difference in the male and female phenotype, and presenting these as black and white, respectively, nonetheless attaches [testosterone] to a package of existing associations about race and gender. While Bermon probably did not consciously or deliberately choose the image of a white woman for this presentation, it could hardly have been an accident, either: whiteness is an essential part of the traditional image of ideal femininity in the West. Similarly, the choice of a black male bodybuilder to show the ‘extreme phenotype’ of masculinity ties into longstanding associations of black men with hypermasculinity, and blackness in general with athleticism. (p. 14)

Rather than the actuality of clear-cut divides between the “male and female phenotype,” as Bermon’s presentation suggests, the authors instead highlight the subtle racial, gendered, and cultural assumptions that underpin this naturalized separation. For instance, Karkazis and Jordan-Young (2018) note that Bermon draws a parallel between testosterone and maleness in the case study of Wheeler. Describing him with “superhumanly developed muscles” underneath his “oiled, dark brown skin,” Wheeler becomes the very representation of power, masculinity, and maleness (Karkazis & Jordan-Young, 2018, p. 13). Leaning on the belief in testosterone as the primary

³² Wheeler is a U.S. Hall of Fame professional bodybuilder, once described by Arnold Schwarzenegger as “one of the greatest bodybuilders of all time” (IMDb, 2022).

³³ *La Maja Desnuda*, translated to “The Nude Maja,” is an oil painting depicting a nude woman reclining on a bed of pillows.

reason behind performance differences in male and female athletes, Bermon further ascribes maleness and strength with blackness, subsequently racializing testosterone. To contrast the image of Wheeler, Bermon presents *La Maja Desnuda*, which Karkazis and Jordan-Young (2018) describe as a painting of “an idealized Venus of a woman: sensual, curved, nude, [and lustrous] opaline skin” (p. 11). In comparing the two images (while also characterizing each as a respective phenotype for maleness and femaleness), Bermon simultaneously associates muscularity with blackness *and* maleness. In doing so, he builds an argument for a separate and non-overlapping sexual dimorphism that is congruent with racial stereotypes.

Though Karkazis and Jordan-Young’s critique of Bermon’s presentation is intended to illustrate how racialization and medically-authorized harms are inherent to female eligibility regulations (thereby disproportionately affecting women of color from the Global South), the attributions of testosterone to both whiteness and masculinity is relevant for the regulation of transgender (especially transwomen) athletes as well, given the centrality of governing muscles and performance through such regulations. At the same time, the number of elite transgender athletes remains a small population ³⁴ with an even smaller number of transgender athletes competing in World Athletics-sponsored competitions³⁵. Yet, despite the growing body of literature elucidating how sexism and racism intersect in the science that informs female eligibility

³⁴ The recent 2021 Tokyo Summer Olympic Games welcomed the first-ever transgender and non-binary Olympic athletes: Laurel Hubbard (New Zealand, weightlifting), Quinn (Canada, soccer), and Alana Smith (USA, skateboarding).

³⁵ To date, Nikki Hiltz remains the only transgender, non-binary athlete currently competing in World Athletics-sponsored events. They competed in the USA Olympic Trials in 2021 and, while they were a favorite to qualify for the Tokyo Games, finished fourth in the 1,500-meter finals (only the top three qualify for the Games, if they have met the qualifying standard). In 2019, CeCé Telfer, a Jamaican-American hurdler, became the first openly transgender person to win an NCAA title. While Telfer expressed her intention to compete in the USA Olympic Trials with the hopes of qualifying for the Tokyo Summer Games, World Athletics notified her and her coach that she had not yet met the eligibility requirements to do so (Associated Press, 2021). While the IOC is a separate governing body from World Athletics (and, indeed, has different eligibility criteria for transgender athletes), USA Track and Field has stated that, in order for athletes to achieve eligibility for the Olympic Trials, they must meet the requirements of the US Olympic team—which is regulated by World Athletics.

policy to most significantly impact women of color from the Global South, most cases of elite transgender athletes have involved white athletes from the Global North³⁶. This is particularly well-illustrated when observing several of the most outspoken and well-known transgender athletes: Renee Richards, Andreas Krieger, Chris Mosier, Joanna Harper, and Laurel Hubbard.

A possible reason for this distinction lies in the understanding of “transgender” body as a largely Western understanding, which is reinforced through the medicalization and “treatments” suggested or required to obtain athletic eligibility (Cavanaugh & Sykes, 2006; Stryker, 2006). Though ideas of transgender individuals and identities exist outside of the United States or Western Europe, such understandings are not necessarily aligned with Eurocentric definitions (Blackwood & Wieringa, 1999, p. xi). In the context of modern sport—which is historically tied to Western empires and knowledge forms (see Besnier, Brownell, & Carter, 2018; Carrington, 2015; Clevenger, 2017)—the narrow definition of an “eligible” transgender athlete (or one who has achieved an arbitrary testosterone limit or acquiesced with surgical requirements) reflects the privileging of Western science, with potential global repercussions in terms of access to medical facilities, medical knowledge, and medical procedures. Echoing the centrality of sport’s “integrity” and commitment to “fairness,” questions arise around the influence of Western science and bodies of knowledge in creating regulations, and subsequently, the ethics of constructing such policies.

Thus, this dissertation contributes to the existing literature on race, transgender athletes, and transgender eligibility policies by investigating how “problems,” “solutions,” and definitions of “woman” are constructed around transgender athletes/eligibility with consideration to race. Specifically, I examine how understandings of race impact standards of “normal,” “healthy,” and “eligible” transgender bodies, and how these perceptions correspond to differing levels of

³⁶ American MMA fighter Fallon Fox and Jamaican-American hurdler CeCé Telfer are exceptions to this norm.

protection for multiple groups of women athletes (including transwomen). In this vein, I look to interrogate how those involved with researching for and writing transgender eligibility policies reinforce, challenge, or negotiate biologized assumptions of race, particularly in relation to testosterone, bodily aesthetics, safety, and fairness, and how their interpretations inform World Athletics' transgender eligibility policy.

The science (or lack thereof) behind transgender regulations

As more organizations release and implement transgender eligibility and participation policies, one of the most common strategies to balance “fairness” and inclusion for transwomen seeking to compete in the women’s category is to restrict testosterone levels (Love, 2014). However, and in addition to the questionable relationship between testosterone and guaranteed improvement of performance, some have underscored the absence of clear scientific evidence that indicates unfair performative advantages enjoyed by transgender athletes, especially transwomen athletes, as well as the one- or two-year transition period that is often outlined in policies³⁷ (Reeser, 2005; Teetzel, 2006, 2014).

With regards to the transition period, Jones et al. (2017) note the lack of supporting science to justify a one-year time frame. Using the IOC’s 2015 policy as an example³⁸ (which, like World

³⁷ In February 2022, USA Swimming announced that it would require a minimum of 36 months of hormonal therapy for transwomen swimmers, which is the longest duration for any transgender eligibility policy, national or international. In response, Joanna Harper, a transgender runner, visiting fellow for transgender athletic performance at Loughborough University, and frequent advisor for the IOC and World Athletics, remarked that “there is no data suggesting that 36 months will be any more effective in mitigating advantages than 24 months would be” (Yurcaba, 2022, para. 14).

³⁸ In November 2021, the IOC released an updated framework, the “IOC Framework on Fairness, Inclusion, and Non-Discrimination on the Basis of Gender Identity and Sex Variations” as an update to this 2015 policy (IOC, 2021). In this document, the authors center human rights as a fundamental principle of organized sport, particularly given “the IOC’s commitment to respecting human rights (as expressed in Olympic Agenda 2020+5)” (IOC, 2021). Through its focus on human rights, the document explicitly names transgender athletes and athletes with a sex variation as part of their efforts to cultivate gender equality and inclusion. Operating within sport’s dominant model of sex segregation, the framework proposes ten principles of inclusion and non-discrimination that “should be promoted and defended at all levels of sport”: inclusion, prevention of harm, non-discrimination, fairness, no presumption of advantage, evidence-based approach, primacy of health and bodily autonomy, stakeholder-centered approach, right to privacy, and periodic reviews. Though the framework is a “principled approach” rather than a concrete rule, critical sports

Athletics' transgender eligibility policy, featured a testosterone limit), Jones and colleagues (2017) conclude that they were unable to locate evidence or sources that supported the necessity of maintaining the required testosterone levels for twelve months. Despite maintaining this twelve-month duration requirement in World Athletics' transgender eligibility policy, there still remains no clear evidence that explains *why* one year is chosen (Jones et al., 2017; Klein, Krane, & Paule-Koba, 2018; Teetzel, 2014).

Furthermore, questions remain around the validity of the belief in the unfair athletic advantage that transwomen athletes retain from their pre-transitioned higher levels of testosterone. As Reeser (2005) writes, "can we say with certainty that [transwomen] athletes have an unfair performative advantage over all athletes who have a 46XX³⁹ genotype?" (p. 698). Though research has shown the effects of testosterone on athletically-relevant factors and physiological such as lean muscle mass, spatial ability, heart and lung capacities, and body fat percentage, these factors do not guarantee performative success (Karkazis et al., 2012; Jordan-Young & Karkazis, 2019a). Additionally, Teetzel (2006) points out that there is no evidence to suggest that hormone therapy provides transwomen or transmen with a competitive advantage over the purportedly "natural" talents of their cisgender competitors. Instead, the greatest area of competitive difference may lie in comparing to the transgender athlete's past performances. With the inconclusiveness in the relationship between hormone therapy and enhanced performance *relative to the rest of the competition*, the focus on testosterone appears less based in science, and instead in culturally-influenced expectations of bodies and science.

scholars have lauded the IOC's progress towards creating gender-inclusive sport and moving away from testosterone regulations (Storr, Pape, & Bekker, 2021).

³⁹ A 46XX genotype is a medically normal karyotype for women: twenty-two pairs of autosomal chromosomes, and one pair of XX sex chromosomes.

Lastly, there is inconclusive science around whether the perceived athletic advantage of transgender individuals is greater than the financial advantages and certain physiological traits of cisgender athletes, such as large hands and feet (for particular sports) and training opportunities (Canadian Centre for Ethics in Sport, 2016; Jones et al., 2017). This is particularly of importance given that current transgender eligibility policies (including World Athletics' regulation) assumes access to medical support, facilities, and care, and knowledge of the types of required or recommended medical "treatments." As has been discussed throughout this dissertation thus far, the cultural, social, and political dimensions of "fairness" and "advantage" cannot be ignored and, indeed, are equally as important (if not more, in some cases) as biological realities.

As has been stated throughout this chapter, it is not my intention to closely interrogate or problematize the actual scientific studies or evidence behind transgender eligibility policies. Nonetheless, this dissertation contributes to the existing literature on the science behind transgender eligibility policies by examining how scientific knowledge is (selectively, narrowly, opportunistically) interpreted by those involved with researching, writing, and enforcing policy documents to justify eligibility parameters, even as there lacks conclusive or robust research findings. Additionally, and given the increasing interests of sports organizations in creating gender-inclusive policies (especially when concerning transgender athletes, see IOC, 2021a, 2021b), I investigate if, how, and when participants draw from social, cultural, or political discourses, and how these forms of evidence enmesh with medical and scientific knowledges to construct "problems" and "solutions" related to governing transgender athletes.

My Contributions to the Literature

There is an extensive body of literature on individual protective policies, particularly past and current female eligibility policies, that provide insight into the gendered, raced, and colonial

dimensions of defining “woman” and “protection.” However, there remain significant gaps in the literature around the complex, circumstantial, and sometimes contradictory nature of protective policies as a larger category, particularly in relation to (scientific) evidence, definitions of “woman,” health, and human rights. In addition to my contributions to the literature outlined in each of the sub-sections above, I seek to address these broader gaps on protective policies in three ways.

First, scholars have underscored the impacts of policies (both when there is and is not one in existence) on athletes, such as Caster Semenya, Annet Negesa, and Mary Cain. However, when placing their experiences (and corresponding protective policies, or lack thereof) in conversation with each, it becomes clear that protective policies are simultaneously necessary (as illustrated in Cain’s story) and can elicit irreparable harm (as demonstrated in Semenya and Negesa’s experiences). Yet, there lacks scholarship that contextualizes these individual policies in the broader sporting milieu, opening up questions around what types of evidence and contexts contribute to specific policies. I aim to address these gaps in my dissertation by exploring how “protection” and “woman” are contextually, differently, or closely defined within and between protective policies, and how these potentially divergent definitions can contribute to uneven consequences for (groups of) women (with underrepresented identities).

Second, and as Sheree Bekker and I have argued elsewhere (Bekker & Posbergh, 2022), those involved with creating protective policies for sports organizations are part of “a close-knit, rarefied community” that is often difficult to access (p. 188). Due to the minimal number of individuals involved with creating protective policies (especially the three examined in this dissertation), there is a significant lack of qualitative research that uses interviews to investigate the creation and impacts of protective policies (see Bavington, 2016; Brömdal & Rasmussen, 2022;

Pape, 2020a, 2020b for exceptions). Thus, through its use of interviews with researchers, physicians, lawyers, and scientists involved in creating protective policies, this dissertation addresses this gap and also necessarily complements and extends previous research that has discursively and textually examined (individual) protective policies (Brömdal, Olive, & Walker, 2020; Croteau, 2020; Wells, 2020).

Lastly, and as Wells (2020) has explained in the context of past and present female eligibility policies, there remains significant disagreement on the “best” regulatory strategies for women’s bodies and the women’s categories, or even if any type of scheme is necessary. However, written documents do not reflect these messy and contentious development processes and instead, offer clear-cut and scientific “solutions” to problems of fairness, health, and protection. By drawing from both textual and interview data, this dissertation looks to bridge the gap between participants’ beliefs and policy texts by exploring how these myriad opinions and approaches are (selectively) utilized or overlooked in the policy development process.

My hope is that this project’s significance will extend beyond its empirical contributions through two particular avenues. First, to encourage transdisciplinary dialogue about how women’s bodies are regulated and policed. Second, to inform future efforts on creating inclusive and empathetic protective policies. Especially in a time when legal protections of women’s autonomy, bodies, and rights are at risk⁴⁰, I believe this research can provide insight into how protective policies enact a range of measures to safeguard (some) women’s bodies through regulation, discipline, or even exclusion. Additionally, and in light of the recent 2021 Summer Olympic Games—as well as the historical role of international sporting events (such as the Olympics) in

⁴⁰ For example, at the time of writing this dissertation, the United States celebrated the 49th anniversary of *Roe v. Wade*, which many argue will its last, pending the Supreme Court’s ruling on *Dobbs v. Jackson* later this year. It is expected that the Supreme Court will likely overturn or significantly weaken *Roe v. Wade*, meaning that it will be “unlikely to make it to 50 in any recognizable form” (Panich-Linsman & Kelley, 2022, para. 3).

elevating values based in white, Euro-American, and male norms—the findings of this dissertation fosters a deeper understanding of how the roles of science and policy shape and privilege dominant ways of knowing, particularly with regards to gender, sex, race, and human rights. Indeed, the traumatic experiences and damaging side effects from toxic cultures (e.g., Mary Cain), required hormonal treatments (e.g., Caster Semenya), medically unnecessary surgeries (e.g., Annet Negesa), career terminations (e.g., María José Martínez-Patiño), suicide attempts (e.g., Santhi Soundarajan), and even suicide (e.g., Pratima Gaonkar) reflect the breadth of impact of policies intending to “protect” women.

Chapter 3: Methodology and Methods

In this chapter, I provide an overview of the methodological underpinnings of this project and the methods used in subsequent empirical chapters (Chapters 4-7). I begin by outlining my methodological approaches to this project, specifically focusing on my epistemological, ontological, and paradigmatic approaches. As this project centers questions of protection, women's bodies, and power, my research approach is guided by an anti-positivist epistemology, and methodological sensibilities attuned to the relevance of gender and race. While I do not utilize an intersectional analysis⁴¹ in this project, I view both gender and race intersectionally, inseparable, and constitutive of each other, including and especially in the context of protective policies. Next, I discuss the evaluative criteria and research representation used for this project, closing with an overview of my reflexivity prior to, during, and following this project. Next, I discuss the evaluative criteria and research representation used for this project, closing with an overview of my reflexivity prior to, during, and following this project.

I then proceed to describe the methods used in the project. First, I discuss the data collection and interview recruitment strategies, particularly as my intended participants are part of a small, elite, and difficult-to-access community of researchers, lawyers, academics, and policymakers. Following this overview, I discuss the participant anonymity strategies utilized in this dissertation,

⁴¹ There is a significant scholarly debate, especially among Black feminists and within Women's Studies departments, around the term and usage of "intersectionality" (see Nash, 2008, 2018). Critics have drawn attention to the "gentrification, colonization, and appropriation" of the term, and the exploitation of Black feminists' labor: a phenomenon that recurs time and time again in the academia (Nash, 2018, p. 3). The consequent "defensiveness" of Black feminists has contributed to the development of, what Jennifer Nash terms, the "intersectionality wars." Considering the contention around the term, rather than take a side on the issue, I have chosen to view race and gender *intersectionally* and inseparable from each other, rather than engaging in an explicit intersectional analysis. This is not to say that such an endeavor would not be worthwhile. Indeed, I believe it would be a fruitful area of future research. However, it was not an avenue that I explicitly pursued in this project.

which was an area of significant concern for several of my participants. I then close this chapter by discussing the methods and data analysis for each empirical chapter.

Methodology

Epistemology

Epistemology is understood as the theory of knowledge, or how a researcher knows or understands the world and the relationship between the knower and the known (Harding, 1987; Markula & Silk, 2011). While a researcher's epistemology is located on a spectrum, there are generally two accepted positions located at either end of this continuum. On one end, an objectivist epistemology, which is typically aligned with quantitative research and positivism, posits that a truth can be "objectively obtained through the rigorous testing of hypotheses" (Markula & Silk, 2011, p. 27). Through this lens, researchers distance themselves from their investigation in order to obtain a measurable and objective reality that culminates in a universal truth. On the other end, a subjectivist epistemology adopts an interactive relationship between researchers and participants in an active process of knowledge-making (Markula & Silk, 2011). In this view, researchers create multiple interpretations and meanings of reality while also critically reflecting on their own roles, biases, and positionalities in the research processes (Denzin & Lincoln, 2005; Markula & Silk, 2011).

Adhering to a subjective and anti-positivist epistemology, I approach my research with the assumption that "all knowledge is constructed through a meaning making process in the mind of the knower" (Daly, 2007, p. 23). In other words, the truth is more subjective (rather than objective), differs from person to person, and does not exist independent of anyone and everyone (Markula & Silk, 2011). Following Denzin and Lincoln (2011), recognizing the multiplicity of realities is essential to re-interpreting established practices to render a more holistic image of the world, and

seek to “transform the world” by exposing and challenging power dynamics and tensions (p. 3). Indeed, this epistemological grounding is complementary to the qualitative nature of the research, which is based in the idea of anti-foundationalism, or that there is no objective fact. Rather, there are only partial truths derived from individual and unique experiences (Denzin & Lincoln, 2011).

In a similar vein, I view my epistemology and approach to critical social research as a co-constructive and interactive process between myself and my research participants (Manning, 1997; Markula & Silk, 2011). Though understanding that it is impossible to remove myself from my research and analyses, I do not think this is a detriment to the research or derails from its worth. Rather, I acknowledge the influence of my political orientations and goals on my research, and thus, knowingly produce subjective knowledge, but hopefully knowledge that will make a difference (Markula & Silk, 2011).

Critical feminist perspective

My work primarily emanates from a critical feminist perspective, which understands gender as an essential concept that should be centered in research. As Harding (1987, 2004) explains, critical feminist scholarship should analyze the social construction of gender, investigate its consequences, and be wary to not universalize the experiences of women. In this vein, I look to Donna Haraway’s (1988) understanding of “situated knowledges” as a form of “feminist objectivity,” which acts as a “doctrine of embodied objectivity that accommodates paradoxical and critical feminist science projects” (p. 581). In other words, “situated knowledges” acknowledges that all knowledge comes from positional perspectives, while also taking seriously biological and physiological sciences. In this, Haraway argues that the role of the body in the production of knowledge is central. At the same time, the body and embodied experiences are multilayered and complex:

I am arguing for a politics and epistemology of location, positioning, and situating, where partiality and not universality is the condition of being heard to make rational knowledge claims. These are claims on people's lives. I am arguing for the view from a body, always complex, contradictory, structuring, and structured body, versus the view from above, from nowhere, from simplicity. Only the god trick⁴² is forbidden. (Haraway, 1988, p. 589).

Situated knowledges involve both an intricate feminist embodiment and a politics of situatedness that consider positioning, partialness, and anti-universalism (Goh, 2017). In the context of sex and gender, Haraway argues that it is vital to attend to both social inscriptions and biological discourses. Concurrently, situated knowledges are not “easy” or given, but rather, are iteratively revised and developed with consideration to positions within structures of power.

At its core, critical feminist sensibilities and situated knowledges are strategies to acknowledge the complexities of women's/researcher's positions and knowledge production, understand how science is never objective, and achieve particular social justice-oriented political objectives. The purpose is not to universally label science as “bad science” (though this may sometimes happen), but instead, shed light on the institutional and cultural interests that contribute to the knowledge production. As scientific and medical knowledge remain privileged knowledge in multiple circles, investigating the “Androcentric, economically advantaged, racist, Eurocentric, and heterosexist” distortion of institutions and conceptual frameworks, is vital to both reveal and challenge the rationalities and technologies used to design and justify resultant systems of oppression (Harding, 2004; Longino, 1993).

Critical race sensibilities

Given the inherent importance of race and region in this project, and particularly the racial inequities resulting from individual regulatory protective policies, (see Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014), I also approach my research through a critical

⁴² Haraway (1988) describe the “god trick” as the way in which “universal truths” are generated by disembodied scientists who observe “everything from nowhere” (p. 581).

race methodology. Solórzano and Yosso (2002) describe a critical race methodology as an “approach to research that foregrounds race and racism in all aspects of the research process” (p. 23). Particular attention to race and racism in my project is essential, especially considering the intersection of sport policy and race in my project, and physical culture and race more broadly. As sport is shaping and shaped by society, the sporting space is understood as a site of contestation, resistance, and struggle, challenging and reifying dominant ideologies, including racial inequality (Althusser, 1971; Birrell, 1989; Carrington, 2002, 2010; Carrington & McDonald, 2001; Hargreaves, 1986; Long & Spracklen, 2010).

Though race remains a social construct, racial stereotypes and tensions in sport continue to influence practices and forms of knowledge to shape understandings and interpretations of “race” around athletic prowess, violence, and aggression (Carrington, 2017; Harrison, Harrison, & Moore, 2002; Jordan-Young & Karkazis, 2019a; Wallace, 2021). However, it is important to note that racism, not race, is a key factor in perpetuating inequality (Hylton, 2005, 2010; Khazanchi, Evans, & Marcelin, 2020; Smedley & Smedley, 2005). In the context of protective policies, racism, cloaked within descriptions or categories of “race” contribute to uneven protections for (certain groups) of women and divergent definitions of “woman. Thus, without falling into essentialist, universalizing, or binary arguments, I understand “race” and “racism(s)” as core factors in the study of (physical) culture, sport, and social relations to center the black experience and implications of privileged knowledge (Birrell, 1989; Hylton, 2005, 2010). Considering, then, the relationship between sport, race, and racism, I utilize a critical race approach as a methodological means to challenging dominant ideas of objectivity and race neutrality. In doing so, I hope to approach my research with an equitable lens, with social justice and transformation as core goals (Hylton, 2010).

Echoing Hylton's (2005, 2010) and other Black feminists' arguments for a multidimensional (or intersectional) approach (see Collin, 2000; Collins & Bilge, 2020; Crenshaw, 1989, 1991; Nash, 2008), I endeavor to simultaneously highlight the importance of race (without essentializing it) and illustrate the relationships between race, sex/gender, and definitions of "woman" in protective policies. In doing so, and similar to a critical feminist methodology, I understand race as intersecting with gender to affect marginalized communities (Solórzano & Yosso, 2002). In all, a critical race methodology encourages challenging race-driven and multiple status quos that have created unjust relationships between dominant and marginalized communities, on individual, institutional, and structural levels. Through drawing attention to the implications of racism and nationalism in protective policies and sport, particularly in the context of scientific racism or a medical "white savior complex" as I discuss in Chapter 6, I hope that this research reveals how mainstream practices, rationalities, and assumptions can potentially lead to harmful consequences for (some) women athletes (Hylton, 2005).

Ontology

Ontology describes "how researchers see the world," whether it is in terms of one reality, multiple realities, or somewhere in the middle (Markula & Silk, 2011, p. 24). On the one hand, there is ontological realism, which posits that there exists one objective "Truth" in which research can converge and reveal the "true" state of affairs (Guba & Lincoln, 1994, p. 109). This is most often associated with a positivist paradigm or quantitative research. On the other hand, ontological relativism understands realities as multiple, locally co-constructed by researchers and participants, and is dependent on the experiences and identities of individual persons or groups (Guba & Lincoln, 1994; Markula & Silk, 2011). With these multiple realities, one is not more or less "true" than others, but is instead, a result of these different and dynamic factors. Qualitative research most

often ascribes to ontological relativism, which remains true in this project. However, given that this project also focuses on the roles of discursive structures that impact individuals' beliefs, decisions, and actions, I ascribe to a historical realism whereby reality is "shaped by social, political, cultural, economic, ethnic, and gender values," which develop over time (Guba & Lincoln, 1994, p. 109; Markula & Silk, 2011). Through this ontological approach, I aim to hold true to the PCS, feminist, and critical race commitments of this project, which emphasizes the importance of (social, political, cultural, geographic) context (Andrews & Silk, 2016; Markula & Silk, 2011).

Paradigm

Paradigms describe the beliefs, values, orientations, and parameters that guide methodological decisions of a research project (Kuhn, 1970; Markula & Silk, 2011). Within the multiple paradigmatic approaches, there is not a "best" paradigm, but rather, one that "best" works within the aims of the research project. Given the attention to power relations and particular (dominant) discourses and forms of knowledge in this project, I ascribe to a critical paradigm as my research looks to investigate hierarchies found within physical culture and sport. From Markula and Silk (2011), I understand a cultural paradigm to be centered around the assumption that,

unequal power relations are based on the ideological control of the individual in society: all humans are subject to belief systems or ideologies that make certain ways of life, values and knowledges seem natural and just. However, ideologies benefit those powerful groups who control and dominate the rest of society through a conception that ideological beliefs will work for the benefit of all. (p. 40)

In line with the political nature of PCS projects and qualitative projects, and a critical paradigmatic approach, my dissertation both seeks to critically examine existing power structures and discourse in protective policies, and the governance/discipline of women's bodies, which remain a site of political and cultural conflict (see Cole, 1993). Though anti-positivist approaches are rooted in a

belief that “all reality is a constructed reality” (Daly, 2007, p. 31), I agree with Grossberg (2010) that balancing both belief in the inexistence of an objective, singular truth and the material consequences of science and privileged bodies of knowledge is necessary to shape the world into a more “just and equitable place for all people” (p. 56).

Evaluative Criteria

As qualitative scholarship adopts many forms, there is no unified way to determine “good” qualitative research. Though there is a general consensus that high-quality qualitative research is “theoretically sound, analytical, interpretive and provides deep knowledge,” there remain multiple perspectives on how to judge the quality of the research process and dissemination (Markula & Silk, 2011, p. 197). Overall, Denzin and Lincoln (2017) outline three positions with regards to evaluative criteria: foundational, quasi-foundational, and nonfoundational. A foundational approach applies the same criteria to qualitative research as is used in quantitative inquiry, namely, internal validity, external validity, reliability, and objectivity. These four standards are most often used in positivist and post-positivist paradigms.

Next, a quasi-foundationalist approach posits that there must be evaluative criteria developed that is unique to qualitative research. In this vein, Lincoln and Guba (1985) outline trustworthiness criteria for qualitative research that is meant mirror quantitative trustworthiness (i.e., internal validity, external validity, reliability, objectivity), which consist of credibility, transferability, dependability, and conformability (see also Hammersley, 1992). Later, Lincoln (1995) revised these original four criteria to shift away from concerns that these terms too closely mirrored positivist standards, as well as expanding these guidelines to consider the broader concerns of qualitative research. In total, Lincoln (1995) proposed five criteria: (1) adhering to the general guidelines observed by the qualitative community; (2) authenticity of the researchers’

position; (3) centering participants' voices; (4) trust between the researchers and participants, and; (5) critical reflexivity throughout the research process (Markula & Silk, 2011; see also Hammersley, 1992). However, and as Smith and McGannon (2018) point out, the use of universal criteria for qualitative research is problematic for two reasons. First, it requires the research to use preset and inflexible ways, thus resembling foundationalist perspectives. Second, it fails to account for the social construction of quality standards.

Lastly, non-foundationalists recognize that there is no such thing as theory-free knowledge, that the production of knowledge is both moral and political, and ultimately, that evaluative criteria must be fitted to the needs of the specific research project (Denzin & Lincoln, 2017; Smith & McGannon, 2018). Put differently, non-foundationalists emphasize the importance of understanding and generating research within an ethical and moral frame (Denzin & Giardina, 2008). This is not an "anything goes" attitude, as some have accused qualitative methodologies of adopting; rather, it entails ensuring that evaluative criteria are attentive to wider issues of power and social forces (Smith & McGannon, 2018). Because of the diversification of criteria in non-foundationalist approaches, it is most often utilized in critical paradigm and social constructionist research (Markula & Silk, 2011), and is what I look to in this dissertation.

In particular, Sparkes (2001) speaks to the importance of attending to questions of quality in both the research process and its implications, or "evaluative judgement." Notably, the latter is deemed especially important for research claiming to "make a difference" (Markula & Silk, 2011). Determining "rigorous" impacts of research can extend to how well-received or positively it impacts those who are being researched; how findings are disseminated beyond academic audiences; or how much voice and agency is given to research participants (Denzin, 2009). While "rigor" is a loaded term for qualitative research and has no universal understanding (Smith &

McGannon, 2018), I evaluated the quality of the research for this project using non-foundationalist criteria (Smith & McGannon, 2018). Throughout the research process, I used member reflections, “thick description” (Geertz, 1973), triangulation, reflexivity, and audio recording interviews. I also consider the political and organizational impacts of my research: several participants asked to read this dissertation in full (along with any journal articles) once it was done. Fulfilling these requests aligns with the evaluative judgement criteria I consider in this project. As well, I will endeavor to publish the findings from this research in non-academic settings, to ensure the public dissemination in the hopes of conducting research that can and does have a positive impact.

Representation

How data and “evidence” is represented, especially in qualitative research, remains an important dimension of methodology. As Markula and Silk (2011) note, one of the most common way of representing data is through “realist writing,” which is an “objective, third person account of the research findings” (p. 177). Through this approach, the researcher is written out of the text in an attempt to produce an objective and truthful account of reality (Sparkes, 1995). The expectations of these efforts are to produce “good” science that employs a “rigorous, systematic, and objective methodology to obtain reliable and valid knowledge” (Ryan & Hood, 2006, p. 58)

Yet, as Denzin, Lincoln, and Giardina (2006) argue, “there is no neutral stand-point, no objective God’s-eye of the world... All representations are historically situated, shaped by the intersecting contingencies of power, gender, race and class” (Denzin, Lincoln, & Giardina, 2006, p. 776; see also Haraway, 2004; Collins, 2000). In other words—and in line with the epistemological, ontological, and paradigmatic underpinnings of this project—there is no absolute Truth. In response to these limitations of realist writing, qualitative social science researchers began developing new forms of representations, writing themselves into their findings by including

their voice and using “I” more often (Markula & Silk, 2011). Through this, the researcher became and becomes an active part of the research and dissemination process to more clearly acknowledge their own biases, values, observations, and interpretations (Markula & Silk, 2011).

In addition to using “I” and including my observations (typically in footnotes) throughout this dissertation, I have endeavored to represent the viewpoints and opinions of my participants as faithfully as possible through including their quotes verbatim to attempt to maintain their original tone. While this sometimes results in block or longer quotes, I believe the benefit to this approach is that it more honestly reflects the intentions or nuances of a participants’ thoughts or ideas.

At the same time, there remains a power hierarchy between participants and my role as a researcher as to which quotes I have chosen to include or which excerpts I view as more significant than others, I keep participants’ quotes as a whole or lightly edit them to maintain their voice. Sometimes I include an excerpt from one participant; other times, I group quotes together if I believe they represent a collective idea. Through both approaches, my analyses are woven in-between, following, and before included participants’ quotes and excerpts. The result of this dissemination choices is that my subjectivity is incorporated throughout the project and write-up. However, through striking a balance between including participants’ verbatim quotes; my understanding of how their ideas are articulated within power relations and social forces; and my positionality and critical reflexivity (as discussed in the following sub-section), my hope is to create a meaningful and impactful project.

Reflexivity

As a key tenet of PCS research, reflexivity describes the efforts of researchers to “acknowledge how their subjectivities, life experiences, theorizing and research approaches are interlinked” (Pringle & Thorpe, 2017, p. 70). Especially for a subjective epistemological and

critical paradigmatic approach, reflexivity is important as the researcher is an active part of interpreting and representing participants' voices and other forms of (textual) data (Campbell, 2004; Pillow, 2015). Although reflexivity has been criticized at times for its use of “confession, catharsis or cure” (Pillow, 2003, p. 183), I agree with Pringle and Thorpe (2017) in that, “the reflexive turn in PCS is important, only so long as we keep power relations and political injustices at the fore of our work” (p. 77). With this in mind, I also maintain that reflexivity for *this particular project*—given its inherently political, contentious, and messy nature—is especially necessary, as “once your own body...and its body politics are set in motion, you become intimately articulated and necessarily contingent to that which you study, as well as all of the complications, contradictions, messiness, and struggles that come with it” (Giardina & Newman, 2011b, p. 530).

I approached this research as an educated, relatively young, and biracial woman who can often pass as white, and who is completing her doctorate at a public Research I institution in the Global North. While I critique the Eurocentric nature of creating and implementing protective policies, binary and biocentric understandings of “sex” and “gender” which are rooted in Western imperialism and racism (see Lugones, 2007; Newhall, 2021; Pieper, 2016), and the use of “elite” medico-scientific discourses in both document texts and participant responses (a quality that I discuss more in-depth in Chapters 4 and 6), I concurrently recognize that I am part and a product of these systems (see Cooky, Dycus, & Dworkin, 2013).

Yet, drawing from Mohanty's (2003) idea of “feminism without borders,” I hope this project contributes to the “imagined community” of “potential alliances and collaborations across divisive boundaries” (p. 46). Without denying the “internal hierarchies within Third World contexts,” my intent is to take part in the “horizontal comradeship” of feminist research(ers) that shifts away from biological or cultural bases of alliance and instead, foregrounds political links

among and between struggles. Mohanty (2003) also remarks that it is important to consider how Western-derived research is not exempt from the “context of the global hegemony of Western scholarship,” thereby necessitating consideration and reflection on the (geo)political implications of their work. The point of such an approach is not to support a homogenous construction of women’s experiences because they share a particular social identity, but to also be attentive to the nuance between “women” as a discursively constructed group and “women” as material subjects shaped by their own histories. As Mohanty (2003) further elaborates, “the discursively consensual homogeneity of women as a group is mistaken for the historically specific material reality of groups of women” (p. 23). Throughout this project, I have endeavored to focus on the (de)construction of “woman” as a category in protective policies without denying or erasing the material effects on the everyday lives of women, especially those impacted by such policies. In doing so, my hope is to shed light on how dominant discourses and knowledges—which are predominantly based on Eurocentric and Western norms—maintain sex-, gender-, race-, and/or geographically-based forms of inequity.

The nature of this research and my identity as a cisgender woman (who studies the gendered politics, contexts, and nature of protective policies) has also undoubtedly influenced the direction of the interviews. While I do not disclose the specific number of women and men that I interviewed for this project to protect the identities of my participants, especially as (sport) institutions remain male-dominated (see Pape, 2020c), gender (in)congruence can encourage interview participants to frame their answers in particular ways. These include emphasizing particular “feminist” issues (i.e., the exclusion of women from sport; societal gender inequities) or more openness with gender-related experiences (Berger, 2015; Broom, Hand, & Tovey, 2009; Pini,

2005). Although I maintain that this does not detract from the quality of the interview data, it is undeniable that my gender has shaped and mediated its production (and analysis).

Furthermore, I identify as someone who is a vociferous fan of sports and former competitive track and field athlete—characteristics that also holds true for most, if not all, of the participants in this project, given that two case studies are authored by World Athletics, the international governing body for track and field. Thus, I would argue that, to an extent, I hold an “insider” status with this particular realm: I can “talk” sports (specifically track and field), and I have friends and former teammates who have completed at the elite and Olympic levels. While Adler and Adler (1987) speak to the potential role confusion and conflict when speaking with interview participants for a research who holds an “insider” status, I actually found that my experiences aided my interviews in terms of comfortability and relatability (Dwyer & Buckle, 2009). Either at the beginning of each interview during the introductions or at some point throughout the interview, I would mention my experiences as a track and field athlete or my thoughts on a recent sporting event. Following this disclosure, participants often appeared more at-ease and would open up more about some of their opinions with accompanying comments such as, “you know what it’s like.” Thus, I ultimately view my “insider” status as a strength of this project, particularly during the data collection/interviewing process.

I would be remiss to not remark on the (perceived and actual) power dynamics between my participants and me: the “experts” and the “graduate student researcher.” While Mason-Bish (2019) notes that existing research has urged decreasing the “status imbalance” between elites and researchers, as well as recognizing the existence of “elite delusion⁴³,” she also notes the fluidity of

⁴³ Mason-Bish (2019) defines this as “the perception that elites are difficult to access and that the researcher must be flexible and indeed grateful for any of their valuable time that is available” (p. 264).

an “insider/outsider” status when interviewing elites: an observation that resonated with my experiences. Mason-Bish (2019) reflects on her interview process, commenting,

I found myself straddling a number of roles – as enthusiastic rookie who needed them or as a knowledgeable yet unthreatening student undertaking important research. This duality of roles and positions was a key theme running throughout the interviews themselves...My perception was that I would want to present myself as knowledgeable yet unthreatening and to convey that my research was important enough to warrant their time but not enough that I was a danger to their position. (p. 267, 269)

The contentious nature of protective policies, especially as some have been at the center of a maelstrom of criticisms (namely, World Athletics’ female eligibility policy) led some participants to remark that their willingness to speak with me was because I appeared unthreatening and was still early in my career. While these comments inadvertently reinforced power differentials between me and my participants, I often did not find these interviews to be stiff or overly formal. Rather, because I was there to hear their perceptions and experiences with one, two, or all of the case studies and thus, not challenge or criticize their “expert” status, our interviews ended pleasantly with encouragement for my research topic.

Methods

Data collection and participant recruitment

All three case studies were publicly available on the Internet, either through journal publications (in the case of the IOC’s consensus statement) or the sponsoring organization’s website (as for the two eligibility policies). I also located and downloaded supplementary documents for each case study. These included updates that had been published at later dates (Mountjoy et al., 2015, 2018), explanatory documents (IAAF, 2018; IOC, 2021b; Ljungqvist, 2004; WA, 2019d, 2019e), consensus meeting notes (IOC, 2003, 2015), and academic or public presentations (Engebretsen, 2019; Mountjoy et al., 2019, 2021). After collecting these documents,

I identified potential participants through the authors who were publicly listed on the document as “medical experts” or part of an “expert panel” in the document appendices, or who had attended related consensus meetings. In all, I identified thirty individuals across the three case studies that were eligible to participate in this project.

After receiving International Review Board Approval, I emailed all potential participants and nine agreed to participate (see Appendix A for my recruitment email). Of these nine participants, five had been involved with research and development of all three policies, and four had contributed to both eligibility policies. Interviews lasted between thirty minutes and two hours, and were conducted over a virtual meeting platform of the participant’s choosing. Participants were asked a loosely structured set of open-ended questions that permitted them to guide the direction of the conversation (Markula & Silk, 2011). I organized these questions into five categories as they corresponded to particular themes: (1) women’s sport and women athletes; (2) protection; (3) the IOC’s consensus statement on RED-S; (4) World Athletics’ female eligibility policy, and; (5) World Athletics’ transgender eligibility policy. The interview guide, with these five categories, can be found in Appendix B. Within each of the five categories, I often asked unscripted follow-up questions for clarification or further explanation on points or topics that the participants had raised. Transcripts were transcribed verbatim, then sent to participants for review and approval.

The interview guide was altered over the course of the interviews in response to participants’ responses or sometimes reluctance to answer specific questions. For example, following my second interview, I sensed that participants were unsure of how to answer more “sociologically” driven questions (a description they sometimes used), such as the question “what evidence, values, or beliefs do you rely on to come to this understanding of women’s sport?” As

such, I omitted this question from my later interviews and instead, asked follow-up questions that incorporated this line of thinking, but were presented in a more colloquial manner (i.e., asking “why do you think that?” or “what made you come to that conclusion?”). This strategy elicited more nuanced and descriptive participant responses, which then fostered a richer data set.

Participant anonymity⁴⁴

Given the limited number of eligible and actual participants for this project, anonymizing participant responses was especially important. As Flick (2006) notes, “the issue of confidentiality or anonymity may become problematic when you do research with several members of a specific setting” (p. 50). Creating protective policies for elite sport is such a milieu considering the close-knit and small community of researchers, scientists, and academics (see Bekker & Posbergh, 2022). While all policy authors are publicly listed (and indeed, was the primary means through which potential participants were identified), I intentionally anonymize their names given that,

the disclosure of information and accounts provided by participants in some cases could potentially expose them to retaliation from others in the policy sphere, embarrassment, potential job loss, or compromise organisational partnerships, damage relationships and jeopardise delicately balanced politicised policy processes underway. (Lancaster, 2017, p. 99)

All participants concurrently hold academic, research, medical, or administrative positions, and have personal lives. While the consent form given to participants assured them of confidentiality protections, three participants expressed concerns over being “outed” due to policy-related controversies and/or threats that they had previously received as a result of their involvement. As such, I refer to participants as “Scientist A,” “Scientist B,” and so on⁴⁵ to protect their privacy and

⁴⁴ This section is included in Chapter 6, which has been published as a journal article in the *International Review for the Sociology of Sport*. However, given that I use this anonymizing approach in Chapter 5-7, I have included this section here as well.

⁴⁵ I do, however, skip the letter “I” and label the ninth scientist as “Scientist J” (which is the tenth letter of the alphabet) to avoid confusion with the number “1.”

safety. I especially do this to protect the identities of any and all women or those with marginalized identities interviewed considering the white and male-dominance of leadership and decision-making positions in sporting institutions (Pape, 2020b). Correspondingly, all participants are referred to with “they” and “them” pronouns to maintain gender non-specificity.

Data analysis

To analyze both my document and interview data throughout all four empirical chapters, I use a two-step analysis process: thematic analysis followed by Foucauldian discourse analyses (FDA) through a governmentality perspective (Jette & Rail, 2014). The purpose was to first determine *what* was said in document texts and by participants, followed by a deeper level of analysis and contextualization around *how* dominant discourses, knowledges, and power relations were created and mobilized to protect women athletes. Moreover, and Braun and Clarke (2021a) note, when used within a poststructuralist or Foucauldian framework, using thematic analysis with another qualitative research method draws out “pattern-based discursive approaches” (p. 43; see also Braun & Clarke, 2013; Lainson, Braun, & Clarke, 2019).

While proponents of thematic analysis have created different approaches (e.g., applied thematic analysis, see Guest, MacQueen, & Namely, 2012), for this project, I look to Braun and Clarke’s interpretation of “thematic analysis,” or as they later refer to it, “reflexive thematic analysis” (Braun & Clarke, 2019, 2021a; Braun et al., 2019). In particular, I understand thematic analysis as “a method for identifying, analyzing, and reporting patterns (themes) within data” that retains participant voices within the grouping of codes and generation of themes (Braun & Clarke, 2006, p. 79). While a significant strength of thematic analysis is its flexibility for different types of qualitative research and theoretical underpinnings, thematic analysis remains a rigorous and systematic approach to coding and theme development. As they explain,

Themes are analytic *outputs* developed through and from the creative labour of our coding. They reflect considerable analytic ‘work,’ and are *actively* created by the researcher at the intersection of data, analytic process and subjectivity. Themes do not *passively* emerge from either data or coding; they are not ‘in’ the data, waiting to be identified and retrieved by the researcher. Themes are creative and interpretive *stories* about the data, produced at the intersection of the researcher’s theoretical assumptions, their analytic resources and skill, and the data themselves (Braun & Clarke, 2019, p. 594, italics in original).

In essence, themes are neither “obvious” nor “taken-for granted,” but rather, are generated through their patterns of shared meaning(s), which are united through a unifying concept or idea. Additionally, the centrality of the researcher’s role in knowledge production is particularly important to Braun and Clarke’s thematic analysis (hence, the shift in nomenclature to “reflexive thematic analysis”). Through these two key tenets of (reflexive) thematic analysis, this approach is particularly appropriate for the methodological and paradigmatic underpinnings of this project.

Next, I utilized FDA to consider “the implications that flow from these presuppositions and how particular forms of rule have come to be,” and sought to articulate document and/or interview discourses in power relations and (dominant) bodies of knowledge (Bacchi, 2009, p. xiv). As Foucault (1978) posited that authorities maintain influence by strategically deploying discourses to construct and circulate particular forms of knowledge about the material and social worlds (Markula & Pringle, 2006), an FDA approach looks to identify these dominant discourses and ask questions about “where they come from and how they have become dominant” (Liao & Markula, 2009, p. 40; Markula & Silk, 2011). In general, Markula and Silk (2011) outline three stages for FDA (see also Liao & Markula, 2009): (1) examine what concepts emerge and how they form individualizable groups of statements (i.e., identify themes); (2) understand how these individual statements are linked together to create broader ideas, particularly through and with theoretical formations (i.e., analyze the themes), and; (3) connect discourse(s) to power relations and operations of power. The purpose of FDA is not necessarily to challenge the hegemony of

privileged knowledges but rather, to critically investigate how power is used through these dominant discourses to create normative practices, ideas, and behaviors (Liao & Markula, 2009; Markula & Pringle, 2006).

Policy analysis (Chapter 4)

In this chapter, I focused specifically on document texts to provide a foundational understanding for how problems were represented or created, with the understanding that the document text or policy served as the “solution.” This focus emerged out of the understanding that government does not merely react to problems but instead, actively participates in creating “representations” of problems (Miller & Rose, 2008). In the context of (protective) policies, these documents subsequently indicate that there is a problem that requires fixing or that must be addressed—through a this policy. As such, in this chapter, I interrogate the discursive structures that underpin particular problem (and solution) representations in document texts. In doing so, I then problematize underlying assumptions and presuppositions that lie behind the creation, framing, and implementation of each policy.

To analyze document data, I used the two-step analytic process of thematic analysis followed by FDA through a governmentality perspective. In my first stage, I read through the documents multiple times to generate themes that corresponded to my overarching dissertation research questions and provided relevant insights for all three case studies. I coded the data in NVivo 12, drawing on Daly’s (2007) method of open, focused, and axial codes, and generated three codebooks, one for each policy. My intention behind creating separate codebooks was to permit comparison between the case studies during the write-up and thus, construct a broader portrait of protective policies. From the codes developed, I then sorted them into my broad policy analysis categories based on how they aligned with the category’s intention or definition before

grouping them into broader themes. For example, some of the themes within the “normative assumptions” included: calculating an “unhealthy” athlete; medical and scientific definitions of healthy/eligible bodies; Black athletes and a lower health risk; and responsibility placed on individual.

Next, I utilized FDA to investigate how document texts (strategically) deployed certain discourses and knowledges to create rationales behind protective policies and implementation strategies. From the themes developed in the first analytic stage, I was attentive to what types of discourses and syntactical strategies were used to uphold or create these themes while erasing or leaving out alternative discourses or knowledges (Foucault, 1978). For example, when discussing “suspicious athletes,” the IOC’s consensus statement on RED-S specifically denotes that “a high level of *suspicion* of the athlete at risk is needed” for diagnosis (p. 494, italics added for emphasis). Conversely, neither eligibility policy explicitly uses “suspicious” or “suspicion” in their document texts. However, their identification strategies for “Relevant Athletes” subtly characterizes such athletes as “suspicious,” thus sharing this theme with the IOC’s consensus statement, albeit through a different discursive approach. In this vein, I also focused on themes that were present in all three documents in order to draw attention to the connections between them, focusing especially on Rose and Valverde’s (1998) four foci for investigation of the governmental complex: subjectifications, normalizations, spatializations, and authorizations. As I began writing this chapter, I repeatedly went back to the literature on governmentality and protective policies to contextualize my findings within broader relations of power, knowledge, and discourse (Miller & Rose, 2008). In the end, I categorized into Rose and Valverde’s (1998) four foci and presented my findings as narrative descriptions, accompanied by discussions and contextualizations.

Interview analysis (Chapter 5)

I viewed Chapter 5 as foundational to my later comparisons between document texts and interview responses in terms of creating and contextualizing broad themes within the interview data set. At the same time, this chapter can stand alone as it explores how “experts” involved with protective policies draw from (certain) forms of evidence, interpret and/or circulate dominant discourses and knowledges, and navigate the (often) contentious process of creating protective policies (see Wells, 2020). Specifically, my analysis is driven by the following four research questions:

1. How do participations understand the idea of “protection,” and how does this relate to ideals of fair and meaningful competition, athlete health, and inclusion?
2. What values or forms of knowledge do participants draw from to construct ideas of “protection” and how do they justify these understandings?
3. How are protective policies created and agreed upon by participants? What is done in situations of disagreement?
4. How do participants reify, negotiate, or refute normalized ideas of gender, sex, and (women’s) bodies? How do these ideas shape their ideas of protection and, by extension, protective policies?

To analyze the interview data, I again conducted thematic analysis followed by FDA. In the first stage of analysis, I read and re-read interview transcripts, coding key words or phrases that appeared relevant in NVivo 12. I specifically focused on excerpts that related to interpretations of “protection” (i.e., athlete health, privacy, exploitation, safety, fairness), gender and race constructs or stereotypes, and opinions on protective policies. Some of the broad themes generated included:

sports integrity as a constructed idea; mitigated inclusion of women; the purpose of the women's category; and geopolitics and athlete health.

From the themes generated through thematic analysis, I then used FDA in my second analytic stage to examine how participants utilized particular types of discourses and knowledges to inform their understandings of protection, women (athletes), and protective policies (Liao & Markula, 2009). Given that participants often did not share similar opinions, believe in the same values, draw from the same ways of knowing, and define "woman" in the same ways, I examined broad themes that were addressed, to varying degrees, by most if not all participants. My intent was to reflect (as accurately as possible) the heterogeneous responses of participants, thereby demonstrating the complexity of researching, creating, and implementing protective policies.

Comparative analysis (Chapters 6 and 7)

Following individual analysis of the document texts and interviews, I began conceptualizing how I might organize my comparison between the two data sets while also answering the overarching research questions of this dissertation. Ultimately, I divided this comparison into two chapters. The first (Chapter 6) is an overview of the "start-to-finish" process behind creating and implementing protective policies, from both a policy-writing perspective and a governmentality perspective. This begins with rationalizing why protective policies are created, moving next to deciding what forms of evidence are most appropriate, and finally determining the "best" method of enforcing protective policies. Chapter 7 delves more deeply into the rationalities and technologies of protective policies to interrogate the complex relationships that shape protective policies, particularly as they engage sociocultural and scientific dimensions. In particular, I demonstrate how this constructed sociocultural/scientific binary is far from clear-cut

and simple, even as document texts exclusively incorporate medico-scientific discourses (a strategy that is also predominantly utilized by participants).

In terms of data analysis, both chapters draw from the same two-step analytic approach seeking to investigate how, when, and where participants' opinions diverge from what is actually written in document texts. However, these chapters differ in terms of the research questions they seek to address. Because of the different driving aims, in the following sub-sections, I provide a more thorough explanation of the data analysis for each chapter. This is not to say the data analysis processes for each chapter were straightforward or linear; rather, the opposite was the case which is in line with the epistemological and ontological underpinnings of this project. Instead, it was an iterative, messy, and sometimes frustrating cycle—much like creating and implementing protective policies.

Creating protective policies (Chapter 6). In this chapter, I drew from my findings in the previous two chapters, and also re-analyzed the two data sets (i.e., document texts and interview transcripts) to compare and place them in conversation with each other. Through this multiple and iterative analytic process, my aim was to provide a broad, exploratory examination of how and why protective policies are developed. Namely, how participants' opinions, perceived “problems,” and recommended “solutions” were incorporated, ignored, or negotiated in document texts. In particular, this chapter was driven by the following research questions:

1. How are notions of “woman” constructed and how do they shift across policies and/or within a policy?
2. How are women and their bodies governed through protective policies?

3. What counts as evidence in protective policies? How is knowledge justified and translated into policy, especially when this/these form(s) of knowledge is/are sometimes controversial?
4. How do document texts and participant responses contrast and/or converge in their rationales and technologies of governing?

In the first stage of thematic analysis, both sets of data were coded in NVivo 12, though were kept separate to later compare themes between interviews and document texts, as well as with themes from Chapters 4 and 5. Analyzing one data set at a time, I read through the documents and interviews line-by-line and drew on Daly's (2007) method of open, focused, and axial codes to generate two separate codebooks. Some of the broad themes generated included gender and sex differences, desired or necessary characteristics of protective policies, athlete health, and sporting norms and cultures. I then brought all data sets together (i.e., the two developed for this chapter and from Chapters 4 and 5) to draw linkages between the themes developed.

Next, I utilized FDA to investigate how rationales, technologies, and definitions of "woman" were constructed and developed. Throughout this stage of analysis, I was attentive to how different discourses were mobilized to construct rationales and technologies of governing, and how these differed between policy texts and interviews. From the previous themes generated, I focused on how they utilized certain discourses to construct particular understandings of "woman" and "protection." I examined themes that included responses from most, if not all, participants and which were also found in the policy texts. My intent was to faithfully illustrate the nuanced and diverse opinions of the participants, as grounded in the policy texts. As I began writing this chapter, I iteratively consulted relevant literature to contextualize these themes within broader relations of power and government (Markula & Silk, 2011; Miller & Rose, 2008).

Understanding protective policies (Chapter 7). While Chapter 6 was an overview of creating and implementing protective policies, I approached Chapter 7 as a closer investigation into the tensions behind and within the rationales and technologies of protective policies, especially with consideration to the relationship between scientific and sociocultural dimensions. To do so, I focused on the remaining overarching research questions for this dissertation:

1. Which bodies are viewed as requiring or deserving of protection, which are excluded to afford this protection, and how do varying definitions of “woman” affect interpretations and consequences of protective policies?
2. How is science mobilized to do political work? How and under what contexts are sociocultural and human rights-based dimensions that organizations purport commitment to, such as inclusion, non-discrimination, and gender diversity, taken into consideration?
3. What is the “spirit” or “meaning” of elite women’s sport and how do policies balance the pastoral protection of women rooted in biological sex differences, with the historical structural oppression of women athletes?
4. How do document texts and participant responses contrast and/or converge?

While I had already developed multiple codebooks and themes from previous chapters, in my first analytic stage, I again coded both data sets in NVivo 12 with consideration to the above research questions and created separate codebooks⁴⁶. I read through both data sets line-by-line, adding

⁴⁶ As Braun and Clarke (2019) note, the processes of coding and theme development is flexible, organic, and often evolves throughout the analytic process. Moreover, in reflexive thematic analysis, the researcher’s role in knowledge production is a key factor with generated themes derived from the intersection of the researcher’s theoretical assumptions, their analytic resources and skill, and the data itself (p. 594). As foreshadowed by their statement, “qualitative researchers are always thinking, reflecting, learning and evolving,” my own research skills, theoretical understanding, and overall thinking changed and developed throughout writing this dissertation (p. 592). In addition to the different research questions I sought to answer in each chapter, using the themes developed from previous chapters would neither have been in line with the methodological underpinnings of this dissertation, nor would have been an appropriate use of thematic analysis. As such, I re-analyzed the data sets in each chapter, with consideration to the relevant research questions and to illustrate my development as a researcher.

nodes for significant opinions, characteristics, and ideas (Daly, 2007). Some of themes generated in this stage included a fair playing field, sport as a risk factor, and health-related interventions for women. I then brought together all themes developed across the four dissertation chapters and sorted them thematically by the driving research questions for this chapter.

Next, I used FDA to examine how document texts and participants strategically use (certain) discourses to create and uphold ideas relating to “protection” and “woman.” As I did with Chapter 6, I specifically focused on themes that engaged most, if not all, document texts and participant responses in order to illustrate the overarching ideas that emerged from participant opinions, as written into document texts. From the themes developed and categorized from the previous analytic step, I focused on how and which discourses were used to create or justify interpretations of “protection” and “woman” as they related to the women’s category and/or women’s bodies. I was particularly interested in the negotiations, erasures, or privileging of scientific (or, sometimes, sociocultural) discourses to uphold these constructed ideas. This often did not develop into a single cohesive opinion or discourse but instead, were multiple and sometimes conflicting (Foucault, 1978). As with previous chapters, as I began writing up my findings in this chapter, I continued to return to relevant literature to ensure these themes were contextualized in power relations and operations of power (Liao & Markula, 2009; Markula & Pringle, 2006).

Chapter 4: Creating Problems, Writing Solutions: A Governmentality Analysis of Protective Policy Documents

Document texts serve as one component of the intricate governmental complex that Foucault (1978; 2003a) and other governmentality studies scholars (Miller & Rose, 2008; Rose & Valverde, 1998; Rose, O'Malley, & Valverde, 2006) have described, and is the focus of this chapter. To conduct a comparative policy analysis of the three case studies, I use the two-step analytic approach of thematic analysis and FDA. In particular, I focus on the document texts themselves to identify their proposed “problems” and “solutions.” By examining these two aspects, I look to place each policy’s findings in conversation with the other two to highlight their similarities and differences, with particular consideration to their rationales and technologies of governance. For brevity purposes, in this chapter, I refer to the IOC Consensus Statement on RED-S as the “IOCCSR,” World Athletics’ female eligibility policy as the “WAFER,” and World Athletics’ transgender eligibility policy as the “WATER.” My intention is to provide a critical reading across all three policies and provide a broad examination into the contexts surrounding their creation, as well as the unproblematic logics that inform their dominant discourses, ways of knowing, and power hierarchies. Based on my analysis, I bring to light the implications of the logics underpinning the documents and identify a number of possible (un)intended consequences to which I return in my discussion section.

Given that the three case studies are written for and on behalf of their respective organizations, all are “fundamentally organizational policy documents” that lack neutrality or independence (Bekker & Posbergh, 2022, p. 188). Indeed, these policies (and the science upon which they are based) are “*always* inherently value-laden” and open the possibility to “uphold and entrench white, hetero-sexist power structures that shape and benefit the organisations themselves”

(Bekker & Posbergh, 2022, p. 188; Ahmed, 2019; Pawson, 2006). Through using the analytic approach outlined in Chapter 3, I interrogate the underlying discourses that shape the representations of “problems,” as well as the proposed “solutions.” In doing so, I look to understand how, why, and when their protective intentions and definitions of “woman” differ in policy texts. I especially focus on how medical and scientific discourses are strategically utilized to create particular knowledges (namely, medico-scientific ways of knowing) as common sense and ostensibly “objective,” such as the “healthy” athlete (Waitt, 2010). I show how, through these efforts, social, cultural, and political factors are embedded in the documents, but often in a way that is hidden given the use of medical discourses to biologize of race and gender (Foucault, 1971). The result is the maintenance and circulation of binary and normalized ideas around “woman,” which are derived from dominant and essentialized ideas of gender, sex, and race. In turn, these reinforce hierarchical power relations between authority figures and those impacted by protective policies (e.g., athletes) and are justified through strategically referencing (constructed) ideas of health and fairness.

An Analysis of Problematizations, or, “What’s the Problem Represented to be?”

As discussed in Chapter 2, a “problem” is constructed, rather than being an objective or universal idea. Once a problem is created, a response is necessitated and often engages legal complexes, mechanisms, or strategies (Miller & Rose, 2008). In Rose and Valverde’s (1998) discussion of the “legal complex,” they draw attention to the role of “social law,” or law that ascribes to the power of norms. Within this discussion, they note the distinction between the roles of “rules” and “norms.” Whereas “rules” are imposed upon individuals and create an external and “extrinsic standard of authority, morality, virtue, order, duty or obedience,” norms emerge from “the very nature of that which is governed” (p. 544). In other words, norms are based upon and are

legitimized by their very normality, in contexts such as the normal family, the normal body, normal behaviors, normal conduct. The challenges of governing through norms (rather than rules) is that it is derived from its community and subjects, complicating binaries of “legal” and “illegal” while enacting an individualizing gaze upon each subject to hold them to a “normative” and common standard (Foucault, 1978; Rose & Valverde, 1998).

This is not to say that rules and laws are moot. In fact, Rose and Valverde (1998) are careful to state that legal reasoning has not been completely eradicated in lieu of the normative. Rather, they remark that the idea of a unified and objective “Law” is a myth and instead, is constructed through a network of legal concepts, discourses, personnel, and textbooks, to name a few. As a result, they suggest the key focus for a governmentality analysis should ask how a particular problem emerges as a “problem” for government. That is to say, rather than investigating a law itself, they call for an “analysis of problematizations” (Legg, 2012; Miller & Rose, 2008). This distinction of “problematizations” rather than a problem itself is important for governmentality studies research as problems are “not pre-given, lying there waiting to be revealed. They have to be constructed and made visible” (Miller & Rose, 2008, p. 14) through complex and often slow processes (i.e., “problematizations”).

Indeed, such an approach has proven useful for scholars investigating the intersections of sport and policy, as illustrated in Brömdal, Olive, and Walker’s (2020) recent exploration of the “rationales and socio-political agendas of regulating [Relevant Athletes], the implications this series of governing have had on the athletes in question, and how the representation of [Relevant Athletes] as a ‘problem’ can be interrogated, disturbed, or abolished all together” (p. 3). To do so, they draw from Carol Bacchi’s (2009) critical policy analysis framework, which looks to Foucault’s ideas of discourse, power, and government as she proposes a systematic methodology

to question taken-for-granted assumptions within policies. Introducing this as her “what’s the problem represented to be?” (WRP) approach, Bacchi (2009) proposes examinations of government to include multiple dimensions such as experts, professionals, policies, and/or laws that are fundamental in circulating and normalizing particular discourses and ways of knowing (Miller & Rose, 1990). Noting that her approach is not to identify “real problems,” she explains that this methodology focuses on “how ‘problems’ are *represented*” (Bacchi, 2009, p. xxi; italics in original). That is to say, the presence of a policy or policies implies that there is a problem that requires fixing or that something needs to change. When a policy is created, there is a certain “endogenous” nature to the creation of a “problem,” or as Bacchi (2009) elaborates, “policies *give shape* to ‘problems’; they do not *address* them” (p. x). Government, in all its myriad forms, does not *react* to problems but rather, is an active agent in creating “representations” of problems (Miller & Rose, 2008). Consequently, the subjective nature of “problems” invites critical interrogation into the forms of knowledge that inform rationales and technologies of government (Foucault, 2003a).

Problem Statements

As Rose and Valverde (1998) explain, it is commonplace (though not the approach they propose in their analysis of problematizations, see p. 545) to ask how “the law” regulates or governs a practice, or, what “problem(s)” are purportedly “solved” by each document. In this regard, all three documents clearly outline their “problem statement” (i.e., what the documents’ authors perceive the problem to be). For example, the IOCCSR’s problem statement and corresponding purpose are twofold. First, the document notes the IOC’s purported goal of protecting the health of the athlete. Given that energy deficiency (and the “female athlete triad”) has performative and potentially long-term health consequences, the IOCCSR is meant to provide

guidelines to the athlete health support team, which includes coaches, healthcare professionals, sports organizations, and researchers, for the purpose of diagnosing, preventing, and/or treating symptoms of RED-S (p. 491). Second, as the scientific evidence regarding the “female athlete triad” has evolved in the intervening years since the original IOC position stand statements, the IOCCSR seeks to update and replace these documents with new scientific knowledge on RED-S. The new information involving RED-S and related symptoms is, in fact, what prompts the label shift from “female athlete triad” to “RED-S,” as the authors underline its routinely overlooked existence in male athletes, specifically noting “it is evident that relative energy deficiency also affects men” (p. 491).

The WAFER also presents two dimensions to its problem statement and purpose: (1) to “encourage and provide a clear path to participation in the sport for all,” thereby making the “sport of athletics to be as inclusive as possible” (p. 2), and; (2) “to ensure fair and meaningful competition,” particularly in the women’s category (p. 2). To attain these two goals, World Athletics creates separate sex-based competition categories for women and men, based primarily on the argument that on average, men enjoy “significant advantages in size, strength and power” from their higher levels of circulating testosterone (p. 2). Put differently, World Athletics argues that, considering the physical distinctions between women and men that contribute to performative differences between women and men (on average), to ensure the longevity of and (vener of) fairness in track and field, it is vital to create binary and biocentric competition categories for women and men.

The WAFER’s goals and corresponding rationale(s) are also utilized within the WATER regarding the physical differences between male and female bodies, as well as drawing from the broad athlete health goals of the IOCCSR. Overall, the WATER expresses three dimensions to its

problem statement: (1) “protect the health and safety of participations;” (2) “guarantee fair and meaningful competition that displays and rewards the fundamental values and meaning of the sport;” and (3) “be as inclusive as possible” (p. 1). In this vein, World Athletics again argues that it is necessary to impose separate competition categories for women and men to achieve all three aims (p. 1). Building on the “fundamental values and meaning of the sport,” World Athletics especially notes that the organization “wants its athletes to be incentivised to make the huge commitments required to excel in the sport, and so to inspire new generations to join the sport and aspire to the same excellence” (p. 1). Despite these restrictions on eligibility, World Athletics notes that the organization endeavors to maximize inclusivity by “impos[ing] only necessary and proportionate restrictions on eligibility,” thus “provid[ing] a clear path to participation in the sport for all” (p. 1).

Returning to Rose and Valverde’s (1998) observations, the arguably more significant question in a governmentality analysis is how these “problems” emerge as a target for policies and, as I discuss in later chapters, policy scientists, researchers, and authors. In other words, what practices mold, shape, and create the “problems” and problematizing experiences? Investigating this question engages what Rose and Valverde (1998) describe as an “analysis of problematizations” (p. 545). As I will demonstrate, all three document texts engage multiple strategies to circulate dominant discourses and knowledges, thereby preserving power relations relating to race, gender, sex, and (geo)politics.

Findings

To examine these texts, I look to Rose and Valverde’s (1998) four foci for an investigation of laws and norms from the perspective of government: subjectifications, normalizations, spatializations, and authorizations. Rose and Valverde (1998) specifically propose these four foci

as elements of an analysis of problematizations given that “the [governmental] complex had itself become welded to substantive, normalizing, disciplinary and bio-political objectives having to do with the re-shaping of individual and collective conduct in relation to particular substantive conceptions of desirable ends” (p. 543). Put differently, examining each of these foci provides insight into the multiple factors and dimensions of constructing “problem(s)” for government and techniques (or “solutions”) of government. Taken together, these four foci assist in understanding the process and roles of authorities and legal complexes in creating rules and norms, as well as governing conduct.

In what follows, I discuss six policy analysis findings, organizing them to correspond with Rose and Valverde’s (1998) four foci of investigation of laws and norms. First, I examine two strategies of authorizations: (1) elite discourse and the dominance of medico-scientific knowledge, and (2) scientific integrity and human rights accountability standards. Next, I look at how document texts reinforce and create notions of the “suspicious” athlete, thereby constructing ideas of “normal” and “abnormal” bodies (i.e., normalization). Third, I describe how document texts biologize ideas of gender and race, which reflect processes of subjectifications. Lastly, I examine how both the focus on the individual athlete and prescribed methods of monitoring compliance act as spatializations. I close by this chapter by contextualizing and discussing these findings as a whole.

Authorizations

Rose and Valverde (1998) describe authorizations as mechanisms or processes that endorse “disciplinary and bio-political authority” to regulate or exercise their authority over others (p. 55). To this end, the scientific nature of all three policies plays a significant role in reasserting the authority of the sponsoring organization (i.e., the IOC or World Athletics), its health and science

department (in the case of World Athletics), or its Medical Commission (in the case of the IOC). Specifically, in researching and writing their respective protective policy/policies, both organizations primarily draw from the “objective” characterization of medicine and (appearance of) some kind of external or universal accountability standards. In turn, this preference for the presumed “objectivity” of medico-scientific knowledge manifests in two strategies: (1) the establishment of medico-scientific discourse as “elite” discourse and its circulation throughout document texts, and (2) the purported commitment to scientific integrity and human rights accountability standards.

Elite discourse and the dominance of medico-scientific knowledge

Throughout all three policies, there remains a heavy focus on medico-scientific discourses to identify “suspicious” or “problematic” athletes (I return to the idea of “suspicious” athletes in the “normalizations” section). The utilization of highly technical language to construct such a category of athletes supports the dominance of medico-scientific knowledge, as well as reinforcing a purportedly universal “truth” around what constitutes a “healthy” or “appropriate” athlete. In Thurlow and Jaworski’s (2017) special issue in *Social Semiotics*, they introduce the idea of *elite discourse* to describe “the language and communication of elite people, defined in terms of their material wealth, power or demographic rarity...[and] language and communication that is *elitist*, determined loosely by its appeal to distinction through excellence, superiority or distinction” (p. 244, italics in original). While elitist discourses can be found in preferences, pronunciations, mass media, and conservation/humanitarian efforts, to name a few, they also pervade in medicine and science. For protective policies, which are united through their reliance on medical knowledge and evidence, medico-scientific language acts as a form of elite discourse to regulate and police women’s bodies.

Part of medico-scientific language's elitist characterization is in both its authority and inaccessibility (Andrews, 2000; Jordan-Young & Karkazis, 2019a). For example, STS scholars, cultural anthropologists, and sociologists studying the phenomenon of intersexuality and individuals with intersex/DSD conditions have highlighted the omnipotent authority of physicians and unquestioned sovereignty of medical diagnoses (Davis, 2015; Fausto-Sterling, 2000; Karkazis, 2008; Kessler, 1998; Reis, 2009). In her examination of treatment guidelines developed in 2005 for infants born with "intersex diagnoses," Karkazis (2008) notes that,

the power of medicine and science lies in their ability to define what is natural, to name nature and human nature, and in their claim or hope to return individuals to a more natural state or way of being. Medicine and science are grounded in the taken-for-granted status accorded to biological 'facts.' (p. 11)

The assumed objectivity of medical discourses not only constitutes primary methods of understanding and defining bodies, but also remains unproblematized given its assumed "objectivity." Subsequently, a separation between the "haves," or those versed in medical, elitist discourses (e.g., physicians, healthcare personnel, organization-affiliated researchers), and the "have nots," or those who are less familiar with these linguistic tendencies (e.g., the athletes, the general population), emerges and reiterates the dominance of science. In this vein, Gensini et al. (2005) observe that medical knowledge "has always been the expression of a closed social class...the medical class [is] a privileged entity that acted as a repository of knowledge which could not be shared" (p. 64). That is to say, the inaccessibility of medico-scientific language fortifies the unquestioned authority of medico-scientific knowledge by making it so such discourses can broadly remain unchecked.

Medical and scientific knowledge has increasingly become the dominant form of knowledge in sport and spaces of physical culture and indeed, acts as a form of pastoral power (Holmes, 2002; Jette, 2006; Jette & Rail, 2014; Markula & Pringle, 2006; Rose & Miller, 1992).

This emerges through several contexts, but of relevance to this dissertation are increasing concerns on doping, focus on athlete health, and maximization of athletic performance (Malcolm, 2012; Wells, 2020). Though these discourses sometimes explicitly appear alongside sociocultural knowledge (an entanglement that I will discuss in Chapters 6 and 7), often, these dimensions are baked into medico-scientific discourses and thus, only reflect or appear to draw from the latter. When examining the supporting documents and texts within the three case studies, it is clear that they fall within this trend as all are considered “scientific” forms of evidence (Bermon & Garnier, 2017 for World Athletics’ female eligibility policy; the collation of sources in Mountjoy et al., 2014/the IOCCSR; Handelsman, Hirschberg, & Bermon, 2018 for World Athletics’ transgender eligibility policy).

While the IOCCSR provides guidelines for all parties involved in the diagnosis and treatment of RED-S, the predominant inclusion of heavily technical and medical discourses bolster sport’s autocratic structure to specifically benefit those in positions of power and authority. To aid those who can and should intervene in cases of damaging athlete health behaviors, the IOCCSR details physiological factors that contribute to the onset of RED-S. However, the proposed solutions grant authority and discretion to physicians, healthcare professionals, administrators, and coaches, rather than the athletes. To maintain this level of authority, the document engages medical and scientific language to describe how RED-S manifests and appropriate treatment strategies, thereby perpetuating a divide between those who are fluent in such technical language (i.e., researchers, scientists, physicians) and those who most likely are not (i.e., the athletes). Even while acknowledging that the “screening and diagnosis of RED-S is challenging” (p. 494), the authors later remark,

Since low [energy availability, EA] plays a pivotal role in the development of RED-S diagnosis should focus on identification of the presence and causes of the low EA...EA is

equivalent to [dietary energy intake, EI] minus the cost of exercise energy expenditure (EEE) relative to [fat-free mass, FFM] or lean body mass: $EA \text{ (kcal/kg FFM/day)} = (EI \text{ (kcal/day)} - EEE \text{ (kcal/day)})$. The measurement of each of these components requires experience and is generally imprecise. (p. 494)

Defining low energy availability as an equation rather than a complex conglomerate of cultural, physiological, and social dimensions not only reasserts the dominance of medico-scientific knowledge (while effectively erasing social and cultural factors), but exclusively places the diagnosis of athletes with RED-S in the hands of those who are well-versed in such discourses. The characterization of such persons as the “only” authority figure or person who can then help the athlete reinforces problematic power hierarchies. This also opens the door for such individuals to exploit these unequal relationships, which can result in situations of abuse, harassment, and collective silence (as illustrated in the USA Gymnastics scandal and Mary Cain’s experiences at Nike).

Likewise, the fundamental premises of the WAFER and WATER are based on (Western) medical and scientific definitions of bodies. Immediately on its first page, the WAFER notes that, while World Athletics seeks to create an inclusive training environment, “biological sex is an umbrella term that includes distinct aspects of chromosomal, gonadal, hormonal and phenotypic sex, each of which is fixed and all of which are usually aligned into the conventional male and female binary” (p. 2). Yet, as critical feminist scholars have noted, “sex” is a complex entanglement of social, cultural, political, and biological dimensions, thereby refuting the idea that “sex” is derived purely from biological or physical attributes as is suggested in the two eligibility policies (Butler, 1990; Fausto-Sterling, 2000; Frost, 2014; Richardson, 2013). By maintaining that “sex” is purely based on physiological characteristics, the WAFER’s definition and application of “biological sex” mirrors historical manipulations of medico-scientific evidence that seek to create a dual-sex model based on differences between men and women. This is notable as scholars have

revealed how this seemingly “natural” binary categorization of “female” and “male” bodies was, in fact, influenced by cultural, moral, and political necessities rather than biological certainty (Dreger, 1998; Fausto-Sterling, 2000; Richardson, 2015).

More broadly, the centrality of a rigid “biological sex” permits the WAFER to further justify its division of “sex”-based categories through testosterone levels, as determined by those well-versed in such medico-scientific and elite discourses. Though the WAFER lacks the same recurrent technical language as the IOCCSR, the document maintains a focus on medically-prescribed definitions of “eligible” bodies, repeatedly noting its intolerance of “stigmatisation or improper discrimination on grounds of sex or gender identity” (p. 6). Through relying on and circulating medical discourses, World Athletics can thus claim that their determinations of “eligible” bodies are based purely on science (and are therefore objective), and do not incorporate or uphold biologized or stereotyped understandings of (women’s) bodies. In other words, the presumed neutrality of science overrides any and all arguments of bias or discrimination. This is particularly illustrated in the policy’s definition of a “Relevant Athlete,” which reduces the athlete to medical conditions and biological measures:

A “Relevant Athlete” is an athlete who meets each of the following three criteria: (1) she has one of the following DSDs...; (2) as a result, she has circulating testosterone levels in blood of five nmol/L or above; and (3) she has sufficient androgen sensitivity for those levels of testosterone to have a material androgenising effect.” (p. 4, underline in original)

In other words, classifying whether an athlete is eligible to compete in the women’s category is determined by scientific processes to: (1) diagnose an athlete with a particular DSD condition; (2) evaluate her testosterone levels; and (3) determine the potential androgenizing effect and androgen sensitivity. Determining if an athlete is a “Relevant Athlete” subsequently requires Western medical knowledge to diagnose and calculate testosterone levels of athletes: ways of knowing that are both exclusive to the medico-scientific field and Western medical institutions. In turn, the

elitism of medico-scientific knowledge is reinforced through geographic, cultural, and racial power relations and hierarchies. This is further substantiated through the WAFER's reduction of women (both impacted by the WAFER and not) to their medical conditions and biological attributes, which subsequently erases the lived experiences of athletes. In doing so, there emerges a purported division between sociocultural and medical dimensions of athletes and bodies, with the latter being more privileged than the former (Pape, 2019a). Moreover, this permits World Athletics to reinforce their claims that relying on testosterone boundaries for "eligible" bodies is not stigmatizing or discriminatory because it is based on "objective" science.

Lastly, the WATER also mirrors the highly technical, medical, and elite discourses of the IOCCSR and the WAFER. Even as the WATER infrequently incorporates discourses of "gender identity" throughout the document, a significant focus remains on the scientific definition of an eligible transgender athlete through testosterone levels. This focus persists especially in the document's Medical Appendix (which I will more elaborately discuss in the following sub-section) and comment of: "diagnosis of transgender identity is usually straightforward among adults," which is immediately followed by suggesting hormone therapy as an appropriate medical treatment (p. 12).

Assuming simplicity in diagnosing "transgender identity" implies knowledge and understanding of what transgender *is* and *means*. As Stryker (2012) explains, the term "transgender" originated from Anglophone North American gender-variant communities as a means to challenge the conventional dichotomy of "male" and "female." However, definitions associated with appropriate transgender bodies have been "variously resisted, adopted, creatively transformed, and critically redeployed" outside the West and Global North, obfuscating a universal interpretation (Stryker, 2012, p. 287). Specifically, outside of the United States, Western Europe,

Canada, Australia, and New Zealand, the terminology and bodily understandings of “transgender” and “transgendered identities” are not necessarily congruent to scientific Eurocentric definitions. Thus, World Athletics’ discursive strategy of characterizing this as a “simple” diagnosis denies diverse and multicultural understandings of transgender while privileging Western medico-scientific discourses and “treatment” strategies to conform transgender bodies to arbitrary eligibility measures. Correspondingly, alternative ways of understanding the body are erased as achieving such standards require the involvement of those who are versatile in elite, Western, medico-scientific discourses and thus, exclude those who do not have access to necessary technologies and physicians.

Human Rights and Scientific Integrity

Science-supported protective policies that are created by and for (sports) organizations are (intended to be) beholden to scientific integrity and human rights accountability measures. Not only does this ostensibly ensure that its rules and guidelines are ethically-based, but in doing so, deems the policy (and its sponsoring organization) as capable or worthy of exercising its authority over its constituents (Rose & Valverde, 1988).

Scientific Integrity. The first standard, scientific integrity, is necessary as scientific evidence fundamentally guides how and through what means the documents are created and which women athletes are impacted/protected. To this end, the IOCCSR and WAFER have especially been the subject of varying levels of scientific scrutiny in terms of overlooking bodies of literature (the IOCCSR) and developing flawed and obscured scientific evidence (the WAFER). For the IOCCSR, while appreciating the attention drawn to the occurrence of energy deficiency in men, female triad scholars such as De Souza and colleagues (2014) have highlighted the erroneous scientific evidence within the IOCCSR in relation to hormonal and metabolic imbalance, health

and performance, screening and diagnosis, and treatment. In particular, they argue that these errors misrepresent, overlook, or encourage distraction from the substantial body of work on the female athlete triad (p. 1461).

As for the WAFER, there has been ample criticism highlighting the dubitability of scientific “evidence” associating testosterone with performative excellence (Jordan-Young & Karkazis, 2019a; Karkazis & Jordan-Young, 2018; Karkazis et al., 2012) and non-transparent or erroneous scientific creation to support the policy (Pielke, Tucker, & Boye, 2019; Tannenbaum & Bekker, 2019). In particular, Pielke, Tucker, and Boye (2019) analyze the original data used by World Athletics to establish its testosterone limit in the WAFER as a means of evaluating the “scientific integrity” of both the research and the WAFER. Drawing from Douglas and Bour’s (2014) definition of “scientific integrity,” they find that World Athletics lacks “proper reasoning processes and handling of evidence essential to doing science,” as well as a lack of “respect for the underlying empirical basis of science” (p. 19). Their noteworthy findings were subtly echoed in the later-published correction to Bermon and Garnier (2017), which re-characterized the study as “exploratory” rather than “causal” (Bermon & Garnier, 2021).

Yet, the authority of the both World Athletics and the IOC has remained largely intact, despite these criticisms. As Foucault (1984) observes, “truth” is not objective, but rather, is a matter of power relations and thus, discourse and knowledge (Mills, 2003). In other words, the discursive structures that shape what is “knowable” and “sayable” create a “regime of truth” that is specific to particular societies and contexts (Foucault, 1984, 2003b). “Truths” are formed from “types of discourse which [society] accepts and makes function as true,” and are inherently produced and sustained between systems of power (Foucault, 1984, p. 72). In the context of these three documents (and their sponsoring organizations), it is not necessarily the actual truthiness or

ethicality of the science cited in the documents that matters, but the *image* of scientific integrity or, more specifically, the veracity associated with science’s falsely “objective” nature. Drawing from peer-reviewed articles or science from “credible” authors (most, if not all of whom are intimately associated with the IOC and/or World Athletics) further contributes to this authorization, even as critics push back or resist its authority.

Human rights. While medico-scientific discourse retains a level of authority and dominance over other forms of knowledge, increasingly, there is broader recognition of the importance of social and cultural dimensions, particularly in spaces of physical culture and sport (IOC, 2021b). Thus, the second important accountability measure for science-supported protective policies—human rights—is equally as fundamental⁴⁷. This is particularly the case considering that sports organizations, such as World Athletics and the IOC, increasingly tout their commitments to external human rights standards. Their vocalized support and endorsement (regardless of action as I will discuss below) subsequently supports the authorization of both the documents and their sponsoring organizations.

In July 2020, World Athletics appointed a Human Rights Working Group for the purpose of “developing a human rights framework for the organisation and making any recommendations to further implement human rights at World Athletics” (Centre for Sport and Human Rights, 2021, para. 1). During the 2021 Summer Olympic Games in Tokyo, World Athletics received its report from the Working Group in which they

acknowledged that World Athletics has already started on a human rights journey, and that there is a timely and important opportunity to strengthen and build on this and take further

⁴⁷ Part of the logic behind increasing commitments by sports organizations to human rights standards is a growing acknowledgement that sport shapes and is shaped by society. However, as I discuss in Chapter 5, this relationship is far from straightforward, particularly in terms of what societal values are reflected in sport, how to incorporate such values, and even if incorporating certain values is necessary or feasible. Nonetheless, there is a general recognition that the values within and consequences resulting from sport contribute to broader societal impacts.

steps to put in place systems and processes that focus on preventing harm to people. (World Athletics, 2021, p. 7)

Likewise, in the IOC's recent framework on "Fairness, Inclusion, and Non-Discrimination on the Basis of Gender Identity and Sex Variations," the organization notes that this particular document was created to reflect its "commitment to respecting human rights (as expressed in the Olympic Agenda 2020+5) and as part of the action taken to foster gender equality and inclusion" (IOC, 2021a, p. 1). Outlining ten key principles to guide policy development processes—prevention of harm; non-discrimination; fairness; no presumption of advantage; evidence-based approaches to regulation; the primacy of health and bodily autonomy; a stakeholder-centered approach to rule development; the right to privacy; periodic review of eligibility regulations—the IOC's framework condemns gynecological or physical examinations for the purpose of determining an athlete's sex, as well as requiring athletes to "undergo medically unnecessary procedures or treatments to achieve eligibility standards" (IOC, 2021a, p. 5). Such practices have also been condemned by human rights-focused groups such as the United Nations Human Rights Council (UNHRC, 2019; see also Patel, 2021) and the World Medical Association (WMA, 2019). Though the IOC cannot dictate how international federations create their policies or what evidence is utilized in policy development processes, the framework nonetheless implores the federations to take these ten principles into consideration (IOC, 2021a; Storr, Pape, & Bekker, 2021): a request that has the potential for significant ramifications for the WATER and WAFER. Through seemingly taking into consideration the concerns of globally-recognized and respected human rights-based organizations such as the United Nations and the World Medical Association, the IOC subtly reinforces its right and authorization to exercise influence over, not just Olympic athletes, but other international federations (e.g., World Athletics).

Nonetheless, World Athletics has reasserted their decision to continue using testosterone-based boundaries for Relevant and transgender athletes (Dowdeswell, 2021). At the same time, the organization continues to espouse its commitment to human rights, inclusion, and non-discrimination, as discussed previously in this section. Yet, I argue that the curious disconnect between human rights abuses in using testosterone-based eligibility standards (see UNHRC, 2019; WMA, 2019) and World Athletics' choice to continue using these "scientific" boundaries in both its policies remains in-line with its policy discourses. More specifically, the WATER and WAFER *clearly* state that there will be no tolerance for stigmatization and discrimination, while using a method that has been illustrated to result in these very situations (see Bekker & Posbergh, 2022; Karkazis & Carpenter, 2018; Karkazis & Jordan-Young, 2018; Pape, 2020b, 2020d; Tannenbaum & Bekker, 2019). However, World Athletics is able to continue making such claims because they purport that their use of scientific evidence is "objective" and thus, is exempt from bias or discrimination—an argument that has been iteratively debunked by critical feminist, race, and STS scholars (see Fausto-Sterling, 2000; Hannah-Jones, 2021; Jordan-Young & Karkazis, 2019a; Kendi, 2017; Pape, 2019a; Wilson, 2015). Still, while the organization has not reconciled these disparities, asserting their commitment to beginning on a "human rights journey" nonetheless reinforces their authority and credibility (despite lacking systemic, crucial action).

Normalizations

Normalizations contribute to the production of normative or normalizing practices, which are neither singular nor universal. Rose and Valverde (1998) note that "normalization does not describe an achievement, but rather a kind of mobile and heterogeneous transactional zone of conflict and alliance between forms of expertise" (p. 549). Within the protective policy document texts, normalizations manifest in the creation of "suspicious" athletes, which are predicated on the

establishment of a “normal” category (i.e., “normal” bodies or “normal” women) as related to health, aesthetics, or hormonal levels.

“Suspicious” athletes

While scholars have critiqued the manipulation of biology to either exclude women from sport and physical activity or to limit their involvement (Cahn, 2015; McDonagh & Pappano, 2008; Theberge, 1991; Theberge & Birrell, 1994; Thorpe, 2016; Vertinsky, 1988; Wilson, 2015), there simultaneously exists a biological reality for sex differences and sex-related health concerns. The tensions and confluence between material bodies and socio-political elements subsequently prompts questions around *how* to identify athletes in need of protecting, particularly through protective policies. Despite the centrality of scientific evidence in protective policies, especially in cases of treating, preventing, and diagnosing specific (and often undesirable) conditions in women athletes, there remains a predominant focus on identifying “suspicious” individuals through particular behaviors, appearances, or habits. In doing so, the documents reinforce the idea of the “normal” athletic women’s body, undergirded by dominant discourses of sex, gender, race, and nationality.

Identifying “suspicious” athletes sharply contrasts with the profuse medico-scientific discourses utilized within the three policies and, instead, engages socio-political ideas of “normal” bodies. Yet, the entanglement of “normal,” “athletic,” and “suspicious” is, perhaps, not unexpected. As C.L. Cole (1993) notes, “the athletic body is always already a suspicious body,” later specifying that this is especially the case for women athletes: “the female athletic body was and remains suspicious because of both its apparent masculinization and its position as a border case that challenges the normalized feminine and masculine body” (p. 90). Similarly, feminist historians have pointed to irreconcilable divides between “appropriate” expressions of femininity,

assumed limits of women's bodies (i.e., the "frail female body"), and the demands of sport as strategies to keep women out of physical activity and sporting spaces (Cahn, 2015; McDonagh & Pappano, 2008; Verbrugge, 2002; Vertinsky, 1990).

Such rationales continue to persist in contemporary contexts, albeit through altered technologies (Wells, 2020). For example, critics and "body experts" have suggested that strong women athletes are "unconventional" in taking on masculine attributes or have "questionable" femaleness (Heggie, 2010; Pieper, 2016; Verbrugge, 2002). Black women athletes are especially forced to "contend with racial stereotypes that white women [do] not, such as the hypersexualized black female or the natural black athlete," which characterizes them as inappropriately or falsely feminine or, in the context of protective policies, ostensibly perceived as not needing protection (Lansbury, 2014, p. 6). Bolstered by the purportedly "objective" nature of science to "prove" these rigid binary ideas of sex/gender, constructions of "woman" and "femininity" subsequently engage *both* social and medical boundaries of constructed ideas of "woman" and "femininity." Correspondingly, "suspicious" women athletes reflect violations of normalized medical and social boundaries of "femaleness" and "femininity."

With fears that athletic women were encroaching on the male dominance of sport (as well as developing deemed "masculine" characteristics, thereby disrupting their "natural" femininity), cultural concerns emerged in response to the "erosion of men's physical supremacy" (Cahn, 2015, p. 20). This then prompted political, social, and medical suspicions of (successful) women in terms of sexuality, sex, and gender identity, coupled with increased efforts to control and discipline women's inclusion in sport. This can and does result in forms of "mediated inclusion" for women athletes, which incorporates varying levels of restrictions especially for women who either engage

in “unhealthy” behaviors or fail to conform to “normal” aesthetic or bodily standards. I will discuss this idea at greater length in Chapter 7.

In particular, critical feminist and sports scholars have highlighted how female eligibility policies have acted and continue to act as a technology to control women, despite changing nomenclatures and testing mechanisms (Bavington, 2016; Karkazis et al., 2012; Karkazis & Jordan-Young, 2018; Pieper, 2016; Wells, 2020). Even as the WAFER explicitly notes that “persecution or campaigns against athletes simply on the basis that their appearance does not conform to gender stereotypes are unacceptable,” the document permits the World Athletics Medical Manager to “investigate at any time...whether any athlete who has not advised the World Athletics Medical Manager...may be a Relevant Athlete” (p. 6). Yet, it is important to observe that these potential athletes are not explicitly characterized as “suspicious” and instead, allows the World Athletics Medical Manager to examine medico-scientific attributes such as “blood and/or urine samples collected from athletes,” or even request “blood and/or urine samples [or] medical physical examination” to ascertain if an athlete is a Relevant Athlete (p. 6). However, and as decolonial, critical race, and feminist scholars have discussed at length, such a method relies on constructed “normal” bodily standards, which are often based on binary, Western ideas of bodies (Gill-Petersen, 2014; Jordan-Young & Karkazis, 2019a; Rose & Miller, 1992; Weheliye, 2014; Wynter, 2003). In a Foucauldian and governmentality studies sense, the “factiveness” and purportedly “objective” nature of medico-scientific forms of knowledge act as a form of pastoral power to achieve the normalization of individuals and their bodies (Foucault, 2003d; Holmes, 2002).

Health and “suspicious” athletes. At the same time—and as the categorization of bodies as “suspicious” is cloaked by medical language and the purposeful use of the term “Relevant

Athlete” in the WAFER—in the context of health-related aims, both explicit and implicit discourses of “suspicious” emerge. For example, the IOCCSR explicitly suggests identifying “suspicious” athletes as a way to recognize when athletes are at risk of developing harmful health conditions. The purpose is to provide such athletes with potentially life-saving treatments. In this way, “suspicion” creates ideas of “healthy” and “unhealthy,” and prompts questions around what both healthy and unhealthy health bodies look like. As with female and transgender eligibility policies, this purportedly health-centered dichotomy engages a blend of medico-scientific and sociocultural knowledges and discourses. For instance, World Athletics has argued that they are “‘detecting’ and ‘solving’ potential health problems in the best interests of the athlete” (Brömdal, Olive, Walker, 2020, p. 5; see WA, 2011, 2019a, 2019b, 2019d). Of note are the colonial and racial dimensions undertones within this rationale, especially given that World Athletics is headquartered in the Global North (Monaco) and the overwhelming majority of medical experts listed in Appendix I are also from Global North countries.

The health-related intentions of the WATER are more readily apparent, as the document immediately notes its intent to “protecting [*sic*] the health and safety of participants.” In particular, the WATER includes a Medical Appendix as a means to “provide some general guidance on certain medical aspects of the Regulations” (p. 12). Much of these insights and recommendations focus especially on how to reduce/increase, measure, and monitor serum testosterone levels in transgender athletes (especially transwomen). While SRS is no longer required to obtain eligibility, the Appendix also offers explanation into possible surgical procedures. Throughout these explanations on the medical aspects of transgender treatments, the document indirectly reiterates the organization’s commitment to athlete health. However, the provided procedures of “diagnosis,” “treatment,” and “monitoring” continue to engage narrow and Eurocentric definitions

of “health” and “transgender” (Stryker, 2012). Subsequently, as understandings of what constitutes a “suspicious” athlete remain grounded in these privileged bodies of knowledge, women whose bodies do not ascribe to these particular standards (i.e., women of color, women from the Global South, transgender women) can and do become ostracized or disproportionately harmed (Gill-Petersen, 2014; Karkazis & Jordan-Young, 2018; Pape, 2020b; Wynter, 2003). Although there lacks explicit incorporation of “suspicious bodies” or “suspicious athletes,” such ideas continue to operate implicitly when examining *how* understandings of “health,” “diagnosis,” and “treatment” are developed and normalized.

For the IOCCSR, following the authors’ definition of low EA as an equation involving dietary energy intake, fat-free mass, and exercise energy expenditure, they acknowledge the complexity of properly diagnosing athletes with RED-S, given the difficulty of seeing or recognizing RED-S symptoms (e.g., amenorrhea, osteoporosis, disordered eating, etc.). To allow for early detection of RED-S, as identification in athletes as early as possible is “crucial to improve performance and prevent long-term health consequences” (p. 494), the authors provide another and “simpler” way to diagnose athletes: identifying “suspicious” athletes. As they note, “the screening and diagnosis of RED-S is challenging, as symptomatology can be subtle. A high index of suspicion of the athlete at risk is needed” (p. 494). “Suspicion,” in this context, is used synonymously with “unhealthy” or “abnormal.” Put simply, authority figures are encouraged to rely on ideas of “healthy” behaviors to locate athletes who are acting in ways that contrast this idea and thus, are partaking in “unhealthy” actions that may harm their health and performance.

In all, the discourse of “suspicion” in the IOCCSR mirrors its appearance in female eligibility and transgender eligibility regulations in two ways: (1) grounding its validity in science, and (2) reinforcing ideas of “normal” athletic women’s bodies and behaviors. While the IOCCSR

authors dominantly utilizes medico-scientific language throughout the document—illustrated in the previously described “equation” for determining low energy availability—their later use of “suspicion” lacks similar specificity. Yet, “suspicion” only appears one time in the document, on page 494, buried within profuse technical rhetoric. By surrounding this appearance of “normal” with highly medico-scientific language, its usage remains unquestioned, subsumed by the supposed “objectivity” of scientific evidence.

Later, the authors note that “Screening for RED-S should be undertaken as part of an annual Periodic Health Examination (PHE) and when an athlete presents with DE/ED, weight loss, lack of *normal* growth and development, menstrual dysfunction, recurrent injuries and illnesses, decreased performance or mood changes” (p. 494, italics added). Yet, as Black and critical feminist and transgender scholars have demonstrated, “normal” growth and development has historically been derived from Eurocentric, white, and, when appropriate, male bodies. In their discussion of the “Tanner scale,” a “five-point diagram of ‘normal’ puberty progression,” Gill-Peterson (2014) notes that

Puberty’s medical management is also highly racialized in the United States, where black and Latina girls are medically categorized by a supposedly ‘earlier’ puberty than white girls, echoing the much older colonial hypersexualization of and medical interest in the genitals of the black and brown female body. (p. 413; see Gilman, 1985)

Yet, the entangled racial and colonial dimensions in “normal” determinations of bodies and health remains upheld through the purported objectivity of science for the (health-related) benefit of the athlete. The focus on “bettering athletes’ health”—without denying the importance of such research, especially given the disproportionate impact of health ailments such as RED-S on women athletes—promotes binary ideas of “suspicious” and “healthy” along raced, geographic, and cultural lines. Furthermore, these are often linked to colonial, Western, and white ways of knowing (Thorpe, Brice, & Rolleston, 2020). The encouragement by IOCCSR authors to engage vague

ideas of “suspicion” to identify athletes relies on subjective ideas of what exactly constitutes a “suspicious” body. In turn, this form of identification has the potential to disproportionately impact athletes of color, athletes from the Global South, athletes with disabilities, and indigenous athletes; or, communities of athletes who do not align or ascribe to sport’s Western, white, cisgender, and heterosexual norms. Doing so further reinforces sport’s identity as a male- and heterosexual-dominated space, which corresponds to ideas of “normal” women’s bodies (i.e., inferior, weaker, docile, White).

At the same time—and despite acknowledging a dearth of evidence to support these claims—the IOCCSR authors indicate that athletes of color, particularly black athletes, are at lower risk for RED-S and related conditions (I will discuss this aspect further in the following section). When placed in conversation with the ways in which “suspicious” and “(un)healthy” are developed, this presents a curious double standard that ultimately reinforces biologized understandings of race and nationality. More specifically, athletes who do not fit (or are perceived to not fit) definitions of “healthy” and “normal” are thus understood as “suspicious” or “unhealthy.” Yet, rather than prompting protective concern from organizations or authority figures, their “conditions” are normalized, even to the point of framing this as an “unfair” advantage. Such discourses reflect racialized typologies that are fundamental to techniques of (white) governmentality to govern the experiences, inclusion, and (un)acceptance of (black, Global South) bodies (Batelaan & Abdel-Shehid, 2021; Dar & Ibrahim, 2019; Weheliye, 2014). This is an idea that I will return to in the following chapter, as interview participants spoke to their understandings of how (Global South) athletes are exploited for their “unhealthy” conditions.

Subjectifications

Subjectifications describe how individuals are constituted through “multiple ways in different legal contexts and forms,” thus rendering themselves as subjects located within power relations (Rose & Valverde, 1998, p. 547). These processes differ between subjects as they are differently impacted by norms and influences of discourses and knowledge. In the context of the three case studies, subjectifications primarily emerge through the biologization of gender and race in document texts.

Biologizing gender and race

The dominance of medical knowledge and scientific discourse throughout document texts creates an aura of objectivity and factiveness (Lupton, 2002; Markula & Pringle, 2006). However, sociocultural and political ideas and norms permeate throughout the assertions and conclusions drawn in the documents, especially as they pertain to sex, gender, and race. In a Foucauldian sense, through the creation of purportedly universal classifications of people, they become “objects under the regime of medical truth” (Markula & Pringle, 2006, p. 25). For (women) athletes impacted by protective policies, although categories of sex, gender, and race are (attempted to be) presented in neutral ways in order to categorize individuals into groups based on their biology, these biological “differences” justify different and particular forms of protection, or lack thereof.

For example, amidst the heavy reliance on medico-scientific discourses, the IOCCSR authors highlight areas in need of further research, namely, the occurrence of RED-S in male athletes, non-Caucasian athletes, and athletes with a disability (p. 493-494). While recognizing the limitations of their conclusions (and indeed, these limitations are further addressed in the subsequent updates to the IOCCSR, see Mountjoy et al., 2015, 2018), many of the tentative

conclusions in the indicated research gaps are premised on taken-for-granted ideas about gender, race, and bodies and thus, rely on (and thereby reinforce) biologized ideas of race and gender.

Specifically, the authors explicitly note that “the prevalence of low [energy availability] has been studied mainly in females of Caucasian, European or European American descent” and as such, “whether the role of race plays a role in the incidence and underlying aetiology of the RED-S remains speculative” (p. 493). The uncertainty behind whether race contributes to the occurrence of (or lack thereof) RED-S in non-Euro-American white athletes reflects broader debates around the embodiment of race(ism) in health outcomes. While race itself is not a biological category (Chowkwanyin, 2013), social scientists and epidemiologists have stressed the very real and physical effects of discrimination on, in, and through the body (Gravlee, 2009; Krieger, 2005). Thus, without denying that there may be a level of materiality to racial differences of RED-S occurrences in (women) athletes, the specific rhetorical framing used by the IOCCSR authors implies that race itself is a determinant to the onset of RED-S and RED-S symptoms, thereby classifying “race” as a biological reality.

Later, the authors cite an overall lower risk of osteoporosis, fracture, low energy availability, disordered eating, and menstrual dysfunction in athletes of color, especially black athletes, *despite* having previously drawn attention to the dearth of previous scholarship on racial discrepancies or that intentionally include a multi-racial sample of participants (see Pernick et al., 2006 for an exception). In this way, both IOCCSR conclusions (i.e., the concurrent lower risk for athletes of color and lack of data to support this assertion) are representative of the dominance of white, male subjects for medical research (Dresser, 1992) and racial biases in medicine (Bowser, 2000; Hoffman et al., 2016; Penner et al., 2000). Despite a lack of research to substantiate their assertion that athletes of color, particularly black athletes, have a lower risk for developing RED-

S and related symptoms, making this claim reinforces ideas of the “superior black athlete” (i.e., physically suited to sport but intellectually deficient) that is not in need of protection (Carrington & McDonald, 2001; Lansbury, 2014).

While the WAFER explicitly notes that no level of improper discrimination, stigmatization, or breaching of confidentiality will be tolerated, scholars have repeatedly demonstrated the disproportionate impacts of past and current female eligibility policies on black and brown women from the Global South, despite the purportedly “objective” nature of defining “eligible” female athletes (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014). Undergirded by fears of “mannish” women athletes who violate codes of femininity or boundaries of femaleness (Cahn, 2015; Kane, 1995), both types of policies foster “sex control” protective efforts (Bavington, 2016). With the contention around female muscularity and athletic women’s successes, bodies that challenge sex and gender binaries fuel gender panics, or “situations where people react to disruptions to biology-based gender ideology by frantically reasserting the naturalness of the male-female binary” (Westbrook and Schilt, 2014, p. 34). The result is not only the identification of women who “fail” to meet these binary, biocentric standards, but also the “impossible choice” of conforming to these classifications (through medically unnecessary treatments) or leaving their sport and livelihood entirely (Karkazis & Carpenter, 2018).

Spatializations

Spatializations include the ways in which practices and processes create “governable” spaces by encouraging rules or routines (Rose & Valverde, 1998, p. 549). These manifest in contexts such as changing the built environment of public spaces to exclude or “keep out” people without housing (e.g., adding a bar in the middle of a bench so as to prevent these individuals from laying down on them). For spaces of physical activity and sport, having locker rooms for women

and men is one example of spatialization, as this denotation contributes to the regulation of gendered behaviors, appearances, and overall individual conduct (Fusco, 2005, 2006). In document texts, spatialization of the women's category (and, in some instances, sport more broadly) is accomplished primarily through two means: (1) focusing on the individual athlete and thus, providing individual solutions or treatments, and (2) monitoring athlete compliance.

Focus on the Individual Athlete

As previously discussed, document texts draw from sociocultural and political influences, and sometimes reference these dimensions. However, in tandem with the dominance of medico-scientific knowledge and discourse that circulates throughout the documents, the primary focus remains on the individual athlete in terms of diagnosis, identification, and treatment. This narrow scope subsequently permits the medicalization of the athlete, while simultaneously reinforcing the superiority of medico-scientific discourses: a phenomenon that is made possible through medicine's focus on individual care and treatment⁴⁸ (Mann, 1997). In terms of spatialization, this centering on the individual athlete detract attention away from cultural and structural aspects reinforces the control of authority figures and sports organizations over athletes. Additionally, through characterizing the athlete as the "problem," the athlete is similarly the source of the "solution," therefore extending the governable space of the women's category (and sport more broadly).

For example, through synthesizing existing scientific and medical knowledge on RED-S, the IOCCSR authors concentrate on individual aspects of RED-S, such as health and performance

⁴⁸ Medicine's individual-centric nature is often described as complementary (not opposite) to the aims of public health (Brandt & Gardner, 2000). Namely, medicine involves diagnosing, treating, and curing ill health conditions that have already surfaced, which requires an individual focus; views determinants of ill health as individual; and adopts a more objective and scientific approach. Conversely, public health involves preventing ill health outcomes from manifesting through focusing on a population or populations; views determinants of ill health as influenced by environmental and social conditions; and adopts a social justice/political approach.

consequences, and treatment strategies. Conversely, much less attention is given to broader cultural, political, and social factors that contribute to the onset of RED-S, despite narratives from current and former athletes that point to prevalence and role of toxic training environments and sporting cultures in contributing to the development of harmful habits and behaviors (Ackerman et al., 2020). Put differently, spatialization occurs through “telescoping” the focus onto individual bodies, rather than a holistic or broader perspective that includes other important sociocultural and political elements. Doing so renders the women’s category as more governable and manageable, particularly as this individualistic approach operates in tandem with the elite nature of medical discourses and veneer of medical objectivity.

In this way, the IOCCSR is an individual-centered document with brief moments of recognizing how political, social, and cultural dimensions influence or permit athletes to develop RED-S or RED-S related symptoms. Examples in the IOCCSR include acknowledging the possibility of a “psychological factor” if the athlete will not or cannot follow a treatment plan (p. 496), proposing treatment strategies such as “pharmacological treatments” or “hospital programs” (p. 496), and their (brief) “Recommendations to address RED-S” section (p. 496). In the latter, the authors suggest broad ideas for sports organizations, for which there lacks clear implementation and explanatory guidelines. These include recommendations such as “preventative education programmes” (*what should these preventative education programs seek to address? Through what means? By whom?*) and “policies for coaches on the healthy practice for managing athlete eating behaviour, weight and body composition” (*what types of policies? Who should form the policies? What kind of knowledge will shape the policies?*) (p. 497).

Contrasting from these vague but non-controversial recommendations, the authors provide substantially more specific recommendations for the athlete’s entourage, healthcare professionals,

and researchers that center on individual assessment. Such suggestions include the “development of realistic and health-promoting goals related to weight and body composition” (athlete entourage), “implementation of the RED-S Risk Assessment Model” (healthcare professional), and “design and validation of tools to accurately measure [energy availability] in the clinical setting” (researcher). In particular, the precision of these three examples lies in their attention to what types of goals to encourage, what types of tools should be implemented, and what these tools should measure. The stark contrast between the IOCCSR’s institutional or organizational solutions and its individual/athlete-focused propositions continues to overlook the deeply embedded and systemic cultural norms that contribute to proposed risk factors in protective policies. Moreover, in framing the athlete at the center of these interventions (as well as the source of the “problems”) rather than structural or systemic aspects, individual athlete behaviors are subject to significantly more scrutiny.

In a similar vein, the WATER and WAFER intrinsically center on the conformation of the athlete to binary, Western norms, as previously discussed. Yet, the supplementary documents that accompany both policies are often framed through health narratives that highlight the benefits—or even medical necessity—of such treatments. For example, World Athletics released a question-and-answer report shortly after the WAFER was released. In response to a question that pointed to the World Medical Association’s (WMA) statement that advised physicians not to implement the WAFER and calling for the policy’s withdrawal, the organization asserted that,

We have also pointed out that in 46 XY DSD individuals, reducing serum testosterone to female levels by using a contraceptive pill (or other means) is the recognised standard of care for 46 XY DSD individuals with a female gender identity (whether those individuals are athletes, or not). These medications are gender-affirming. (WA, 2019c).

By characterizing its prescribed treatments as “gender-affirming,” and simultaneously drawing on highly medical language such as “46 XY DSD individuals” rather than “women” or “women-

identifying,” this supplementary document contributes to the medicalization of women athletes impacted by the WAFER, the identity of medico-scientific discourse as “objective” and superior, and ultimately, the individual as the “problem” rather than a sporting culture that eliminates or coerces conformation from athletes. In other words, while framing the attainment of eligibility and betterment of an individual’s health as the primary reason for these treatments (a versatile and contentious idea of “health” that I return to in Chapter 7), the individual(s) is still viewed as the “problem,” rather than a sporting culture that remains fiercely attached to narrow, biocentric, and binary ideas of “female” and “male.” Ultimately, a key consequence of this focus on individual athletes is the governability of the women’s category.

Monitoring Compliance

While I classify all three case studies as “protective policies,” “policies” is a slight misnomer. Instead, “protective policies” can span a range of implementation mechanisms⁴⁹, each with “their own characteristics and requirements” (Rose, O’Malley, & Valverde, 2006, p. 86). In the case of the three protective policies examined in this dissertation, these include consensus statements (i.e., the IOCCSR) and formal regulations (i.e., the WAFER and WATER). The primary difference between these two approaches is in their enforceability. As the IOCCSR is a consensus statement with *guidelines*, it lacks the same authority as the WAFER and WATER, which establish clear and punishable boundaries for acceptable and unacceptable behaviors. At the same time, all documents are connected through their emphasis on surveillance or, to quote the language used in document texts, “compliance.” Through establishing an authority figure or organization to constantly monitor the “compliance” of athletes, this disciplinary gaze assumedly becomes internalized by the individuals, which encourages them to conform to prescribed,

⁴⁹ I will return to these differing and complex implementation strategies in Chapters 6 and 7.

normative behaviors, actions, and even appearances (Foucault, 1977; Markula & Pringle, 2006). In the context of spatialization, the self-regulation of individuals to achieve pre-determined (but scientifically-derived) standards, allows spaces such as sport and the women's category to become governable.

Part of monitoring these boundaries of unacceptable and acceptable behaviors lies in compliance mechanisms, which are specifically detailed in the WAFER and WATER. In the WAFER, the Medical Manager is authorized to determine when testing for compliance is necessary, given that not all women athletes are automatically tested. In particular, the WAFER text indicates that:

Only the World Athletics Medical Manager may initiate an investigation...when acting in good faith and on reasonable grounds based on information derived from reliable sources, such as (for example, but without limitation) the athlete herself, the team doctor of the Member Federation to which the athlete is affiliated, results from a routine pre-participation health examination, and/or information/data (including but not limited to blood testosterone levels) obtained from the collection and analysis of samples for anti-doping purposes. (p. 6)

While outlining examples of methods for determining if an athlete might be a Relevant Athlete, the process overall remains vague, as illustrated in the inclusion of “for example, but without limitation.” Several of the examples listed above engage medical processes or characteristics (e.g., blood testosterone levels, health examination, anti-doping samples), yet medical- and numeric-based eligibility standards often reflect colonial and racial norms which can disproportionately impact athletes of color and/or from the Global South (Gill-Peterson, 2014; Karkazis & Jordan-Young, 2018; Magubane, 2014). Furthermore, the identification process subsequently permits a sole authority figure (i.e., World Athletics' Medical Manager) to question if an athlete violates World Athletics' eligibility standards without external or third-party accountability standards, which are later supported or refuted by medical investigations into blood/urine samples and/or

physical examinations. Despite asserting that the Medical Manager must act in “good faith and on reasonable grounds,” there is no such thing as an objective perspective, as I have discussed in Chapters 2 and 3. Even “good faith” and “on reasonable grounds” can draw from narrow, Western, and white norms that create categories of “suspicious” and “healthy” athletes that govern conduct and women’s bodies. Moreover, though the Medical Manager is permitted to initiate an investigation, the ever-present possibility of examination presumably encourages athletes to self-monitor and self-regulate, to the point of normalizing the discourses and systems of knowledge that undergird the WAFER as well as the WATER, which I discuss below (Markula, 2003; Markula & Pringle, 2006)

Likewise, the WATER adopts, nearly verbatim, the same investigation clause as a strategy to connect the identification of potentially non-compliant transgender athletes to arguments of safety and fair competition (p. 8). For instance, to monitor eligible transgender athletes, the World Athletics Medical Manager is granted the right, with or without notice, to conduct random or targeted testing of the transgender athlete in question. In addition to ensuring the athlete’s general compliance, these investigations may occur “where necessary to safeguard the fairness and/or integrity of competition and/or the safety of the competitors” (p. 8). Further, if an athlete is found or suspected of non-compliance, the Medical Manager may “provisionally suspend the athlete from competing in International Competition (and from being eligible to set a World Record in the *female* category at any competition that is not an International Competition) pending resolution of the matter” (p. 8, italics added).

The monitoring of transwomen athletes, rather than all transgender athletes, is notable for several reasons. Without denying the average performative differences between women and men athletes, the specification of the *female* category suggests that it is transwomen athletes who

threaten the safety of cisgender women athletes, thus requiring identification and (subjective) forms of compliance monitoring. The removal of a transwoman athlete, despite previous commitments to the “safety for all athletes,” subsequently constructs transwomen athletes as risks to the safety of other (cisgender) competitors. Given World Athletics’ commitment to protecting the “health and safety of participants” and guaranteeing “fair and meaningful competition” (p. 1), undergirded by beliefs in the “superior” male athlete and “inferior” female athlete (Cahn, 2015; McDonagh & Pappano, 2008; Schultz, 2018), there emerges a need to identify athletes “suspected” of violating these standards. In all, and even while transwomen often report feeling physically weaker following transitioning—validating medical conclusions of frail female bodies—the additional regulatory measures placed on transwomen continue to allow those in authority positions to uphold normative and medical definitions of “acceptable” bodies under the premise of “safety” and “fairness.” Additionally, the possibility of constant observation and potential for unannounced examination into athletic compliance ultimately contributes to the governability of the women’s category.

Discussion

Overall, there are key differences and similarities between the three case studies, particularly when considering the represented “problems” and proposed “solutions.” For example, in terms of “problems,” although all three documents focus on individual athletes’ behaviors, conduct, and even appearances, there remain distinct nuances to their constructions. On the one hand, when considering spatialization practices, the WAFER and the WATER rely on the eventual self-regulation of athletes over their behaviors and actions to achieve compliance. Though they are *policies* with dictated boundaries of “right” and “wrong”—and are thus enforceable—the normalizations of bodily standards and ideas of “suspicious” athletes, in combination with

compliance monitoring and focusing on the individual athlete, encourage forms of self-regulation so as not to be considered a “suspicious” athlete or be identified as potentially non-compliant. On the other hand, the IOCCSR lacks this same self-regulatory approach or aim. Instead, through utilizing complex medical and scientific equations to define and diagnose “RED-S,” the IOCCSR reinforces a hierarchy between those well-versed in these discourses and those governed by such authority figures is maintained. Put differently, as an educational document, the IOCCSR seeks to inform rather than to discipline and strictly regulate. Therefore, the document does not necessarily prompt the same forms of self-governance as the WAFER and WATER.

Furthermore, all three documents (selectively) draw from rationales of health, safety, and fairness, which contributes to their aims of “protecting” different groups of (women) athletes. This is especially illustrated in their problem statements, but also throughout the usages of medico-scientific knowledge, individualized focus, and construction of “suspicious” athletes. The different intended groups of women that each document “protects” also connects to the contrasting overarching rationales of the documents. Namely, while the IOCCSR predominantly draws on discourses of “health” and “safety,” the WAFER and the WATER look to constructs of “fairness” to justify their purposes. Within the IOCCSR’s “health” discourses, the document specifically looks to “protect” women with RED-S or women who are perceived to be at-risk of developing low energy availability. As a result, the IOCCSR is intended to guide sports organizations in developing formal protocols; physicians and sports doctors with diagnosing athletes who might have or might soon develop RED-S; and coaches or an athlete’s “entourage” to create a supportive environment and/or encourage an athlete to seek out “appropriate, timely and effective treatment” if necessary (Mountjoy et al., 2014, p. 498). This then also contributes to the IOCCSR’s overall

unenforceability, given that the document lacks the same authority as policies or rules given that the purpose is to educate and inform, rather than police boundaries.

Alternatively, through their shared focus on interpretations of the “integrity of the women’s category” and “fairness,” the WAFER and the WATER specifically focus on transwomen or women with a DSD (i.e., women who do not conform to binary, Western, medical definitions of “woman” and assumedly disrupt stereotypes of the “inferior female body”). These gendered concerns are further buttressed by medical and scientific forms of knowledge that manifest in warnings of health dangers for women and their bodies (as illustrated in the appendices of both the WAFER and WATER) or the potential for exploitation (as I will discuss in Chapter 5). Despite framing the rationales, consequences, and represented “problems” within health-centered discourses and rationales⁵⁰, interpretations of “fairness”⁵¹ continue to guide the represented “problems” and constructed “solutions” in the WAFER and the WATER. Put differently, the overarching concern for both the WATER and the WAFER remains on the supposed “integrity” of the women’s category and “fair competition” for women athletes. In doing so, both documents predominantly seek to protect women who conform to normalized ideas of women’s bodies, in terms of gender identity, appearance, and testosterone levels (Cooky & Dworkin, 2013). Furthermore, unlike the IOCCSR, both eligibility policies are, indeed, *policies*, and thus are

⁵⁰ It is important to note that, despite the expressed concerns for health in the WATER and the WAFER (a point that I will return to in Chapters 5 and 6), several scholars have written on the dangers of undergoing medically unnecessary treatment to achieve an arbitrary eligibility standard (see Jordan-Young, Sönksen, & Karkazis, 2015; Karkazis & Carpenter, 2018; Tannenbaum & Bekker, 2019). The subsequent complexity of health discourses and rationales, especially in eligibility policies, reveals the entanglement of dominant discourses, knowledges, and power relations when understanding what “health” is and how to achieve a “healthy” body (see Jette, 2009; Jette & Vertinsky, 2011; Jette, Vertinsky, & Ng, 2014; Racine & Petrucka, 2011).

⁵¹ As I will discuss in Chapter 7, participants recognize that a truly “level” playing field is impossible. As such, they propose a form of “controlled” unfairness, wherein *certain* biological characteristics are monitored and policed (i.e., testosterone levels in women). Other factors, such as coaching opportunities, financial positioning, and biological characteristics that lack the same gendered interpretations as testosterone (e.g., wingspan, height, hand size, and anabolic threshold) are considered unfair, but acceptable.

enforceable and strictly police the boundaries of “eligible” and “not eligible.” The intended clear-cut boundaries of “right” and “wrong” also operate in tandem with forms of self-regulation and (internalized) compliance.

Additionally, there emerges differing approaches to “suspicious” athletes, though all three either directly or indirectly include this characterization. Namely, the IOCCSR explicitly notes that a “high level of suspicion” is necessary to identify athletes who have or at risk for developing RED-S. In turn, this encourages identifying “suspicious” athletes as a “simpler” diagnosis strategy. Conversely, the WAFER and the WATER avoid the intentional language of ‘suspicious,’ not because this term is not relevant, but because the politics of eligibility testing make its overt use taboo and even more open to criticism. Instead, both documents uphold “normal” bodily standards that draw from binary, Western ways of knowing, allowing subjective but not explicitly stated ideas of “suspicious” athletes to emerge and circulate (Gill-Petersen, 2014).

For its “solutions,” the most significant differences lie in the characterizations of the three documents. On the one hand, the IOCCSR is a consensus statement, which lacks implementable rules with a structured protocol. In this regard, “it could be argued that the purpose of a consensus statement is not to provide concrete, actionable, or accountable procedure and detailed guidance for implementation,” but rather, serve as “more of an educational document” (Bekker & Posbergh, 2022, p. 191). Yet, the lack of commitment or requirement to implement measures to prevent, treat, and/or diagnose RED-S, even amidst the increasing awareness and acknowledgement of its impact on women *and* men, opens the possibility of “ineffective policy responses” (Bekker & Posbergh, 2022, p. 191).

On the other hand, the WAFER and the WATER operate as policies with clearly defined boundaries that indicate organizational disciplinary action that can and will be taken in appropriate

situations. The consequences of these activities seek to assert the binaries between the governed and the governing and thus, endeavor to reestablish organizational authority over athletes. Moreover, and unlike the IOCCSR, these documents impact women who are purportedly “too strong” for the women’s category, who violate gendered norms around the female body, and who are assumed to be “at risk” of becoming “too masculine.” In such situations, the documents outline substantial repercussions for athletes who violate the policy’s procedures, such as suspension or exclusion, and have the potential to inflict traumatic and potentially irreparable harm (see Karkazis & Carpenter, 2018).

Despite these dissimilarities, all three have common threads that unite them as protective policies: utilizing elite medical discourses (and thus, “expert” knowledge); identifying “suspicious” athletes which correspond to contrasting ideas of “healthy” and “unhealthy” and, overall, the idea of a “normal” body; focusing on the individual athlete and proposing individual-centered “treatments”; outlining intended outcomes around fairness, safety, and health; and purporting commitments to scientific and human rights accountability measures, even as the organizations sometimes fall short of achieving these goals.

Even as all three documents privilege and maintain the elite nature of medico-scientific discourses, it is important to note that such ways of knowing *do not* exist in isolation from social, political, and cultural dimensions (Fausto-Sterling, 2000; Jordan-Young & Karkazis, 2019a; Thorpe & Clark, 2020). The inseparability of politics and science is illustrated, in particular, by the shared but different interpretations of “normal” and “suspicious” in document texts. While the IOCCSR defines “normal” through a complex equation that will indicate whether an athlete is “healthy” (i.e., “normal”) or “unhealthy” (i.e., “abnormal”), the document concurrently notes that determining which category the athlete falls into requires a “high level of suspicion.” In other

words, despite explaining and providing a highly technical and medical method of calculating whether an athlete has RED-S, the authors still advocate for a subjective interpretation of “healthy” or “normal.” This has significant impacts for athletes of color as standards of “normal” bodily functions or processes are often based on white and Western (usually male) bodies (Dresser, 1992; Gill-Peterson, 2014).

Likewise, the methods of monitoring women athletes in both eligibility policies attempt to convey a linear process, supported by scientific and medical discourses and forms of knowledge. Yet, the discourses within them (in the case of the WATER) and the revealed unintended impacts (for the WAFER) contradict these efforts. More specifically, the ambiguity of a “suspicious” athlete and the messiness of determining gender and sex (a subjective process derived from dominant, normalized understandings of bodies that elicit very real and harmful consequences) refute the intended straightforwardness of monitoring and evaluating compliance and eligibility. Moreover, the unevenness of *who* is impacted by the policies reveals how the racialized aesthetic of gender is made to appear “normal” and “biological” (Karkazis & Jordan-Young, 2018). Nonetheless, the “truthiness” of the scientific and medical “solutions” provided in document texts constructs a version of a “normal” body/woman that is meant to impose uniformity across the women’s category, drawing on ideas of “health” (as well as “safety” and “fairness”) to do so (Foucault, 1977).

When contextualizing the broad range of intended audiences for the documents as a whole—scientists, researchers, sports organizations, sport medicine practitioners, athletes, coaches, and policymakers for the IOCCSR; athletes and their coaches for the WAFER and WATER—it becomes clear how *pervasive* these unproblematized and embedded values, discourses, and knowledges are in the scientific and sporting realms. In particular, the different

audiences for whom the documents are written involves a significant number of individuals and communities. Their exposure to and knowledge of the “expert knowledge” behind protective policies look to create a type of panopticon for athletes that continues to overtly and covertly reify hierarchical power relations between authority figures (i.e., scientific “experts,” sports organizations) and athletes (Foucault, 1977).

Put differently, consensus statements (such as the IOCCSR) bring together a range of medical and scientific “experts” to write the statements, which are meant to guide the development of future protocols and rules, as well as outline gaps in the literature for other scholars (Bekker & Posbergh, 2022). In turn, policies and related or supporting research incorporate and naturalize discursive strategies and technologies found in the consensus statements, such as medical equations for “healthy” athletes, the need for individual “treatments,” and/or the identification of “suspicious” athletes. As a result—and despite the different intended audiences for consensus statements versus policies—dominant discourses and systems of knowledge, as linked to power relations and hierarchies, are reinforced across multiple communities: researchers, athletes, scientists, policymakers, coaches, administrators, and even fans. In this way, medico-scientific discourses that seek to “protect” athletes encode cultural and social “norms” to understand, control, and discipline athletes’ bodies (Foucault, 1977; Rose & Valverde, 1998). Thus, categories of “normal” and “abnormal” (women’s) bodies, which are built from constructed ideas of “healthy,” “fair,” or “eligible,” become deeply entrenched in sports and broader physical culture, which are made possible by the multitude of governance technologies in and from protective policies.

At the same time, government is not a linear process or as clear as the “governed” and the “governing” (Rose, O’Malley, & Valverde, 2006). Individuals and (and even some external organizations) resist. They push back. They demand better accountability or transparency. This is

particularly the case for those who are critical of the IOC, even as the organization holds some level of public accountability given its popularity, globality, and engagement with middle- and lower-income countries⁵² (Bekker & Posbergh, 2022). In particular, Kidd (2018) notes that the IOC has a history of shrouded, invite-only meetings that result in recommendations and regulations that suggest “conspiracy, not responsible public policy” (p. 780). Additionally, previous policies from the IOC, such as its previous iterations of female eligibility, the Stockholm Consensus, and the 2015 policy on sex reassignment illustrate an almost uncompromising commitment to “scientific” evidence.

The IOC’s recent “framework on fairness, inclusion and non-discrimination on the basis of gender identity and sex variations⁵³” adopts a different approach. As noted in an announcement with the document’s release, its development included collaboration with athletes, legal experts, and human rights experts (IOC, 2021b). Additionally, prior to its unveiling, the IOC held a virtual media roundtable to answer questions and explain the consultation process for the framework, illustrating an earnest attempt to more openly explain how and why the organization creates particular documents (IOC, 2021b).

⁵² The power dynamics of this relationship between the IOC and such countries are certainly of consequence though, as noted by several sport-for-development scholars. Additionally, these types of “interventionist” projects have faced critiques of upholding Westernized notions of neoliberalism (Hayhurst, 2011; Forde, 2014) and reproducing racial hierarchies and stereotypes (Darnell, 2007, 2010), while also remaining “embedded in a history of colonization” (Hayhurst, 2016, p. 2016; as cited in McSweeney et al., 2019).

⁵³ Released in November 2021, this document centers human rights as a fundamental principle of organized sport, particularly given “the IOC’s commitment to respecting human rights (as expressed in Olympic Agenda 2020+5)” (IOC, 2021b). Through its focus on human rights, the document explicitly names transgender athletes and athletes with a sex variation as part of their efforts to cultivate gender equality and inclusion. Operating within sport’s dominant model of sex segregation, the framework proposes ten principles of inclusion and non-discrimination that “should be promoted and defended at all levels of sport”: inclusion, prevention of harm, non-discrimination, fairness, no presumption of advantage, evidence-based approach, primacy of health and bodily autonomy, stakeholder-centered approach, right to privacy, and periodic reviews. Though the framework is a “principled approach” rather than a concrete rule, the authors encourage other sporting bodies to develop their criteria with consideration to these ten principles, with critical sports scholars lauding the IOC’s progress towards creating gender-inclusive sport (see Storr, Pape, & Bekker, 2021).

However, the IOC's trend of heightened human rights and gender diversity⁵⁴ recognition does not necessarily extend to other organizations, including but not limited⁵⁵ to World Athletics. In this regard, scholars have questioned or even criticized World Athletics of disregard or indifference towards such measures, especially in terms of human rights. In this vein—and I quote critical sports scholar Bruce Kidd (2018) at length here as he perspicaciously outlines the contradictory relationship between sports and society—there remains a distinct lack of transparency and accountability in sports policies:

With the explosive expansion of the social media, the communication of sport decisions, especially prohibitions from competition, has implications far beyond the confines of sports – they provide symbolic examples for everyday debates about social policy in a wide range of fields. In virtually every country in the world, the sport bodies' power is enabled, provided and financed by governments and public institutions and is exercised in the public realm. For all these reasons, sports policies ought to meet the highest standards of public transparency and accountability. Yet in their regulations affecting the eligibility, health and well-being of athletes, international sports bodies have acted as if they do not need to be accountable to anyone, claiming the 'autonomy of sport'. If international sport is to continue to enjoy public confidence, the 'anatomy of sport' must be responsible, transparent, respectful of national and international law and internationally consistent. (p. 776)

Despite the reality that sport shapes and is shaped by society, Kidd comments on the exemptions given to or assumed by sports bodies (and, correspondingly, their policies) to act above formal and informal measures of both accountability types (Boykoff, 2019). This is especially illustrated in

⁵⁴ I believe that this specification of “gender diversity” is necessary, as there are many vociferous critics of the IOC consistently turning a blind eye to Olympic host cities and countries that have been accused or found guilty of egregious human rights violations. For example, in response to the 2022 Winter Olympics in Beijing, the United States announced a diplomatic boycott of the Games for China's “genocide and crimes against humanity” in Xinjiang, particularly against Uyghurs and other predominantly Muslim ethnic minorities there (Mather, 2022, para. 4). Yet, Human Rights Watch has noted that the IOC has “not addressed questions whether their involvement would contribute to human rights violations, including concerns around forced labor” (HRW, 2022, para. 1). At the same time, and in my opinion, the release of the IOC's framework on gender diversity and inclusion, along with President Bach's commitments to the Olympic Agenda 2020+5, indicates some level of attempt to put actionable steps behind commitments to human rights, at least with regards to gender and sexual diversity. There is, of course, still clearly work to be done.

⁵⁵ Specifically, I would also place World Rugby in this latter category, as the organization has explicitly banned transgender women from participating due to the “the size, force- and power- producing advantages conferred by testosterone during puberty and adolescence, and the resultant player welfare risks” creates insurmountable performance differences between women and men (World Rugby, 2021).

the WAFER's continued implementation, despite significant criticism and backlash from international organizations such as the World Medical Association (WMA, 2019) and United Nations Human Resources Council (UNHRC, 2019).

Looking more closely at the entanglements between scientific evidence and social, political, and/or cultural values, ultimately, there emerges a complex relationship. Consider, for example, the WATER, which requires twelve months of hormonal treatment before a transwoman is permitted to compete in the women's category. While intended to move towards some semblance of gender-inclusive sports participation and governance and thus, align with human rights standards (despite a lack of problematizing the restrictive and dominant gender binary that governs sport; see Travers, 2008, 2018), there remain a handful of scientists who argue that twelve months is *too short* of a transitional period (Hilton & Lundberg, 2021; Roberts, Smalley, & Ahrendt, 2020). In particular, critics point to scientific evidence that suggests transwomen retain their advantages for longer than a year and thus, violate the fairness of the women's competition category. Appearing at odds with values of inclusion and non-discrimination, questions emerge around how to balance human rights with scientific evidence. Recognizing the malleability of scientific evidence (Jordan-Young & Karkazis, 2019; Wilson, 2015), it is thus vital to recognize that "science alone cannot provide a straightforward answer to such as [*sic*] socially and biologically complex question" (Storr, Pape, & Bekker, 2021, para. 10).

Overall then, it becomes evident that document texts do not tell the whole story. While illustrating the intended strategies of governance, as well as the values and norms that an organization seeks to maintain or entrench, written discourse cannot capture the complexities, tensions, nuances, and disagreements of policy creation. Thus, to paint a broader and more

comprehensive picture of the process of creating and implementing protective policies, I now turn to my findings from interviews with those involved with researching and drafting the case studies.

Chapter 5: Perceiving Problems, Interpreting Science, Proposing Solutions: Examining the Expert Knowledge that Informs Protective Policies

As illustrated in the previous chapter, a key factor in establishing the legitimacy of protective policies emerges from the dominant use of elite and medical discourses in policy texts. All three case studies examined in this dissertation allege to be supported by science: both eligibility policies include references to clinical and exercise science peer-reviewed articles and the consensus statement on RED-S is a summary of existing literature on the topic of energy deficiency. At the same time, elite and medical discourses engage sociocultural and political knowledges to reinforce existing ideas of “normal” or “suspicious” bodies, under the guise of objectivity or medical certainty. In turn, these continue to normalize and biologize racial and gendered expectations and stereotypes.

Pastoral Power, Expert Knowledge, and Protective Policies

Part of the credibility of protective policies also lies in their utilization of “expert knowledge.” As Foucault (2003a, 2003b) and others (Jones, 2018; Martin & Waring, 2018; Tierney, 2004; Waring et al., 2016) have explained, pastoral power operates as a regime of discipline and normalization, imbuing “experts” with the authority to instruct, care for, and guide the behaviors and actions of their constituents or communities. Especially in the context of medical or scientific realms or discourses, pastoral power “is individualizing” and “is linked with a production of truth” (Foucault, 2003b, p. 132). Though governance techniques and strategies of pastoral power (and, more broadly, governmentality) are individualizing and seek to discipline bodies, “experts” and expert knowledge emerge as a key component in developing and circulating these normative “truths,” discourses, and beliefs (Mayes, 2009; Nettleton, 1997).

While individual protective policies have been subjected to textual and discursive examinations to critique the normative logics and values that underpin policy discourses, both in the previous chapter in this dissertation and by other scholars (see Bavington, 2016; Brömdal, Olive, & Walker, 2020; Croteau, 2021; Erikainen, 2019; Karkazis et al., 2012; Pape, 2019a, 2020a; Posbergh, 2019; Wells, 2020), there is minimal scholarship⁵⁶ that engages with the “experts” behind the “expert knowledge” that informs protective policies (see Bavington, 2016; Pape, 2020c for exceptions). In particular, there is a lack of research that investigates how “experts” understand their research in relation to written policy guidelines and relevant research/knowledge, what values and approaches they consider (explicitly or implicitly) when conducting their research, and their opinions on the final policy output. Attending to this gap is essential in order to engage a deeper examination into how scientists, researchers, and other policymakers understand and influence the “problems” and “solutions” (i.e., rationalities and technologies) constituting protective policies (Bacchi, 2009; Bavington, 2016).

In her examination of government policies, Christina Boswell (2009) argues that research for policies serves an important political function whereby policymakers often cite “expert” knowledge for two symbolic reasons. First, as a legitimizing function so that organizations can enhance their legitimacy by claiming to draw on expert knowledge. Second, as a substantiating function, in which an organization’s credibility is improved through claims of drawing on expert

⁵⁶ As briefly discussed in Chapter 3, part of the challenges with incorporating “expert” interviews in the case of protective policies is the limited number of scientists, researchers, policymakers, and other relevant individuals involved with researching and creating the documents. With a smaller and more elite (given their affiliations with international organizations such as the IOC and World Athletics) participant pool to draw from, it is particularly challenging for researchers to gain access to this community of individuals. This is made all the more difficult when considering the contentious nature of certain protective policies, such as World Athletics’ female eligibility policy. Indeed, one of my participants noted that one of the primary reasons why they were willing to meet and talk to me was that they did not find me “threatening” or “looking for a fight.” These obstacles emerge in addition to the multiple commitments that eligible participants hold outside of their obligations to the IOC and World Athletics: reasons cited by seven individuals who were solicited for interviews for this project but were ultimately not able to participate.

knowledge. In the context of protective policies, the legitimacy and credibility of both the policies and their sponsoring organizations emerges from calling upon scientific and medical “experts” to assist in drafting policy texts through scientific references, organized consensus meetings, working groups, or conference panels. Although organizations vociferously express their commitment to social, political, and cultural values such as inclusion, athlete health, diversity, and non-discrimination (see IOC, 2020, 2021a; 2021c; WA, 2021a)—and indeed, are investing more in social science research on topics such as harassment and abuse (see WA, 2021b)—physicians, exercise science researchers, and other medical scientists remain the primary category of “experts” for research and drafting protective policies (Thorpe et al., 2020).

Nonetheless, and despite the critical role of medical and scientific “experts” in researching, drafting, and implementing protective policies, there is a significant gap between the knowledge generated and the policy texts actually written. To this point, Boswell (2009) explains,

When asked why they value research, policymakers typically emphasize the importance of filling knowledge gaps as a means of improving policies...This notion of problem-solving research has been criticized by a number of scholars, who argue that the reality rarely conforms to this neat model. Instead, research tends to have a more diffuse, gradual and indirect impact on policy...In short, there are strong indications that research being produced or commissioned by these agencies is not being used to inform policy. (p. 5-6)

If policies created by and for organizations are simultaneously research-driven and research-uninformed, questions emerge around how “experts” view the policies and the interpretations of their research in terms of agreeing or disagreeing with the final output, the underpinning logics of the policies (and, by extension, the interpretations of their research), the impacts of these policies, and the perceived contexts that contribute to this division between researchers and policy texts. Such questions are particularly relevant for protective policies given the impetus to “protect” athletes and uphold organizational commitments to fair competition, inclusion, athlete health, and non-discrimination (Gleaves & Lehrbach, 2016). Moreover, despite these objectives, the previous

chapter and existing literature has indicated the potential for protective policies to elicit (unintended) harm to athletes, especially those from the Global South and with underrepresented identities (see Batelaan & Abdel-Shehid, 2021; Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Pape, 2020b; Schultz, 2021). In the case of protective policies, such questions are even more urgent to subject to investigation given the close-knit community of researchers, medical personnel, scientists, and physicians that recurrently lend their expertise to organizations such as World Athletics and the IOC that often results in a niche and often narrow understanding of “protection” in policies (Bekker & Posbergh, 2022).

Given that knowledge “is not simply descriptive, but productive” in generating constructs such as “normative categories” and “prescriptions of power,” examining the formation and interpretations of expert knowledge provides insight into the circulation of dominant discourses, established power relations, and government’s rationalities and technologies (Packer, 2003a, p. 139; Foucault, 2003). In particular, the taken-for-granted validity of “expert knowledge” is intricately connected to Foucault’s views on power through establishing divisions between true and false. For Foucault, “only those statements which are ‘in the true’ will be circulated,” with one of those circulations and manifestations being in policy guidelines” (Mills, 2003, p. 58). The ostensibly objective representation of “expert knowledge” is further enhanced through the parallel reputation of medico-scientific discourses. As described by Dreyfus and Rabinow (1982): “expert knowledge takes essentially what is a political problem, removing it from the realm of political discourse, and recasting it in the neutral language of science” (p. 196; as cited in Li, 2007). In essence, the scientific “expert knowledge” becomes a regime of objective, medical Truth that corresponds to both government’s rationalities *and* technologies (Foucault, 1978; Markula &

Pringle, 2006). Such is particularly the case for protective policies, given their scientific backing and heavy incorporation of medico-scientific discourses.

Thus, in this chapter, I analyze interview transcripts with nine scientists, medical personnel, researchers, academics, and physicians involved with researching, creating, and implementing the three case studies. I particularly focus on the values or viewpoints that they take on issues relating to women athletes; how they understand “protection” in relation to sport values, sport organizations, and (women) athletes; and their opinions on the written guidelines in current protective policies. In doing so, I look to provide a deeper understanding of how, why, and under what contexts the rationalities and technologies of protective policies, as technologies of governance, are conceptualized.

Findings

While I thematically present these findings, it is important to note that they do not reflect consensus amongst participants’ responses. Rather, they reflect broad ideas that most, if not all, participants discussed. However, the specific viewpoints or stances of each participant may or may not have been shared by others. Indeed, a significant challenge in constructing and implementing protective policies is the myriad opinions, voices, and expertise that are considered when defining ideas of “protection,” “woman,” and even “sport.” As Wells (2020) concludes in her examination of female eligibility regulations, those involved in creating policies rarely, if ever, reached any sort of consensus on the best ways to determine female eligibility, or even if such processes are necessary at all. Recognizing the multiple dimensions of protection, especially through interviews with physiologists, exercise scientists, gynecologists, sociologists, and geneticists—all of whom are involved in the research, development, or writing of the three case studies in this dissertation—I thus view my findings as “considerations” that include a range of opinions (Bekker & Clark,

2016). I do so, not to suggest that experts are confused, unable to concisely express their opinion, or actively seek out disagreement, but instead, to demonstrate that knowledge and governance is non-linear process that is constantly contested at the macro and micro levels (Foucault, 2003a, 1978).

In what follows, I discuss five themes from participant interviews. First, I examine how participants understand the institution of “sport,” particularly concerning the most relevant or important guiding values, and sport’s relationship to society. Next, I discuss how participants determine protective policy guidelines, particularly in cases where there are disagreements over the most relevant rationalities and appropriate technologies of governance, which often results in “compromise” policies. I then introduce my third finding, which examines how participants view the idea of “male advantage,” and their simultaneous reification, disputation, and negotiation of the stereotypes that underline this idea. Fourth, I explore how the idea of the “exploited” athlete often emerges in contexts relating to athlete health, fairness, and medical treatments, and how this characterization is underlined by attentions to geopolitics and nationality: a significant trend given that a majority (if not all) of protective policy “experts” are located in the Global North. Lastly, I return to the centrality of “protection” in participants’ responses and how “protection” is ultimately a heterogenous idea that includes a range of athletes and draws from a myriad of considerations, discourses, and knowledges.

Growing pains: Constructing sport and its underpinning values

All participants spoke of the relationship between sport and society across multiple dimensions, particularly around how sport shapes and is shaped by society. As Scientist F succinctly comments, “[sport] is a surrogate for a lot of what goes on in society.” Taking it one step further, Scientist E notes that “sport wishes to be a healthy activity that protects the individual,

promotes society as such, and is of such importance in society.” Likewise, Scientist C remarks that, “I think sports is very important in society and for many, many people.” Whether in terms of values, interests, current issues, or health, all three scientists indicate the inseparability of sport and society, which was echoed by all other participants to varying extents.

However, there emerged conflicting ideas over how sport could (not), should (not), and did (not) reflect societal *progress* especially in matters of gender, health, and inclusion. Sometimes participants explicitly addressed these discrepancies. At other times, there was a subtler suggestion towards the distinctions between (elite) sport and society. The result was a broad disagreement around whether sport should adhere to more traditional ideologies or adopt more progressive approaches and values. This complex relationship was best summarized by Scientist B’s comment:

Sport, it’s a social construction, we make it what it is. But it’s also being contested at the everyday level. It’s always changing. And some people don’t like that. Some groups, some organizations, they want sport to stay the same. But sport has always been evolving.

Overall, Scientist B speaks to two particular aspects of the connection between sport and society, and the values undergirding this relationship. First, that sport is a construct; the values, rules, and structures within sport are human-made. Second, that there are often disagreements over how and if these dimensions of sport should change. Across all interviews, participants unanimously agreed with Scientist B’s first point (much like recognizing the relationship between sport and society), while their answers reflected Scientist B’s second point (i.e., participants disagreed over how or if various aspects of sport should change).

The social construction of sport manifested in several topics for participants, but especially when discussing fairness and integrity. For example, when pushing back on the idea of sport as a human right, Scientist D explains, “the only thing that’s natural is that we run or we jump...but I don’t think there’s anything natural about organized sport.” Scientist D explains that, while the

actual physical actions and movements in sports were natural, the performative ranking criteria and rules of organized sports were anything-but-natural and instead, were human-created. Considering that human rights are principles that are naturally inherent to every person in the world, for Scientist D, the social construction of sport fails to meet this standard, thereby rendering it *not* a human right. Scientist H takes a similar approach to Scientist D when discussing sports integrity:

Sports integrity is really a very artificial concept. Because it's created by each organization that makes its own rule, but because we have those supranational organizations, so much money, and have so much interest in captivating audiences, and dictating who can play and who cannot play, and it's exciting for sponsors, then it becomes a rule. So, sports integrity, quite artificial.

For Scientist H, the artificiality of sports integrity emerges from the myriad stakeholders involved in sport, ranging from the sponsors, to the audiences, to the sports administrators. With all these different agendas and backgrounds involved with creating the fundamental values and guidelines/rules of sports, Scientist H argues against the innate nature of “sports integrity” as it, instead, is created by and for organizations and other affiliated parties (Bekker & Posbergh, 2022; Kidd, 2018).

In line with the broad acknowledgement that ideas around the “integrity” or “meaning” of sport were malleable, participants disagreed over which values and ideologies should be upheld by sport (organizations). Some participants believe that maintaining sport's current structure and logics is vital for building on and progressing women's acceptance and success in sporting spaces. For instance, Scientist A explains how having a separate women's category has allowed women athletes to access and triumph in sport, in ways that were previously unattainable to them: “if we don't have a separate category for women, women won't be winning Olympic medals or capturing professional contracts.” Extending Scientist A's argument to the context of protection, Scientist D

notes that the purpose of having separate categories for women and men is to “protect women athletes by excluding male athletes.” While Scientist A simultaneously recognizes that sport, across all levels and competition categories, is “supposed to be healthy” as there is a “health vein that runs through it”—a sentiment shared by nearly all other participants—for Scientist D, the importance of sex differences corresponds to both sex segregation *and* the uniqueness of women’s bodies. This distinction was fundamental for Scientist D as exemplified by their comment: “I hate it when people erase sex differences...to lump [women] all together as though [they] have the same problems won’t solve the problem.”

Conversely, other participants problematize sport’s current structure, as well as its underpinning values. In this vein, Scientist H notes that the problems of defining who “counts” as a woman would continue to persist so long as sex-segregation was the dominant model. As they remark, “to me...as long as we have a segregation of gender categories, that’s the main challenge.” For Scientist H, the adherence to a historical and traditional organization (i.e., sex segregation) was inadequate to allow sport’s progression with consideration to gender (and race) dimensions. Thus, “progress” would require a new, alternative structure that reimagined separate women and men’s categories.

In a similar vein, Scientist B reflects on the roles of authority figures in deepening and entrenching traditional values of sport, which are often based on their own accomplishments:

I almost wonder if people in sport, who love sport, who are entrenched in that system, choose to see the things they love, and they kind of get a sense of these other things that aren’t quite right. But it’s too much, so they really just kind of hold tight to what they know is good about sport...I think a lot of these people have this idea that sport is inherently good. It’s been good for them, it’s been good in many situations in their lives that they’ve seen in other people’s lives.

Speaking to those who now hold highly influential or authority positions in sports organizations and are responsible for instilling values within sports policies (and, assumedly, sporting cultures),

Scientist B observes that, often, many of these individuals have been successful in sports, whether as an athlete or an administrator. Since the sporting “system” has benefitted them, they are reluctant to change the methods, strategies, and tenets that guide their respective sports and the broader sporting institution. In other words, they view sport (in its current form) as “inherently good.” This, however, is not a universal experience for all athletes, particularly given the Eurocentric, western, and male roots of contemporary sport, which creates an uninviting or even harmful space for those who transcend these norms (Carrington, 2015; Clevenger, 2017; Darnell & Hayhurst, 2011).

Overall, and even when recognizing that sometimes rules need to change to reflect societal developments, participants acknowledged the difficulty of changing or updating existing rules. Specifically, Scientist G comments on the challenges of this process in their remark of: “the new rule has got to be a lot better than the old rule... You have to really prove that you’re not just a new group of people making new rules.” The struggles to change existing rules, even as certain policies include clauses about updating their guidelines in light of future or new evidence (which, notably, includes the protective policies analyzed in this dissertation), indicate the barriers to reimagining historical and normative values in sports: a reality that is, perhaps, also reflected in society around issues of gender, race, sex, and sexuality.

Compromise and protective policies

Interestingly, while all participants were involved with the development of one or multiple protective policies, no participant enthusiastically endorsed the specific policy guidelines. Their reservations behind fully agreeing with the written guidelines in the protective policies were broadly a result of two acknowledgements: (1) that the guidelines were subject to change in light of future (scientific) evidence and, (2) given the number of stakeholders involved with and/or

impacted by protective policies (e.g., scientists, physicians, researchers, coaches, athletes, sports administrators), it was impossible to create a solution in which all involved parties were satisfied⁵⁷.

To account for these different factors, participants often characterize the current protective policies as “reasonable compromises.” Scientist C, for example, uses the label of a “compromise” while explaining the challenges of balancing inclusion with fairness in protective policies. They explain that,

This is a very complicated matter from a medical point of view and a biological point of view... I don't think we can say that we will ever reach equality...But we must offer some kind of alternative...So in some ways, a policy will be compromise.

While acknowledging that they approach protective policies from a biological perspective, Scientist C was cognizant of multiple biological, social, cultural, and historical dimensions relating to women athletes, women's bodies, and the women's category. In turn, Scientist C recognizes that it may be impossible to create a policy that allots the same opportunities to all athletes. As such, for Scientist C, it was necessary to focus on finding a compromise so that the greatest number of athletes, especially those with underrepresented identities related to sex/gender and sexuality, are able safely participate in sport without compromising organizational values such as athlete health and fair competition (IOC, 2020). This idea was supported by Scientist A who also reiterates the characterization of a “compromise” policy in the context of World Athletics' female eligibility policy: “while this policy may not be ideal from anybody's point of view...you can say ‘well, that's not an unreasonable compromise.’ And overall, I would look at that policy as not an unreasonable compromise.” While conceding that not all individuals involved with or impacted

⁵⁷ As previously noted, Dr. Cassandra Wells (2020) arrives at a similar conclusion in her dissertation in the context of previous and existing female eligibility policies. In particular, she notes that there was and is significant disagreement amongst leading scientists involved with the creation of all female eligibility policies, in terms of the mechanisms for testing eligibility and if such measures are even necessary.

by the WAFER would be pleased with the current iteration, Scientist A later explains that, “there probably is no ultimately fair solution...to all of the people who are stakeholders in this question.”

Likewise, when discussing World Athletics’ transgender eligibility policy—which shares the same 5 nmol/L testosterone limit for transwomen as World Athletics’ female eligibility policy—Scientist F remarks that the limit of five nmol/L is “probably reasonable,” in the context that it is “reasonable to have the same thresholds for athletes with [difference] of sex development and high testosterone as you have for levels of transgender.” They later elaborate on this point, explaining,

If you’re going to use a testosterone threshold then it might just as well be uniform. It makes no sense to have a testosterone threshold of ten for one group and five for another, that just makes no sense whatsoever. If you’re going to have a policy, it ought to be uniform...mind you, my own feeling is that you don’t need a testosterone threshold for athletes with a [difference] of sex development.

Scientist F’s rationalization of this logical congruence between testosterone limits for both eligibility policies especially reflects the idea of a “compromise” policy: while disagreeing with a limit of endogenous testosterone for women with a difference of sexual development, they agreed that was more logical to match the testosterone limits *if a policy was to be implemented anyway*. In effect, Scientist F concedes that having policies for transgender and female eligibility—despite not believing the latter is necessary—should be consistent.

From another angle, the connotations surrounding “reasonable” suggest that the development and implementation of protective policies are continually evolving and progressing. When reflecting on their experiences with sports organizations to develop policies and guidelines relating to the protection of (women) athletes, Scientist B comments on the progress of sports organizations and organization-created policies to consider values and forms of knowledge outside of medicine and science. Initially noting the challenges for sports organizations and “people in

those [authority] positions to make those points about more nuanced ideas of protection,” they later describe current efforts to change sporting cultures and corresponding protective policies. They largely attributed these positive developments to the efforts of athletes and grassroots organizations, remarking, “we’ve seen lot of movement from the ground up with the athletes speaking out...the journalists [are] keeping at it...and then some people placed in organizations, working into those positions so that they can keep pushing.”

For Scientist B, the positive changes coming out of sports organizations was contributable to several involved parties: athletes, journalists, and even those within the organization. Through a collective effort by all these individuals, sports organizations had begun to create necessary and effective protective policies, which had the potential to enact necessary “real cultural change in sport.”

At the same time, there was a recognition that there was still an ample amount of progress to be made, as noted by Scientist J: “I think there is still quite a lot of work to do...In many cases, I have the feeling that it’s more showing that something that is happening in that area of equity rather than really changing the culture of it.” For Scientist J, while they recognize that sporting cultures and ideas of protection were improving, they also express concerns that some of these changes were superficial. Without actually tackling the deeply embedded and cultural norms that undergirded “protection,” Scientist J describes the ongoing equity efforts as surface-level or like paying lip-service to organizational commitments than enacting broader, systemic change (Ahmed, 2012, 2019; Spaaij et al., 2018).

Reifying, disputing, and negotiating the idea of “male advantage”

One important dimension in characterizing protective policies as a “compromise” was a broad consensus of the advantages that male bodies⁵⁸ have, on average, over women’s bodies. However, participants were divided over whether these advantages (on average) were purely physiological or a general, unproblematic gendering of bodies. To support their opinions, participants drew from a range of knowledges. All addressed biological and physiological aspects, but there were also several who recognized the blend of sociocultural dimensions with the biophysiological factors to create the mirage of an objective “male advantage.”

For instance, when explaining the challenges that women athletes have faced, Scientist G approaches the idea of “advantage” through a blend of sociocultural, political, and biological considerations, initially remarking that, “sports was heavily a male thing.” When describing the eventual inclusion of women in sport, they explicitly draw attention to the retention of sport as a male-dominated space while also noting the physiological differences between women and men: “part of it is that men would win if there wasn’t a handicapping process, on average...but part of it is, we were sexist anyway...we never tested a situation where we weren’t being sexist.” While Scientist G acknowledges that, on average, men out-perform women in sport, they also indirectly question whether this is a universal truth, as those governing sport or involved with policymaking/inclusion efforts were “sexist anyway.” Through including this statement, Scientist G suggests that the average performative differences between women and men is not a purely

⁵⁸ I use the phrases “male body” and “female body” throughout this finding to faithfully reflect many of the discursive choices of participants. While some participants assumedly used the terms of “male/female” and “men/women” interchangeably in most contexts, Scientist D carefully explained that they use “the word ‘woman’ to be inclusive and then use ‘female’ in the medical scientific sense.” I more fully explore the medical undercurrents of the rhetorical uses of “male/female” and “men/women” in the following chapter, especially in the context of the phrase “biological male.”

physiological phenomenon, but rather, is influenced by historical, social, cultural, and political factors (McDonagh & Pappano, 2008).

Scientist B and Scientist F also recognize the multifaceted question of “male advantage,” particularly through the example of transgender athletes. Scientist F, for instance, uses subtle discursive strategies to suggest that the idea of “male advantage” is a perception rather than an unquestioned reality. At the same time, they are conscious of the bio-physiological distinctions between women’s and men’s bodies. When describing the current testosterone limits in World Athletics’ transgender eligibility policy, Scientist F explains that,

I think the testosterone threshold is clearly a problem because 10 nanomoles per liter threshold is really in the male range already. The lower threshold is somewhere around 7, 7.1. So it certainly ought to be less than that. The upper limit of female is around 3. I don’t know that it necessarily has to be three. But certainly, it should be less than 7.

Through demarcating the bimodal boundaries of “male” and “female” testosterone ranges, Scientist F makes clear that there are hormonal differences, on average, between women and men. At the same time, when describing some of the challenges of including transgender athletes in competition, they remark, “the issue would be, in terms of muscular advantages that are *perceived* to be persistent” (italics added for emphasis). Amidst their recognition of the material differences between male and female bodies, especially concerning testosterone levels, the specification of “perceived” advantages—which persisted throughout several of Scientist F’s comments—suggests that there is a level of uncertainty around whether those differences can be universally characterized as performative “advantages.” As such, for Scientist F, the regulation of particular attributes is consequent of a *perception* that they are an unfair advantage to the individual athlete or group of athletes.

Mirroring Scientist F’s position, Scientist B reflects on their involvement with organizational and policy efforts to include transgender athletes, commenting:

I've definitely heard different perspectives on [the inclusion of transgender athletes]. The argument of the athletes who have trained their whole careers and they feel like they've been cheated when they are up against an athlete's body who's had the unfair advantage of testosterone at age 18 before they transitioned, or whatever it might be.

For Scientist B, the idea of a physiological and unfair “male advantage” is one opinion that they have heard from others (namely, athletes). Without denying the biological reality of sex differences, they later remark that, “I can kind of see that perspective, but I actually think athletes need some education around that. Some empathy around that. What is sport for actually?” In essence, Scientist B encourages those with this viewpoint to critically reflect on the broader values of sport and how this form of thinking might be incongruent with the values underpinning sport (Gleaves & Lehrbach, 2016): a relationship between (the values of) sport and society that elicited multiple opinions from interview participants, as previously discussed. Scientist B ultimately approaches the question of “male advantage” as one which does not have a singular answer. Rather, the idea of “male advantage” engages a confluence of social, historical, and political interpretations of biological differences: a stance that has been echoed by critics of sex segregation (Anderson, 2009; Channon et al., 2018; Tännsjö, 2002).

Others were more resolute about the performative advantages of men over women, framing the idea of “male advantage” as an irrefutable and factual Truth. Yet through this framing—and without denying the material differences between women's and men's bodies—participants agentically navigate ideas of gender equality in sports. This was especially reflected in Scientist E and Scientist D's discussions of conceptions around women's bodies and physiological performance-relevant differences between women and men. When describing the challenges that women athletes have historically faced, Scientist E notes that, there was “a belief in the old days that women were less strong, perhaps more vulnerable...now we know women are just as capable as men of withstanding challenges.” Scientist E juxtaposes historical conceptions of the “frail

female body” with contemporary opinions that push back on this gendered logic, to the point of drawing out equal capabilities between men’s and women’s bodies.

Later, Scientist E states, “most events, especially in [track and field], but certainly in most sports, where there is strength or endurance are of importance, men’s performances are about 10-12% better than women...a sex-neutral competition with both sexes involved will not be very fascinating.” Scientist E’s simultaneous opinion that women are “just as capable as men” with the assumed reality that men, on average, will exhibit athletic performances that are approximately “10-12% better than women” presents a potentially contradictory narrative around the “male advantage” narrative.

On the one hand, Scientist E invalidates previous logic that women were “lesser than” or “derivative of” men, particularly in terms of athletic capability (Cahn, 2015). On the other hand, Scientist E endorses the general consensus of exercise science research, which is that men are, on average, athletically and performatively superior to women, thus reestablishing their “lesser than” and “derivative of” status. Importantly, this logic is largely reflected in the written justifications of eligibility policies⁵⁹ (WA, 2019a, 2019b) and is reiterated by Scientist D’s contextualization of the differences between women/girls and men/boys in terms of bodily development: “the fact that men are getting stronger as women are getting weaker...literally, [women’s] bones are getting weaker as [men’s] are getting stronger in the late adolescent period.” Scientist E also speaks to these physiological distinctions in the context of “female disadvantage”: “women are women and men are men, and women have their special, say, physical physiology and biology, which you have to

⁵⁹ In the next two chapters, I more fully explore the discourses within policy texts and participant responses to investigate how they converge and diverge, and on what topics (such as performative differences between women and men).

take into account when you evaluate what can be good and when there may be some unnecessary risks.”

In all, Scientist E’s juxtapositions of these two seemingly contrasting opinions illustrates the complexity and contextuality of “male advantage.” Through holding both opinions—that women have overcome several sociocultural and political challenges prohibiting them from accessing physical culture spaces *and* that women are performatively inferior to men—Scientist E ultimately contributes to the circulation of “male advantage” as an assumed, taken-for-granted reality. This attitude is also shared by Scientist D, whose discussion of why women have more fragile bones than men reiterates narratives of the weaker female body. That is to say, for Scientist E and Scientist D, given that contemporary sports have “progressed” past historical notions of the “frail female athletes⁶⁰,” any and all current performative differences are ostensibly based in material and objective “fact.”

Without denying the materiality of women’s bodies and corresponding biological realities of injuries unique to women (Schofield, Thorpe, & Sims, 2020, 2021; Thorpe & Clark, 2020; Thorpe, Clark, & Brice, 2021), especially those related to RED-S (e.g., stress fractures, cessation of menses, declining performance; see Mountjoy et al., 2016), the particular framing of the average performative differences between women and men continues to reinforce the idea of “male advantage” as an impenetrable “Truth” (Foucault, 1984). In turn, this also implies that it is imperative to monitor bio-physiological characteristics that authority figures assume contributes

⁶⁰ This has, of course, been discredited on numerous occasions. For example, Gian Franco Kasper, former president of the International Ski Federation and IOC Committee member, stated in 2005 that “he opposed women’s ski jumping because ‘it seems not to be appropriate for ladies from a medical point of view’” (Clarke, 2014; see also Vertinsky, Jette, & Hofmann, 2009). To this effect, Lindsay Van, an Olympic ski jumper and pioneer for women’s ski jumping, has noted that she has frequently been asked if her “uterus [has] fallen out yet” (Clarke, 2014). I do not have extensive knowledge of ski jumping, but I have not yet come across a story of a situation in which a woman’s uterus actually fell out during this sport (or any others, for that matter).

to sex-based strength and endurance differences and may also be connected to health concerns (especially for women), with protective policies emerging as one mechanism.

Geopolitics and the exploited (un)healthy athlete

From their discussions around the purpose of sports and the relationship between sports and society, several participants express concerns for athlete health, particularly in terms of the normalization of athlete exploitation for organizational and national benefit. Within this topic, participants typically provide explanations of the ways in which athletes were and are exploited, along with proposed or policy-written solutions to these issues. Participants' rationales, explanations, and discourses involving athlete exploitation often engage discussions around the entanglement of sex and gender with race and nationality. In this vein, several participants express a deep concern over the dehumanization of athletes, to the point of expendability, and the perpetuation of a culture that allowed (or even encouraged) such actions. As Scientist B notes,

We think about the athletes as the here and now, and they are very dispensable. They get injured and we toss them to the side, and we find the next one who's in the ranks...I would love to see a shift in the culture...sporting environments that respect [athletes] as human beings, with the idea that they'll go on to live healthy and fulfilling lives after sport.

Part of Scientist B's frustrations with the current sporting culture is the replaceability of athletes: once one athlete is injured, sports organizations and/or those in authority positions merely seek out their replacement. Scientist B advocates for a cultural shift to instead, value the whole athlete, beyond simply their athletic successes in the present, but also their futures after sports. Subsequently, for Scientist B, "protection" from exploitation extends beyond the athlete as a competitor, but into their post-competition lives.

While generally agreeing that sporting institutions and cultures, as a broad category, have historically (and in many cases, still today) devalued athletes' lives for financial gain or national

clout, some participants were more specific as to *how* they are exploited and *who* exploits athletes, especially with consideration to athletes' race and nationality. Scientist F, for example, draws connections between protective policies and historical incidents of doping, indicating the importance of protective policies to protect athletes' rights and fairness in competition:

The classic case of the East German women athletes dominating during the 60s and 70s is a good example of [doping]. And that becomes particularly dangerous when it's done in the name of the country in which they're competing for. It's virtually impossible, certainly pretty hard to resist taking a substance if you're competing for your country.

The challenges of protecting athletes in cases of doping, Scientist F argues, is that sometimes, the organizations that are meant to protect athletes are, in fact, the ones who are inflicting harm on them or encouraging wrongdoing. In essence, athlete exploitation becomes an acceptable part of improving a nation's athletic reputation⁶¹. Scientist F contends that this is especially challenging when done in the "name of the country in which [the athletes are] competing for"—to the extent that, at times, doping is "a far greater issue than some of the issues of gender and sex."

Not all athletes are equally exploited or (un)protected though, especially when considering dimensions of race and nationality. Even Scientist F was aware of this as they remark, "I think others have commented on the fact that many of the issues regarding gender...have a tone of nationalism in the sense that they seem to be directed at the...women of the Southern Hemisphere." While quickly following this observation with the remark, "I think that may be a bit of an overstatement," their initial comment reveals the broad awareness of the unevenness of who is impacted by protective policies, especially in the case of female eligibility policies (see Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014). Thus, even as protective policies

⁶¹ The commonly told story of Hermann/Heinrich/Dora Ratjen, a high jumper who was told, through loyalty to Hitler, to bind his genitals and compete as a woman in the 1936 Berlin Summer Games (Heggie, 2010; Pieper, 2016). However, and as noted in Chapter 2, there are doubts around the validity of this story. Nonetheless, scholars have argued that the success of this story's circulation is illustrative of nationalist attitudes that reinvent historical stories for political, cultural, and social gain (Heggie, 2010).

exist to protect athletes, they fail to equally protect *all* (women) athletes, especially with consideration to race and nationality.

When discussing exploitation of athletes for national pride or gain, some participants also draw attention to the underlying health consequences of Global South athletes who did not have access to the same medical facilities and knowledge as athletes from the Global North or Western countries. At the same time, participants' concerns for athlete health were also described as fears of exploiting athletes, given the supposed athletic advantages associated with certain negative health conditions. For example, Scientist C remarks that,

In Western countries, these individuals, they are identified either at birth, early, or at puberty. And in all Western countries, we have guidelines to evaluate these disorders and to offer some kind of treatment. But the cases we have heard in sports, they have all come from developing countries. And they have been brought up in poor conditions, so they have been undiagnosed, and they have not been offered any treatment or anything.

Scientist C's comment is notable for several reasons. First, they recognize that medical knowledge and "treatments" are not universal, namely, that Western medicine is not a global Truth. Second, despite this acknowledgement, they subtly suggest the superiority of Western medical discourses and ways of knowing, as Global South athletes have been "undiagnosed" (by Western medical standards) and "have not been offered any treatment" (derived from Western medicine). Yet, the problems with lacking diagnoses and treatments, Scientist C later explains, is that:

The cases we have heard in sport, they have been undiagnosed. Since there is so much money in sports, this could be taken into advantage. And these individuals could be identified early in life and used for other purposes and I think this—I think there could be a great risk with this.

Moving past the health-related concerns associated with not diagnosing athletes (namely women) with these purportedly dangerous conditions, Scientist C emphasizes the potentials for sports organizations, authority figures, or other stakeholders to take advantage of athletes with such conditions for their personal gain. While highlighting significant unequal power relations between

athletes and those in authority positions, Scientist C re-characterizes purportedly dangerous health conditions as an exploitable sporting advantage. In essence—and despite previously acknowledging the potential for detrimental health consequences—Scientist C describes “these disorders” as geopolitically advantageous for “developing countries.” Through doing so, Scientist C recognizes cultural issues (i.e., the exploitation of athletes; the dominance of Western medicine and simultaneous erasure of subaltern or alternative ways of knowing) yet proposes solutions that fail to address or consider these systemic problems. Concurrently, Scientist C ultimately overlook the vastly unequal power relations between Global North and Global South countries in terms of policy and governance, knowledge and values, financial and human resources, and representation in administrative or authority positions⁶² in favor of drawing upon Western medico-scientific forms of knowledge to construct “problems” and “solutions” (McSweeney et al., 2019).

The result is a curious negotiation of discourses of “athlete health” as “exploitable attributes”: rather than focusing on the importance of protecting athletes’ health through protective policies, some participants suggest that protective policies are necessary to protect athletes from being exploited *because* they have particular (unhealthy) conditions that provide them unfair athletic advantages. In turn, these purported biological advantages are assumed to be found most often in athletes from the Global South, which ultimately reinforces the myths of the “naturally superior” or “animalistic” Black athlete (Cahn, 2015; Lansbury, 2014).

The heterogeneity of “protection”

Overall, participants adopt several perspectives on what “protection” means in the context of sport policies, sport organizations, and athletes. That is to say, “protection” takes on a range of

⁶² There is a substantial body of literature around sport for development (SFD), in which scholars have examined the complex, structural, and sometimes dangerous dynamics between Global North and Global South countries in multiple avenues, such as the ones listed here (see Darnell, 2007, 2010; Hayhurst, 2009; Nicholls, Giles, & Sethna, 2010).

roles: protecting the fairness or integrity of sport; protecting athlete health and safety; protecting the purpose of the women's category; protecting athletes from being exploited by organizations and authority figures; protecting the rights of the majority of women in sport; protecting the right to participate in sport. Often, these categories are not mutually exclusive as participants understand "protection" to encompass many avenues, resulting in the overlapping of topics such as athlete health and fairness, or participation and safety. Yet, even as some participants characterize "protection" under the same label(s) as other participants (e.g., protecting the right to participate in sport), their interpretation of what that means, which was more (or less) important, or how to best implement "protection" sometimes differs.

Overwhelmingly, understandings of "protection" manifest in two ways: fairness/integrity of sports and athlete health. Often, these two topics are presented as connected to each other: by protecting athlete health, the fairness of sports is simultaneously be protected. Conversely, the protection of fairness in sport ostensibly improves or benefit athletes' health. Scientist E speaks to this relationship, specifically regarding the intrinsic focus on athlete health through the creation of sub-committees and third-party sports organizations, such as the IOC Medical Commission and the World Anti-Doping Agency (WADA):

Once WADA was introduced and established and became operational in the early 2000s, [the IOC Medical Commission] turned [its] attention to the protection of the health of the athlete. That is the number one responsibility for the IOC Medical Commission today: protection of the health of the athlete.

Through explicitly mentioning WADA in their discussion of protection, Scientist E indicates the close relationship between protecting athlete health and protecting the integrity of sport. This espoused connection is assumedly influenced by the negative health impacts of doping, which include (but are not limited to) heart disease, abnormal growth, joint pain, diabetes, depression, and even suicide (USADA, 2021). As sports organizations purport commitment to both athlete

health and upholding fair and meaningful competition, doping subsequently violates both of those values. While specifically highlighting the creation and purpose of the IOC Medical Commission to protection, ostensibly, these commitments extend to other sports organizations as well⁶³. Scientist E's logic was also supported by Scientist C, who states that while the goal of sport is to "strive for physical performance," this endeavor "shouldn't outweigh the health of the athlete." Likewise, Scientist A comments:

The training regimens that the very top athletes go through are not necessarily the best way to live your life for longevity and for optimal health... should people [who govern sports] step in at some point to protect athletes from themselves? ...That is, I think, a fairly clear-cut area of protection.

For Scientist A, the potential for athletes to engage in unhealthy behaviors that may elicit long-term harms in the name of "athletic success," obliges sports authorities to step in to "protect" athletes from themselves. Scientist F also speaks to the unhealthy levels of training that athletes needed to be protected from: "sporting agencies have a responsibility to see that...the whole lifestyle of athletics, the intense training that's required is not abused...the training reminds can be so intense that they become harmful to athletes." Overall, these comments are in line with the expressed commitments of sports organizations, such as the IOC and World Athletics, to issues of injury and illness prevention for athletes⁶⁴.

⁶³ During my archival research at the Olympic Studies Centre, I came across several documents in which the IOC Medical Commission invited members of the then-IAAF (and vice versa) to speak on issues relating to doping and female eligibility. The historically close relationship between the two organizations has been mentioned on numerous occasions by previous President Juan Antonio Samaranch in joint sessions between the IOC and the IAAF (Samaranch, 1982, 1987). Additionally, while soliciting interviews, I found that several participants were involved in both World Athletics and IOC working groups, especially on issue relating to protection, sex, and gender, which I believe is further indicative of the close connections between World Athletics and the IOC. This topic has been discussed more deeply by sport and social science researcher Jörg Krieger (2021) in his recent book, "Power and Politics in World Athletics: A Critical History," which is the first to explore the history of World Athletics. In a contemporary context, the overarching goal for the Health & Science Department at World Athletics is to "be the guarantor of the good health and well-being of those who practice athletics," which both matches Scientist E's comment here and reinforces the connection between the IOC and World Athletics, at least in terms of purporting to focus on athlete health.

⁶⁴ One of the primary areas of research for and within the IOC, at least for the past 30 years, is in injury and illness prevention and management (Bekker et al., 2020). In addition to the IOC World Conference on Prevention of Injury and Illness in Sport—an international conference hosted by the IOC that occurs every three years and brings together

Along the lines of athlete health, Scientist H proposes “protection” as including athlete privacy, especially in terms of medical records. As they explain,

What comes to mind when it comes to protection is protection of privacy. Protection of having access to an ombudsperson to represent the athlete that’s not linked to the organization...I think the penalty for people who breach privacy, who access medical records without authorization, I think it should be bigger than what it is.

Other participants extend “athlete health” to include athlete safety and safe sport⁶⁵. Scientist D remarks that protection is inclusive of “protecting [athlete] health...from physical injuries, from physical abuse, all sorts. So you can lump together ‘making me train too hard’ with ‘sexually assaulting me.’” Through including both physical and cultural considerations under athlete health, Scientist D engages a more comprehensive understanding of “protecting athlete health.” Scientist J also elaborates on the cultural aspect of “protection” as they explain that protection in sport means “making sure that athletes feel that there are no threats, no risks, nothing coming from the outside.” Through their attentions to cultural norms and risk factors in the case of athlete health and safety, Scientist D and Scientist J diverge from the overarching dominance of medico-scientific discourses and knowledge that undergirds the creation and implementation of protective policies⁶⁶ (Posbergh, 2022).

At the same time and while discussing athlete health, Scientist B problematizes the colonial and racial logic shaping such protections. This was made particularly evident in their discussion of previous and current research on menstruation and menstrual health in sport. When reflecting on their experience in working with other “experts” on female athlete health, they remark, “there’s

sports and medical experts from around the world—the IOC frequently publishes findings on risk factors, epidemiology, injury mechanisms, and sports-related illnesses (Engebretsen, 2019). Likewise, World Athletics has a medical manual dedicated to scientific and medical information relating to athletes’ health: a focus that is also intrinsic to the creation of their Health & Science Department (World Athletics, 2012).

⁶⁵ Mountjoy et al. (2016) define “safe sport” as “an athletic environment that is respectful, equitable and free from all forms of non-accidental violence to athletes” (p. 1019).

⁶⁶ I discussed this trend in the previous chapter and will revisit how and where this bias manifests in participant responses in the following chapter.

a lot of stigma around [menstruation], a lot of taboo around that. A lot of misunderstanding.” Yet, they quickly follow up this comment with: “I think we’ve got some very problematic Western and scientized ideas...I think those ideas don’t reflect the diversity of women from cultural and ethnic backgrounds.” Consequently, “the scientized nature of [sporting] spaces, and the Westernized nature of those spaces, and the male dominance of those spaces...make these conversations [about female athlete health] incredibly difficult.” While Scientist B recognize the challenges of drawing attention to the unique aspects of women’s bodies, they also acknowledge the Western biases that undergirded (medical) discourses and knowledges around women’s health (Esgin et al., 2019; Thorpe, Brice, & Rolleston, 2020). In turn, this can and does disproportionately prevent indigenous women, women from the Global South, or women of color from safely and healthily accessing or participating in sport.

Other participants also address the significance of gender and sex differences, especially when discussing the simultaneous biological and cultural dimensions of protecting athlete health. Scientist D, for example, observes that abuse and harassment were not equally experienced by women and men athletes and, in doing so, underscored the importance of (recognizing) sex differences between women and men:

Almost all [women athletes] coming up in the 70s and 80s, which is, mostly male coaches, lots of sexual harassment and sexual assault. Now we know that boys, including football players and men [were also abused]...but we also know that the numbers are very different for females. So even if boys and men have the same problem, noticing that women have it at like, 500 times the amount.

The centrality of sex differences persists into Scientist D’s understanding of “protection” to include “protecting” the women’s category. In particular, they explain that there are two principles behind the creation of the women’s category. The first is “to have only women competing in the category” and the second is to “exclud[e] or [protect] the category from the attributes that make women

different from men.” In further contextualizing the criteria for upholding this second principle, they remarked that this process currently consists of identifying athletes who are “doping by androgens” and/or have excessive levels of “male hormones.” The purpose, Scientist D concludes, is to “protect the female category from inclusion or entry by males.”

Supporting Scientist D’s approach, Scientist A also includes the women’s category under their explanation of “protection.” This runs contrary to the idea that “protection” exclusively applies to individual athletes. When discussing this idea in the context of eligibility policies, Scientist A explicitly notes: “I think that the policy should be to protect the category more than necessarily individuals within the category.” In essence, while previously recognizing that protection included elements of individual athlete safety and health, Scientist A’s endorsement of “protection” as something for a broad category rather than an individual or individuals, ultimately reflects the malleability and contextuality behind understanding and implementing “protection.”

At the same time, the separation of a women’s and men’s competition category prompted participants to recognize that there was an informal separation of athletes with consideration to gender, sex, sexuality, and race dimensions. In the case of “protecting” athletes, there is a broad acknowledgement of *who* was protected under this system, with several participants admitting that the “majority” group (i.e., white women from the Global North, which constituted a majority of women athletes, see Stevenson, 2018) was more protected through utilizing sex segregation. More specifically, through creating stringent boundaries for the women’s category, those who failed to conform to or meet these standards were excluded. Consequently, traditional understandings of the women’s category (e.g., as the “carve-out” category) were protected as well as women whose bodies naturally fit within sport’s prescribed biocentric, binary standards—which participants

often described as the “majority” group— as they were not expected or required to undergo (medically unnecessary) “treatments.”

Yet, there were starkly contrasting opinions on whether or not this was an ethical or appropriate method of protection. On the one hand, Scientist A explains that while “everyone has a right to participate in sports,” there also needs to “be at least some acknowledgement that there’s this majority group and there’s a majority group...we need to look after the rights of the vast majority of women, while also trying to have inclusion for this [minority] of people.” A “compromise” policy, as previously discussed, is thus a means to balance protective and inclusive efforts, but notably attributed “protection” to the “majority” group and “inclusion” to the “minority” group. Protecting one group and including another group also then contributes to “protecting” the integrity of the women’s category as a whole.

On the other hand, Scientist H and Scientist B adopt a different approach and question whether creating separate women’s and men’s categories accurately reflect the realities of gender diversity or merely recapitulates historical rationales and justifications of the “inferior female athlete” (Kane, 1995). Scientist H, for example, remarks that “the idea of segregating men and women in sports...comes from a very, I would say, misogynistic perspective.” Later, when discussing how protection factored into the development and retention of sex segregation, Scientist H notes that,

I think now, at least for the big athletic and Olympic organizations claim that it’s really to protect women. That if they were not separated, if women were not segregated from men, then it would be unfair to them...I actually think that women probably would fare better if they were mixed with men.

For Scientist H, the separate women’s and men’s categories fails to aid in women’s progress and identity in sport and society. Rather, by creating a separate category specifically for women— under the guise of “protection”—women are prevented from achieving their full potential. Indeed,

some sport philosophers and historians have echoed Scientist H's arguments when questioning the continued usage of sex segregation in sports, particularly when examining contemporary sports that expressly utilized sex integration such as roller derby and equestrian events (Channon et al., 2018; Pavlidis & Connor, 2016; Tännsjö, 2002).

While also focusing on the dominance of sex segregation in sport, Scientist B reflects on the power relations between sport organizations and corresponding authority figures with the "protection" and inclusion of different categories of athletes. Drawing from recently-added IOC sports such as skateboarding and surfing as examples of alternative sports⁶⁷ that have been adjusted to fit particular (Western) sporting standards, they remark,

Suddenly when you enter these kinds of mega events with mega sports structures that are deeply entrenched with historical ways of knowing gender...suddenly, those alternative kind of sporting structures get challenged and squashed, and that shows the all-powerful force of these sporting institutions.

Through the (forced) adaptation of alternative sports to ascribe to dominant ways of knowing gender and bodies, Scientist B indicates the negative implications of "protecting" a category or system. That is to say, when "protection" prioritizes a structure over individual athletes, those who failed or refused to conform to normative standards are "challenged and squashed." Consequently, and with the "all-powerful force of these sporting institutions," Scientist B suggests that it is thus nearly impossible to reimagine sport, in its current form, as a system that equitably and evenly protects all athletes (Travers, 2008).

⁶⁷ Thorpe and Wheaton (2011) describe "alternative sports" as a sub-category of "action sports," which include "a wide range of mostly individualized activities such as surfing, skateboarding, and free-running, which share a common ethos distinct from that of many traditional institutionalized sports." Such sports, Donnelly (1988) explains, reject "the overly rationalised, technologised, and bureaucratised world of traditional sport, and embrac[e] free, fun, cooperative, and individualistic activities" (p. 74, as cited in Thorpe & Wheaton, 2011).

Discussion

Participants care about protecting women athletes, as evidenced through their research; involvement with sports organizations and creating protective policies; publishing on their research for both academic and general audiences; and willingness to speak with a doctoral student about their involvements with protective policies. I would even argue that they care *a lot*, given the multitude of ways that participants explain that women athletes are and need to be protected. Amidst the multitude of avenues for “protection,” all participants’ responses generally aligned with broad categories such as athlete health, fairness, the women’s category, inclusion, and privacy. However, when asked to more clearly articulate what they perceived the problem to be and what solutions they thought were best, divergences emerged. These differences were often shaped by their own experiences in sport, collaborations with other researchers (in their fields of study and not), professional training, and personal friendships. Even when drawing from the ostensibly “objective” nature of medico-scientific knowledge to explain how and why women (and athletes more broadly) can, should, and need to be protected, the entanglement of the social and scientific ultimately creates numerous ways to understand “protection,” “woman,” and even “sport.” Thus, taken together, these findings reflect the multiple frustrations, approvals, tolerations, and yearnings that experts feel towards the three protective policy case studies.

In addition, participant responses reveal the deeply entrenched gendered and raced structures, practices, and values within sport organizations. This then underlines the complex considerations that shape their proposed “problems” and “solutions,” but which ultimately fail to reimagine the binary, oppressive, and normative ideologies within sporting realms and sport-issued protective policies. Pape (2020c) has discussed this type of “accommodative” theory of gender equity in terms of organizational leadership through investigating the IOC as a case study. In

particular, she argues that within organizational efforts to increase women's representation in administrative positions, there is not a "single trajectory" of women's participation. Instead, "organizations will more easily accommodate women under conditions that affirm the binary and hierarchical logic of gender difference underlying their structures, practices, and norms" (p. 83; see also Acker, 1990). Some participants such as Scientist B and Scientist H draw attention to the damaging and residual effects of gendered, Westernized, and raced cultural norms. However, this did not reflect the viewpoints of other participants, and indeed, was often at odds with the broader consensus. These divergences in perspectives ultimately contribute to "tensions" around researching, creating, and implementing protective policies, which is a point that I will discuss at greater length in the following chapter.

Nonetheless, overall, I would extend Pape's (2020c) conclusion to protective policies. Namely, that protective policies generally adopt a type of "accommodative" rather than "transformative" logic. This is, perhaps, in line with previous efforts of "protecting" women athletes, though adapts to and is contextualized within contemporary and progressive/progressing politics and culture (Grossberg, 2010). In particular, historical efforts of "protection" were substantiated by ideas of the "inferior female athlete," which were then wielded by medical personnel and sports administrators to exclude women from sport, as discussed earlier in this dissertation (Cahn, 2015; Verbrugge, 2002). Today, while participants highlight the, as Scientist H characterizes it, "misogynistic" perspective underpinning these exclusions of women and recognize that current policies are "works-in-progress," the characterization of protective policies as a "compromise" is reflective of their limitations, particularly in terms of tackling pervasive cultural and systemic harms to women athletes. Through centering on individual women or groups of women (especially underrepresented or historically marginalized groups of women), protective

policies and the “expert knowledge” behind their creation continue to bolster systemic forms of discrimination and devaluation of women under the premise of “protection.” Moreover, and in a governmentality sense, the characterization of those involved with researching, creating, and implementing protective policies as “experts” legitimizes their authority to purportedly instruct, guide, and discipline those who are or might be impacted by protective policies. In turn, this contributes to the development of normative bodily standards, which are based on dominant “truths,” discourses and forms of knowledge (Foucault, 2003b; Nettleton, 1997).

At the same time, there is a material reality to sex-based differences that lead to damaging health conditions which uniquely impact women’s bodies (e.g., amenorrhea). While such health conditions *do* occur and should be taken seriously in terms of diagnosis and treatment, cultural and social influences that contribute to the onset of these afflictions are equally as important (Ackermann et al., 2020). Yet, participants are more apt to understand “protection” as an individually-focused topic or one that does not challenge traditional understandings of the women’s category. Consequently, they often propose “problems” and “solutions” that draw from medical and scientific knowledges, which continue to work within normative gendered ideologies, hierarchies, and stereotypes. In doing so, participants circulate and reify dominant forms of knowledge, discourses, and power relations.

Put differently, a participant’s constructed or perceived “problem”—whether it be women’s health, fairness, or participation—often continues to validate, or at least does not actively challenge, beliefs (or, at least, is interpreted as such) in the “inferior female athlete,” under the premise of “protecting women athletes.” In a Foucauldian sense, the power exercised between individuals and sport organizations or authorities to guide individual conduct relies on the privileging of medico-scientific knowledge, which is framed as “neutral” or “objective” (Foucault,

2003a). Although sociocultural and political dimensions do find their way in these “expert knowledges”—and indeed, are recognized at certain times, particularly in protective policy rationales—these become enveloped or biologized within medical and scientific knowledges. Consequently, these medico-scientific discourses aid in the construction and framing of objective “expert knowledge,” which subsequently governs individual conduct to align with normative constructions of women’s bodies and women athletes (Rose & Valverde, 1998).

The dominance of medical and scientific discourses also contributes to a disconnect between the cultural dimensions of “protection” with the more individually-focused solutions proposed by participants. While participants recognized the role of institutions and cultural norms in perpetuating or permitting harms against athletes—thereby necessitating protection of athletes—their specific interpretation of the “problem” and corresponding “solution” often failed to transform the systemic logics that undergirded the issue. In essence, while broader cultural issues manifested in the rationales behind protective policies (i.e., the “problems”), the dominance of medico-scientific discourses in participants’ responses (and document texts, as illustrated in Chapter 4), prevented propositions of “solutions” that adequately addressed the systemic nature of the “problems.”

Even when recognizing that culture influenced whatever the problem was, or even was the actual problem (e.g., the protection of the women’s category, negative impacts on women’s health, breaches of confidentiality), participants rarely proposed solutions that incorporated these considerations. For example, for athletes who violate normative gendered body standards, participants often suggested forms of “mitigated inclusion” or Westernized medical treatments, rather than considering the shortcomings of a system and culture deeply implicated in Eurocentric ideas of sex, gender, race, colonialism, and power (Carrington, 2015; Clevenger, 2017). The

disconnect between these institutional problems and individual solutions ultimately contributed to the labelling of protective policies as a “compromise,” given that these policies were unable to address all the concerns that stemmed back to a systemically problematic sporting culture.

As government is an unfinished process that constantly undergoes changes to contextualize and respond to phenomena while holding on to certain qualities (Rose, O’Malley, & Valverde, 2006), a reason for the disconnect between the scope of “problems” and “solutions” of protective policies and those involved with researching, writing, and implementing the documents may be the increasing awareness of systemic forms of violence, abuse, and discrimination. Consider, for example, the globality of #MeToo and Black Lives Matter: movements that recently erupted across the world, including in sports leagues, events, and organizations (Abrams & Bartlett, 2019; Evans et al., 2020). A key part of both of these movements was the widespread acknowledgement of and attention to the cultures and systems that allowed these tragedies to occur. Thus, in order for sports organizations to successfully continue governing the conduct of individuals and populations, the rationalities of government (i.e., “problems”) *had* to adapt and consider these dimensions. This, of course, did and does not necessarily mean that proposed “solutions” had to actually challenge or disrupt deeply entrenched gendered, sexed, or raced cultural norms, so long as *some* dimensions of government (i.e., rationalities) contextualize and respond (Bekker & Posbergh, 2022; Kidd, 2018; Pape, 2020c). In other words, while recognizing relevant cultural issues in matters of protection and subsequently adapting rationales to reflect these acknowledgements, there remained very minimal (if any) changes in terms of proposed “solutions.”

Although I argue that these findings generally reinforce institutional gender inequalities, relations, and norms, I simultaneously believe that there is an ongoing and progressive shift in researching, creating, and implementing protective policies: a process that is characteristic of

government, which constantly undergoes changes to contextualize and respond to phenomena (Rose, O'Malley, & Valverde, 2006). I contend that this change (or at least, attempt to change) is what lies at the heart of the complications creating protective policies. Social scientists, especially those working in transdisciplinary areas such as new materialism and STS, have urged more complex ways of understanding women's bodies so as to neither fall prey to previous sociological disregards of the body's materiality, nor biologize such gendered stereotypes (see Frost, 2011; Jette, Esmonde, & Maier, 2019; Markula, 2019; Newman, Thorpe, & Andrews, 2020; Thorpe & Clark, 2019; Thorpe et al., 2020). While social science "experts" have historically been left out of conversations around policy research and creation, there is hopeful evidence that this narrative is changing, particularly in areas of safeguarding (see IOC, 2021; WA, 2021b). Furthermore, exercise science and medical personnel are increasingly exposed to social science research in the forms of bioethics, epidemiology, and human rights research, thereby encouraging a more comprehensive approach to topics such as "protection," which have been dominated by medico-scientific knowledge (Thorpe et al., 2020). Nonetheless, the road to change is laden with "growing pains."

With the complexities, tensions, and incongruences of opinions, approaches, and values held by those involved with creating protective policies, how, then, *are* protective policies created? More specifically, how are certain knowledges and discourses selectively and, perhaps, opportunistically utilized at various points throughout the protective policy creation process (i.e., from researching, to drafting, to implementing), and why? To answer these questions and begin to more fully understand the messy and contentious process of creating protective policies, I examine both document texts *and* participant responses in the following chapter.

Chapter 6: Defining ‘Woman’: Creating and Implementing Protective policies in Elite Women’s Sports

Note: This chapter has been published in the *International Review for the Sociology of Sport* (<https://doi.org/10.1177/10126902211072765>). This paper was also awarded the 2021 Barbara Brown Outstanding Student Paper Award (doctoral category) from the North American Society for the Sociology of Sport. While aspects of this chapter are from previous chapters (namely, part of the literature review, theoretical framework, and methods), I have included the manuscript in its entirety. Additionally, anonymized scientist “names” are the same as previous chapters.

In particular, I view this chapter as a segue between the first two empirical chapters that looked individually at document texts and participant responses (i.e., Chapters 4 and 5 respectively), and the final empirical chapter which more closely compares the two data sets (i.e., Chapter 7). As with Chapter 7, I examine both data sets in this chapter, but I primarily focus on the *process* of creating protective policies (i.e., the “how”). This begins by focusing on the process of rationalizing protective policies and determining “appropriate” forms of evidence, to justifying or refuting a separate women’s category, and finally to implementing protective policies. I introduce these steps (and this process as a whole) as “tensions.” These tensions lay the groundwork for Chapter 7, in which I more closely parse through and investigate the rationalities and technologies of protective policies (i.e., the “why”).

“Everybody’s goal was always to protect women athletes. The difficulty, of course, is in the details” (Scientist F)

In April 2018, World Athletics (WA; the international governing body for track-and-field) released its female eligibility policy, which limited blood testosterone levels to five nanomoles per liter (nmol/L) for women athletes with X,Y chromosomes competing in event distances between 400-meters and a mile. While arguing that the policy was necessary for protecting ‘fair and meaningful competition’ for women’s sport and encouraging “gender-affirming” treatment for women with undiagnosed differences of sex development (see WA, 2019a), critics highlighted the dubitability of scientific “evidence” associating testosterone with performative excellence (Jordan-Young & Karkazis, 2019a; Karkazis et al., 2012), restrictive definitions of femininity (Cooky & Dworkin, 2013; Pieper, 2016; Schultz, 2011), imposition of Western ideals (Henne & Pape, 2018; Magubane, 2014; Karkazis and Jordan-Young, 2018), and scientification of gender/sex (Karkazis & Jordan-Young, 2018; Pape, 2019a; Wells, 2020). Despite challenges from Caster Semenya and Athletics South Africa (ASA), in May 2019, the Court of Arbitration for Sport (CAS)—sport’s highest ethical court—ruled that the policy was discriminatory, but of “necessary, reasonable and proportionate means” (CAS, 2019, p. 160). In response, athletes such as Semenya and Annet Negesa disclosed their traumatic experiences to attain previous eligibility standards, which included gonadectomy, unnecessary hormone treatments, and years of pain (Bekker & Posbergh, 2022). Nonetheless, the policy remains in effect today.

Five months later, WA quietly released its updated transgender eligibility regulation, which lowered its original ten nmol/L limit for transwomen to a five nmol/L (the same as its female eligibility policy) without any testosterone restrictions for transmen (WA, 2019b). As with its female eligibility policy, WA stated that its transgender eligibility policy was to “protect the health

and safety of participants” and “guarantee fair and meaningful competition” for women athletes (WA, 2019b, p. 1). Yet, critical scholars have underscored how testosterone discourses reinforce an impenetrable sex/gender binary supporting the “inferior female body” and a form of gender-conforming inclusion that fosters gender inequality, homophobia, and transphobia (Love, 2017; Travers, 2018).

One month later in November 2019, former professional Nike runner Mary Cain made public her struggles with relative energy deficiency in sport (RED-S) in a *New York Times* opinion editorial video (Cain, 2019). Citing a toxic training environment and pressure to conform to an unrealistically thin ideal, Cain revealed numerous stress fractures, three years without menstruating, thoughts of self-harm and suicide, and ultimately, deteriorating performances. Her experiences emerged despite increased attention by sport organizations, such as WA and the International Olympic Committee (IOC), to damaging health conditions. Since 2006, the IOC has released multiple consensus statements—such as its 2014 consensus statement on RED-S (Mountjoy et al., 2014)—to protect athletes’ health and provide guidelines for the IOC and other sports organizations (Weston, 2017). Still, scholars and other athletes have urged sports organizations to take a more proactive role in establishing protocols and eliminating abusive training environments (Ackerman et al., 2020).

The narratives of Semenya, Negesa, and Cain—and WA’s female eligibility and transgender eligibility policies, and the IOC’s consensus statement on RED-S—illustrate the concurrent harms and needs associated with protecting (women) athletes. While protective policies share an intention of protecting athletes through ensuring women’s safety and health, defending “fair competition” in women’s sport, and/or preventing the violation of social and medical boundaries that define who is a “woman” (Cahn, 2015; Jordan-Young & Karkazis, 2019a;

McDonagh & Pappano, 2008), “protection” refuses a universal definition. As such, questions remain around what types of evidence and contexts contribute to specific protective policies. To this end, Sheree Bekker and I (2022) recently investigated how safe sport policies can coexist in the same milieu as female eligibility policies. Through a document analysis of the IOC’s 2014 consensus statement on harassment and abuse and WA’s 2019 female eligibility policy, we found a general lack of attention to organizational accountability and violence in favor of individual interactions, as well as erasing athlete voice in lieu of scientific evidence (13). While one of the first to explicitly interrogate the problematics between protective policies, we call for future research to examine policy development processes, specifically, “how, why, and under what contexts shape particular [protective] policies” (p. 195).

In this article, I take up our call to explore the nuances of protective policies, including the importance they place on sex differences. In doing so, this project necessarily contributes to the paucity of literature that examines protective policies as a broad category. Such scholarship is critical, given the simultaneous necessity (as illustrated by Cain’s story) and harms (as demonstrated in Semenya and Negesa’s experiences) of protective policies. Understanding policies as technologies of governance, I draw upon Michel Foucault’s “governmentality” and the corresponding field of governmentality studies to conduct a critical, qualitative inquiry into how protective policies regulate women’s bodies, and how science and culture converge to construct different versions of “woman.” Through this framework, I demonstrate the malleability of evidence when developing and justifying protective policies, as scientific knowledge shapes and is shaped by raced, sexed, and gendered understandings of (women’s) bodies.

Using document texts and semi-structured interviews with nine scientists involved in the policymaking process, I examine the three aforementioned protective policies as case studies. I

use these documents as they engage athlete health, women's sport, and women's bodies while mobilizing science to justify their purposes. Through thematic analysis and Foucauldian discourse analysis (FDA) of the texts and interviews, I focus on four questions: (1) how are notions of "woman" constructed and how do they shift across policies and/or within a policy; (2) how are women and their bodies governed through protective policies; (3) what counts as evidence in protective policies; and (4) how do document texts and participant responses contrast and/or converge in their rationales and technologies of governing?

In what follows, I first review the substantive literature on protective policies and women athletes before outlining the theoretical framework and methods used. I then discuss my four major findings or "tensions": (1) why protective policies are created; (2) appropriate evidence for protective policies; (3) the (necessity of a) separate women's category; (4) methods of governing. I close by discussing the implications of these findings in the context of protecting (women) athletes and directions for future research.

Situating Protective Policies for Women Athletes

Sociologists and historians of sport have extensively examined the intersections of gender, medical knowledge, and sport, exposing anxieties around the active female body and corresponding strategies to "protect" women (Cahn, 2015; Lenkyj, 1986; Theberge, 1985; Verbrugge, 2002; Vertinsky, 1990). Stemming from physicians' warnings that strenuous physical activity posed dangers to women's reproductive systems and menstrual cycles, women were either excluded or only permitted to engage low or moderate exertion activities on the basis of "protection" (Cahn, 2015; Vertinsky, 1990). Drawing attention to "evidence of women's poor health—chronic fatigue, pain and illness, mood swings, and menstrual irregularities" (Cahn, 2015, p. 13), "protection" also considered social implications around "true" womanhood, which included

childbearing, domestic family roles, and accepted expressions of femininity (Lenskyj, 1986, p. 18; Cahn, 2015; Vertinsky, 1990). Consequently, sociocultural expectations around “appropriately” feminine women became biologized within medical discourses (Fausto-Sterling, 2000). As “body experts” within medical institutions enhanced their authority on questions of women’s nature, women’s bodies were accepted as the physiologically inferior sex through social and biological forces (Verbrugge, 2002, p. 53; McDonagh & Pappano, 2008; Vertinsky, 1990).

Today, while the number and diversity of women athletes have increased, women’s sport remains a contested realm. Tensions between sport, women, and gender ideologies persist, driven by sport’s identity as a male-space that requires and develops “masculine” characteristics (Cahn, 2015; Travers, 2008). The coalescence of medicine and social expectations of gender continues to shape contemporary protective policies, fostering a paternalistic logic that constructs women as biologically inferior to male athletes (Lenskyj, 1986; McDonagh & Pappano, 2008). Bolstered through sport’s adherence to a biocentric and binary classification system, dominant ideas of male/masculine and female/feminine codify strong women as unnatural and violating, thereby maintaining the “alleged biological basis of the gender binary” (Pape, 2019b, p. 5; Cahn, 2015; Cavanagh & Sykes, 2006; Kane, 1995).

Critical feminist and sports scholars have revealed the ways in which transgender and female eligibility regulations, as protective policies, utilize medical and scientific evidence to reinforce normative gender logics (Cooky & Dworkin, 2013; Jordan-Young & Karkazis, 2019a; Pape, 2019b; Wells, 2020). Undergirded by fears of “mannish” women athletes who violate codes of femininity or boundaries of femaleness (Cahn, 2015; Kane, 1995), both types of policies foster “sex control” protective efforts (Bavington, 2016). As female muscularity remains a contested ground (Halberstam, 1998; Pieper, 2016), bodies that challenge sex and gender binaries fuel

gender panics, or “situations where people react to disruptions to biology-based gender ideology by frantically reasserting the naturalness of the male-female binary” (Westbrook & Schilt, 2014, p. 34). Importantly, the codified language of “masculine women” also intersects with the biologization of race and region (Cahn, 2015; Hoad, 2010; Jordan-Young & Karkazis, 2019a).

In this vein, a growing body of work has demonstrated how sexism and racism intersect in the science informing protective policies (namely, female eligibility policies) to most significantly impact Black and brown women from the Global South (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014). While race itself is not a biological category, the health disparities and embodied experiences in persons of color reflect the internalization and biological response to situations of extreme stress (Gravlee, 2009). Yet, in sport, race has endured as a predictor of athletic aptitude and performance, mirroring the consequences of racial discrimination in society (Epstein, 2014). Correspondingly, assumptions in sport and (sport) science that overlook the biological determinism of race subsequently links Black bodies to either athletic potential and success (Carrington & McDonald, 2001), or violence and crime (Andrews, 1996; Hartmann, 2012). Despite race’s biological untenability, the scientific “discoveries” of genes and phenomes for aggressiveness have contributed to persisting beliefs in the Black biological athletic superiority (Jordan-Young & Karkazis, 2019a). Black women athletes in particular, are forced to “contend with racial stereotypes that white women [do] not, such as the hypersexualized black female or the natural black athlete,” and thus are perceived as not needing protection (Lansbury, 2014, p. 6).

Nonetheless, protective policies remain vital for women athletes. Scholars have noted the higher risk for girls and women to develop complex and damaging health conditions such as RED-S (De Souza et al., 2014; Mountjoy et al., 2014). In the last two decades, sport organizations have focused on protecting women athletes’ health through consensus meetings with researchers, health

practitioners, and physicians (Weston, 2017). Though dominantly focusing on prevention, diagnosis, and treatment options, scientists also indicate the unique social pressures for girls and women, which include coaching pressures and associating unrealistically thin bodies with success (De Souza et al., 2014). Extending into social science fields, feminist sociologists have explored the entangled biological and psychosocial dimensions of women's health, experiences, and bodies, particularly in the case of RED-S (see Schofield, Thorpe, & Sims, 2021; Thorpe, 2016).

In all, protective policies adopt complex identities that engage multifaceted aspects. On the one hand, previous research has shown how protective policies wield science to reify damaging gender and racial stereotypes, and harm women who disrupt normative sex/gender binaries. On the other hand, scholars have demonstrated the necessity of protective policies given the physical and health risks facing women athletes. Considering the diverse motivations behind and consequences of protective policies, there is a need to investigate how particular discourses, evidence, and knowledge forms are rationalized and mobilized as governing strategies for (women) athletes, in the form of protective policies. As such, I draw on "governmentality," an idea introduced by Foucault (2003a) and further developed in the field of governmentality studies (Miller & Rose, 2008) to examine how science and culture converge to shape protective policies and construct different notions of "woman."

Theoretical Framings: Governmentality

Sociologists of sport have extensively utilized French philosopher Michel Foucault's work, given his focus on the operation of power in and through knowledge, discourse, and the body (Andrews, 1993; Cole, 1993; Markula & Pringle, 2006; Rail & Harvey, 1995). His attention to the workings of power, which he understood as relational rather than possessed, was particularly focused on how interactions created, constrained, and normalized behaviors (Mills, 2003). Power

is shaped by systems of knowledge and dominant discourses to ultimately understand, control, and discipline the human body and thus, “help guide another’s *conduct*” as part of larger regimes (Markula & Pringle, 2006, p. 35; Andrews, 1993; Mills, 2003). In effect, the body becomes a site for the operation(s) of power relations, privileged discourses, and knowledges.

Later, Foucault introduced the idea of “governmentality,” or the “art of governing,” to describe the strategies and devices employed by government (i.e., authorities, systems, or institutions) that create modes of knowledge, govern a population, and achieve a particular outcome (Foucault, 2003a; Miller & Rose, 2008; Rose, O’Malley, & Valverde, 2006). Specifically, governmentality is comprised of two components: rationalities and technologies (Dean, 2010). Rationalities refer to the reasons and non-neutral knowledge behind government’s created system (Miller & Rose, 1990, 2008; Rose, O’Malley, & Valverde, 2006), while technologies include the actual mechanisms that shape, normalize, and instrumentalize individuals’ conduct (Miller & Rose, 2008). Together, rationalities and technologies create practices that are usually unchallenged and taken-for-granted (Dean, 2010).

Subsequent scholarship that investigates the art of governing has constituted “governmentality studies”: an area of research that especially focuses on government’s rationalities and technologies (Dean, 2010). Rose, O’Malley, and Valverde (2006) characterize this approach as a means to

identify these different styles of thought, their conditions of formation, the principles and knowledges that they borrow from and generate, the practices that they consist of, how they are carried out, their contestations and alliances with other arts of governing. (p. 84)

Simply, governmentality studies research asks questions around what is to be governed, why and how they are governed, and to what ends they are governed, while closely examining the technologies of government. Foregrounding these questions is the appearance of a problem and

the necessity of a response (Miller & Rose, 2008). Extending beyond policies and those in authority positions, technologies of government can also include discourse and language, networks, “experts,” authorities, and culture (Bratich, Packer, & McCarthy, 2003; Foucault, 2003a; Miller & Rose, 2008; Rose, O’Malley, & Valverde, 2006).

Investigating privileged “expert knowledge” has been especially important in critical governmentality studies analyses given that expert knowledge produces normative standards to ensure the “‘well being’ or security of populations” (Bratich, Packer, & McCarthy, 2003: 142). However, when investigating expert knowledge, a governmentality studies approach must investigate power relations through contextual attention to dominant and distinctive knowledges, rationalities, and techniques to avoid “cookie-cutter typifications or explanations” (Rose, O’Malley, & Valverde, 2006, p. 97). In this vein, Foucault warned against totalizing categories (see Foucault, 1977, 1978) and instead, noted that government is an unfinished process that retains certain characteristics while constantly changing to contextualize and respond to phenomena (Rose, O’Malley, & Valverde, 2006).

One such example is the question of race(ism), which is often treated as a general phenomenon (Moffette & Walters, 2018). While race and racism are intrinsic to the “practices, relations and institutions” of Western culture (Hesse, 2004, p. 24), racializing processes are distinct, intersectional, and hidden (Ahmed, 2002; Araújo & Maeso, 2012; Gill-Petersen, 2014; Rhee, 2013). Black studies scholar Alexander Weheliye (2014) highlights the complexities of race, racialization, and racial identities as they are not “a biological or cultural descriptor, but [a] conglomerate of sociopolitical relations” that evolve and adapt over time (p. 3). In the context of sport, which possesses Eurocentric, colonial, and white origins (Carrington, 2015; Clevenger, 2017), racialized typologies, including those pertaining to sex and gender, are instrumental to

techniques of (white) governmentality (e.g., policies) to both “mediate the experiences of the Blackened body” (Dar & Ibrahim, 2019, p. 1242; Batelaan & Abdel-Shehid, 2021) and biologize racial differences (Wynter, 2003). Entangled with “othered” social identities of sex, gender, sexuality, and nationality, “blackness designates a changing system of unequal power structures” (Weheliye, 2014, p. 4) which construct, regulate, and uphold normative standards based on white, male, European diasporic bodies and ultimately, reflects the non-linear and constantly adaptive process of government (Wynter, 2003)

Though governmentality lens, I investigate the nuances of governing in protective policies to draw out *how* protective policies engage particular discourses in their rationales and technologies, with attention to underlying race, gender, and sex implications. Understanding my participants’ viewpoints as “expert knowledge,” I apply a governmentality studies framework to explore the constructed “problems” and “solutions” in document texts and participant responses, and compare if, how, and when they converge or differ. In doing so, I interrogate how women athletes and their bodies are defined, disciplined, and governed to ascribe to constructed definitions of “woman.”

Methods

Data collection

Data consisted of the three policy document texts, which were publicly available online, and interview transcripts. After obtaining Institutional Review Board approval, I identified potential participants through the expert panels, approved specialist centers, and authors listed in the three policies, as well as WA and IOC working group meeting notes on transgender and female eligibility, previous IOC documents on female athlete triad/RED-S, and female eligibility CAS transcripts. I solicited interviews with twenty “experts” and nine agreed to participate. Of these

nine participants, five had been involved with all three documents and four had contributed to both eligibility policies.

Interviews were conducted and recorded on a digital platform of the participant's choosing and lasted between 30 minutes and two hours. While ranging in specific location, all participants were English-speaking and located in the Global North. Participants were asked a loosely structured set of open-ended questions to gather in-depth knowledge about their perspectives while allowing them to direct the conversation (Markula & Silk, 2011). The interview guide included questions around their knowledge of women athletes' experiences, relationships between sport organizations, protection, and athletes, and the three specific case studies. All interviews were transcribed verbatim and were later sent to participants for review and approval.

Data analysis

To analyze the documents and interview transcripts, I conducted a two-stage analytic process: thematic analysis, followed by FDA (Jette & Rail, 2014). The purpose was to first determine *what* was said in document texts and by participants, followed by a deeper level of analysis and contextualization around *how* dominant discourses, knowledges, and power relations were created and mobilized to protect women athletes. From Braun and Clarke (2006), I understood a thematic analysis approach as "a method for identifying, analyzing, and reporting patterns (themes) within data" that also retains participant voices within the grouping of codes and generation of themes (p. 79). In this first analysis stage, both sets of data were coded in NVivo 12, though were kept separate to later compare themes between interviews and document texts. Analyzing one data set at a time, I read through the documents and interviews line-by-line and drew on Daly's (2007) method of open, focused, and axial codes to generate two separate

codebooks. Some of the broad themes generated included gender and sex differences, desired or necessary characteristics of protective policies, athlete health, and sporting norms and cultures.

Next, I utilized FDA to investigate how rationales, technologies, and definitions of “woman” were constructed and developed. From Foucault’s understanding that authorities maintain influence through strategically using discourses to create and circulate non-objective knowledges about the social and material worlds (Foucault, 1978; Markula & Pringle, 2006), an FDA approach identifies these dominant discourses and knowledges, and asks questions around “where they come from and how they have become dominant” (Liao & Markula, 2009, p. 40; Markula & Silk, 2011). Throughout this stage of analysis, I was attentive to how different discourses were mobilized to construct rationales and technologies of governing, and how these differed between policy texts and interviews. From the previous themes generated, I focused on how they utilized certain discourses to construct particular understandings of “woman” and “protection.” I examined themes that included responses from most, if not all, participants and which were also found in the policy texts. My intent was to faithfully illustrate the nuanced and diverse opinions of the participants, as grounded in the policy texts. As I began writing the manuscript, I iteratively consulted relevant literature to contextualize these themes within broader relations of power and government (Markula & Silk, 2011; Miller & Rose, 2008).

Participant anonymity

Given the limited number of eligible participants for this project, anonymizing participant responses was especially important. As Flick (2006) notes, “the issue of confidentiality or anonymity may become problematic when you do research with several members of a specific setting” (p. 50). Creating protective policies for elite sport is such a milieu considering the close-knit and small community of researchers, scientists, and academics (see Bekker & Posbergh,

2022). While all policy authors are publicly listed (and indeed, was the primary means through which potential participants were identified), I intentionally anonymize their names given that,

the disclosure of information and accounts provided by participants in some cases could potentially expose them to retaliation from others in the policy sphere, embarrassment, potential job loss, or compromise organisational partnerships, damage relationships and jeopardise delicately balanced politicised policy processes underway (Lancaster, 2017, p. 99)

All participants concurrently hold academic, research, medical, or administrative positions, and have personal lives. While the consent form given to participants assured them of confidentiality protections, three participants expressed concerns over being “outed” due to policy-related controversies and/or threats that they had previously received as a result of their involvement. As such, I refer to participants as “Scientist A,” “Scientist B,” and so on to protect their privacy and safety. I especially do this to protect the identities of any and all women or those with marginalized identities interviewed considering the white and male-dominance of leadership and decision-making positions in sporting institutions (Pape, 2020c). Correspondingly, all participants are referred to with “they” and “them” pronouns to maintain gender non-specificity.

Findings

The complexity of protective policies lies in their differing strategies of defining, protecting, and governing women athletes and their bodies: a quality that persisted across both data sets. To reflect these variances as accurately as possible, I present my four findings as “tensions.” Taken as a whole, these tensions suggest that protective policies are developed through messy and often contentious processes that draw from a range of knowledges and discourses, which are then selectively utilized in policy texts. Subsequently, the results from these heterogenous approaches are protective policies that uphold different definitions of “protection”

and “woman,” which in turn, allows protective policies with seemingly intractable rationales and consequences to coexist in the same sporting space or even within the same organization.

Tension one: Why protective policies are created

While there was unanimous agreement that women face unique and often damaging factors that necessitate protective policies, an initial tension was explaining what specific justifications are most relevant. For example, Scientist D speaks to higher incidents of harassment and abuse among women athletes: “boys and men sometimes have the same problem of [harassment and abuse]...but one sex difference is that women are assaulted much more.” Though Scientist D acknowledges that all athletes, regardless of sex, could be victims, they make clear that girls and women are disproportionately affected. This disparity was critical for Scientist D and is frequently referenced by safe sport⁶⁸ scholars who implore(d) the need to create policies that protect girls/women from multiple forms of violence (see Mountjoy et al., 2016).

Other participants note the past exclusions of women athletes. For instance, Scientist F remarks, “Women could not participate in the original Olympics. And when events were added, some of the more strenuous events were reserved for men because it was felt that women were the weaker sex.” Relatedly, and using track-and-field events as examples, Scientist E explains,

Women did not throw hammer, they didn’t run steeplechase, they didn’t run longer than 800-meters, they were not pole vaulting. All under the idea that women shouldn’t be exposed to...challenging sport and sport activities. Which is nonsense today...So women had to make a sort of fight...it’s been a long, long, long fight for women’s rights.

Both Scientist E and Scientist F connect women’s exclusion to the “long-standing images of women as weak and physically inferior to males” (McDonagh & Pappano, 2008, p. 256). While characterizing this thinking as “nonsense today,” Scientist E observes that there has been, and

⁶⁸ Mountjoy et al. (2016) define “safe sport” as “an athletic environment that is respectful, equitable and free from all forms of non-accidental violence to athletes” (p. 1019).

remains, a struggle for women athletes. Given the male-dominance of sport (Cahn, 2015; Travers, 2008), Scientist E implies that protective policies are thus necessary to ensure that women athletes are not denied entry due to outdated or misogynistic knowledge.

That being said, medical knowledge also shaped participants' opinions who cite health conditions as a protective policy rationale. However, in these scientific reasonings, there were discrepancies around the centrality of sex differences. On the one hand, the authors of the IOC's consensus statement on RED-S state that a significant reason for changing the term from the "female athlete triad" to "RED-S" is because "it is evident that relative energy deficiency also affects men. Therefore, a new terminology is required to more accurately describe the clinical syndrome originally known as the Female Athlete Triad" (Mountjoy et al., 2014, p. 491). Though including conditions specific to female bodies (e.g., amenorrhea), the document's authors expand protection to *include* men (p. 492).

On the other hand, there was explicit engagement with sex differences in terms of women's bodies and women's health. In particular, Scientist A speaks to this:

If female athletes are not taking in enough calories to meet their basic needs, there are all sorts of negative consequences that can occur to the female body that can affect future reproduction, health, et cetera...[RED-S] is far more common in women and there are potentially more serious repercussions for female athletes.

Noting that low caloric intake and RED-S are more commonly found in women athletes, Scientist A acknowledges that there are specific social pressures and cultural norms that can contribute to physical consequences for women's bodies. The disproportionate impact on women's health thereby requires protective policies *specifically for women*.

Similarly, Scientist C notes, "we know that women have an increased risk of injury compared to men...They can risk fertility, and it will also have an impact on...the reproductive life, when to become pregnant or not, and so on." Although Scientist C and Scientist A utilize

medical knowledge to justify protective policies (and notably, did not suggest including sociocultural experts in the decision-making process for protective policies), their attentions to reproduction engage a blend of scientific and social issues. As discussed earlier, while medical anxieties often constructed women's bodies to exclude them from political, social, and sporting spaces (Verbrugge, 2002; Vertinsky, 1990), there also exist physical risks. Amenorrhea (the absence of menstruation), for example, has been linked to low energy availability—a consequence of insufficient dietary intake—and other destructive behaviors, such as disordered eating and osteoporosis (De Souza et al., 2014; Schofield, Thorpe, & Sims, 2020).

In addition to gendered expectations, racial and geographical stereotypes continue to infiltrate medical attentions to the athletic female body. When discussing differences of sexual development and general athlete health, Scientist C notes,

[the athletes] have all come from developing countries and they have been brought up in poor conditions, so they have been undiagnosed. They have not been offered any treatment or anything...since there is so much money in sports, this could be taken advantage of.

Implying that athletes from developing countries (such as the Global South) are naturally athletically superior to those from Western countries due to their “untreated conditions,” Scientist C implores medical personnel and sports organizations to step in and provide (Western forms of) “treatment.” While framing this as a concern for athlete exploitation, their comment reflects both the problematic positioning of the West as “saviors” and the interrelation of scientific and sociocultural dimensions to uphold ideas around deviant but athletically gifted non-Western athletes (Mwaniki, 2017).

The reification of geo-racial stereotypes is further reflected in the IOC's consensus statement on RED-S. The authors note that, despite a dearth of research examining the intersection of race and RED-S, Black athletes have a lower risk of developing osteoporosis, fracture, eating

disorders, and menstrual dysfunction than white athletes (p. 493-494). In drawing these conclusions, the document subtly reinforces ideas of the (athletically) superior Black athlete, further entrenching social discourses into scientific knowledge. Ultimately, the complex concerns for women's health and bodies generate entangled socio-material narratives, shaped by gendered, racial, and geographical dimensions (Wells, 2020).

Tension two: Appropriate evidence for protective policies

When explaining policy development processes, another tension emerged around what evidence and discourses were most relevant. Overall, there was a dominant reliance on technical scientific discourses while sociocultural elements, though sometimes presented, became less prominent or even explicitly overlooked in favor of medical solutions.

All three documents reflect this tendency, as “protection” is primarily derived from medical knowledge. Indeed, WA's transgender eligibility policy notes that, in order to “guarantee fairness and safety within the sport” and “provide a clear path to participation in the sport for all,” WA created its eligibility policy from “a broad medical, scientific and legal consensus” (WA, 2019b, p. 1-2). Likewise, the IOC's consensus statement on RED-S principally focuses on physiological responses to RED-S. Brief references to social and cultural factors are interspersed throughout the document such as, “the pathogenesis of [eating disorders] is multifactorial with cultural, familial, individual and genetic/biochemical factors playing roles” (p. 492). However, such comments are often buried within profuse scientific discourses, and lack attention to details or non-medical journal references (Mountjoy et al., 2014, p. 492).

Participants also privilege medico-scientific knowledges in their responses. When reflecting on the Court of Arbitration's decision in the case of *Dutee Chand v AFI & IAAF*⁶⁹, Scientist G comments:

There's a scientific paper. It's not the best paper in the world, there's a lot of criticism of it. But the [CAS] wasn't looking for the perfect paper. They were looking for any paper at all. They wanted to say a group of scientists, in an organized way, came to a conclusion that other scientists thought was legit and let them publish a paper.

Though indicating that scientific data and research are necessary to create and implement protective policies, Scientist G implies that the quality of the science is less significant⁷⁰, especially when a protective policy is already in existence. While Scientist G speaks to the specific case study of WA's female eligibility policy, in related situations, there can be a greater impetus to opportunistically find or create *any* scientific evidence, which consequently promotes science as a form of unquestioned authority in regulatory efforts (Jordan-Young & Karkazis, 2019a).

In contrast, Scientist B urges collaboration between the natural and social sciences. Reflecting on their experience of collaborating on female athlete health issues, they remark,

I keep going on about sporting cultures and power relations, and they all get tied up into diagnosis, 'it's all about the individual and let's catch it early, then when we do catch it, let's get recovery and then we know when they can get back to sport.' And I'm like, the problem is not the individual's, the problem is a pattern.

For Scientist B, the social *and* the biological are instrumental in creating and implementing protective policies (Wells, 2020). While aware of the physical consequences, Scientist B implores

⁶⁹ In 2014, Indian sprinter Dutee Chand was barred from elite track-and-field competitions for “ostensibly having ‘violated’” the 2011 IAAF (now WA) Hyperandrogenism Regulations (Pape, 2019, p. 1-2). She challenged the policy before the CAS, resulting in a two-year policy suspension. During this time, WA was permitted to submit evidence to demonstrate the “actual degree of athletic performance advantage sustained by hyperandrogenic female athletes compared to non-hyperandrogenic female athletes by reason of their high levels of testosterone” (CAS, 2015, p. 160).

⁷⁰ In August 2021, the *British Journal of Sports Medicine* (the journal in which the scientific evidence for WA's female eligibility is published) issued a correction regarding the causal relationship between testosterone and athletic performance among female athletes (see Pielke, 2021). The correction notes, “to be explicit, there is no confirmatory evidence for the causality in the observed relationships [between testosterone levels and performance in elite female athletes] reported” (p. 1).

their colleagues to also consider sociocultural dynamics in situations of adverse health conditions such as geopolitical understandings of sex, gender, race, and nationality. This is reflected in their later comment of: “sports science around women’s bodies, female athlete health...it’s incredibly white, it’s incredibly Westernized.” Through recognizing the myriad dimensions of health, Scientist B speaks to their inseparability, but ultimately recognizes to the dominance of medical knowledge in issues of protecting athletes’ health (Fausto-Sterling, 2000).

Tension three: The (necessity of a) separate women’s category

Next, there was a tension regarding the women’s category, and its consequences for women and men athletes. Both eligibility policies strongly support creating a distinct women’s category:

Because of the significant advantages in size, strength and power enjoyed (on average) by men over women from puberty onwards, due in large part to much higher levels of androgenic hormones, and the impact that such advantages can have on sporting performance, it is necessary to have separate competition categories for males and females. (WA, 2019b, p. 1; WA, 2019a)

Drawing from scientific knowledge, the documents indicate that a separate women’s category is essential due to higher levels of testosterone in men, which generally allow men to outperform women. The centrality of physiological evidence to support these connections, particularly regarding testosterone, is further reflected in the discursive transition of “men and women,” to “males and females.” By shifting to more medical terms, the policies incorporate connotations premised on scientific bodily differences, which “neatly (and artificially) separates the biological from the social and psychological dimensions of women’s experiences” (Thorpe & Clark, 2020, p. 2).

Continued attempts to separate the social and the biological especially manifest in the term, “biological male”: a phrase used by several participants that did not appear in any documents. As Scientist C describes, a “biological male” is someone who is “more biologically man than woman”

when considering sex-based factors such as testosterone levels, sex chromosomes, and gonads. The expression, Scientist C later explains, “doesn’t consider the sex identity or the sex...It’s about what biological body do you have?” Scientist E also spoke to this distinction: “It is not whether you are a man or a woman. It’s whether you are eligible for competing...in men’s or women’s competitions.” However, adding the descriptor of “biological” to already-medicalized undertones around “male” propels further attempted divisions between the biological and social. Implications around the “objectivity” of biological evidence subsequently endeavors to construct women’s bodies as “an anatomical machine” and an “object under the regime of medical truth” (Markula & Pringle, 2006, p. 25), despite the social *and* biological nature of sex differences (Wells, 2020).

Conversely, those who disagree with creating a separate women’s category describe the performative drawbacks and systemic issues. Scientist H was particularly opposed to establishing a distinct women’s category: “the idea of segregating men and women in sports...I would say [it’s a] misogynistic perspective...I actually think that women probably would fare better if they were mixed with men.” For Scientist H, the logic underpinning sex-segregation is problematic in two ways: (1) reifying ideas around the inferior woman athlete, and; (2) preventing women from achieving their full performative potential. Scientist H later clarifies that both concerns stem from sport’s dominant two-category system as they assert, “as long as we have a segregation of gender categories, that’s the main challenge.”

Further extending Scientist H’s argument, Scientist B problematizes the sport’s current system, contending that it fails to represent the diversity of sex, gender, and sexuality. As they explain:

I think that we need to probably rethink those categories: men’s and women’s sports. We know it plays an important role in reinforcing ideas about gender and society, and it’s been its purpose. But the more I get into, say the transgender discussions, the more I wonder if men and women’s sport really is representative of the gender fluidity that many parts of

society, not all, are trying to better recognize...maybe the women's category is the problem, not the transgender.

Acknowledging sport's role in preserving dominant (and damaging) understandings of gender and sex, Scientist B questions whether this model represents global understandings of gender fluidity. In doing so, Scientist B indirectly suggests reimagining sport's dominant structure to consider the unique lived experiences of women, especially transwomen, thereby obfuscating clear divisions between the social and the biological (Pape, 2019a; Westbrook & Schilt, 2014).

Tension four: Methods of governing

Finally, there was a tension around what mechanisms were most appropriate for implementing and enforcing protection, with several factors taken into consideration (i.e., adaptability, enforceability, and nuance). However, in a rare moment of unity, all participants agreed that regulatory strategies should reflect developments in science *and* societal values. As Scientist E simply states: "sport, and not just sport, but any activity will have to adapt to changes in society, and amend their rules as time goes by." All three documents reflect this priority, whether in terms of potential future changes (the female and transgender eligibility policies) or future research aims (the consensus statement on RED-S). In both of its eligibility policies, WA notes that its regulations "will be subject to periodic review" and may be amended reflect any new or relevant "scientific or medical developments" (WA, 2019a, p. 2; WA, 2019b, p. 3). Similarly, two additions have been published since the IOC's 2014 consensus statement: one in response to concerns raised around the terminology transition (Mountjoy et al., 2015) and another to provide an updated summary of the interim scientific progress on RED-S (Mountjoy et al., 2018).

However, there remains disagreement on what regulatory strategies best reflect this quality: a characteristic that Cassandra Wells (2020) has elucidated on with regards to the development of

all female eligibility policies, current and prior. One approach strongly advocates for consensus statements. As Scientist H notes, “Science evolves, biology evolves, humans change, nutrition changes, climatic condition changes. Consensus is better.” Recognizing the malleability of knowledge, circumstances, and bodies, Scientist H points to consensus statements as the best mechanism for balancing variability with protection. Scientist H’s characterization of consensus statements distinctly counters their description of policies, which “are fixed in time. They rarely take in consideration the immense variability of humans. They don’t foresee how the human body evolves...There’s always new situations that rules don’t cover.” For Scientist H, the intractability between policies and bodies emerges from the unruliness of nature and the establishment of specific and binary boundaries through policies (Pape, 2019b). Through reducing the intricate entanglements of social, material, and biological realities, implementing policies over consensus statements projects clear-cut categories that insufficiently protect (women) athletes (Karkazis & Jordan-Young, 2018; Thorpe & Clark, 2020).

A second approach favors concrete rules or policies, as illustrated in Scientist A’s rationale: “There’s a certain ‘anything goes’ mentality from some places where there is no rule of law. And therefore, having rules is important because it lets us know ‘wait, this is a rule, you broke the rule, you are out’.” For Scientist A, the unambiguous boundary between “right” and “wrong” protects athletes from “cheaters,” as well as upholding the integrity of sport. In addition, Scientist A notes the possibility of revising an existing policy, should the rule no longer reflect relevant understandings of “fairness”: “I almost don’t care what the rule is for openers because we can always revisit the rule if the rule was wrong, and somebody had an unfair advantage.”

Scientist E engages a similar rationale in the context of athlete health. Through the example of ice hockey, they explain,

[Ice hockey] is a very tough sport with massive health risks...we have to look at that together with juridical people to structure the right rules to protect or prevent unnecessary disasters...it's fundamental that [athletes] do not violate the rules that are there to protect both [themselves] and the integrity of the sport.

When considering the immediate and long-term risks to athletes, Scientist E believes that clearly demarcating boundaries of unacceptability/acceptability is essential to protect athletes and the sporting institution. To do so, Scientist E promotes collaboration between medical scientists and “juridical people.” Yet, the partnerships between law and science have historically contributed to the “production and recognition of particular knowledge claims,” which confers the ability to select particular forms of science to justify and write into policy (Pape, 2019b, p. 5). Doing so subsequently privileges these knowledge forms while mitigating or silencing others (e.g., social, cultural; Foucault, 1978).

A third approach suggests utilizing multiple strategies to ensure protection. For example, Scientist B suggests that protecting athletes should come from organization-developed policies *and* from the bottom-up to hold sports organizations accountable. As they remark,

It's got to come from the top down in terms of policies and sports organizations. But...how do we get sports organizations to enable and develop those policies? That can take quite a long time to get people into those positions to make those points around the more nuanced ideas of protection. From the bottom up...the more times athletes speak out, the more coaches speak out, the more pressure on sports organizations to respond, which is good.

While advocating for policies, Scientist B encourages those governed by policies to exercise agency and, if necessary, resistance in order to ensure organizations effectively and appropriately protect athletes. Although Scientist B recognizes regulatory documents as a technology of government, they trouble the binary between “governing” and “governed,” and suggest that the voices of the governed (i.e., athletes, coaches) *also* act as a technology (Rose, O'Malley, & Valverde, 2006).

Discussion

The findings of this project reveal a range of rationales and technologies utilized in and by protective policies. For example, participants referenced multiple reasons why protective policies are necessary: historical exclusions of women athletes, specific risks to women's bodies, general athlete health, fair competition, safety, reproduction. Likewise, their solutions for protecting women athletes spanned several methods: separate women's categories, sex-integration, policies, rules, consensus statements, top-down *and* bottom-up approaches. Selectively drawing from the myriad "problems" and "solutions," documents and participants then construct differing notions of "woman" across and even within policies. Consequently, there emerges different interpretations of "protection." Sometimes, women need to be protected from oppressive gendered stereotypes and misogynistic logic. Sometimes, women need to be protected from "biological males." Sometimes, women's *and* men's health need to be protected. While the heterogeneous definitions of "woman" demonstrate the category's instability, they also illustrate the malleability of knowledge, science, and sex differences.

To that end, participants engaged sociocultural *and* medico-scientific discourses in their responses, especially when discussing rationales of governing. However, even as participants recognized the plurality of justifying and creating protective policies, document texts engaged an "approach to ignorance" by reducing or turning away from multiple forms of knowledge in favor of scientific ways of knowing (Pape, 2020a, p. 222). That is, policies almost exclusively incorporated medical and scientific discourses to simplify the complexity of "protection" into clear dimorphic boundaries. This trend persisted in many participant responses as well, even after referencing cultural and social dimensions in their expressed rationales. As they described the development of protective policies (i.e., moving from questions of "why" to "how"), participants

more often incorporated scientific knowledges in their governing strategies. While circulating notions of science's "objectivity" to the multifaceted problem of protection (Fausto-Sterling, 2000; Jordan-Young & Karkazis, 2019a), these medico-scientific "solutions" and Eurocentric constructions of sex/gender also remain firmly centered on individual athletes rather than addressing broader cultural issues (e.g., toxic training environments, safety, Westernized definitions of "health," and exclusions of women athletes).

For women athletes, providing individual solutions to cultural problems falls short of implementing effective and long-term "protection." Returning to the narratives of Semenya, Negesa, and Cain, this divergence helps explain how and why they experienced trauma and pain, *even when protective policies were in place*. Rather than tackling the sociocultural factors that undergirded their experiences—toxic training environments; binary and narrow definitions of femininity; a traditional gender hierarchy—the established protective policies reinforced these cultural norms. For Semenya and Negesa, "protection" involved adhering to (arbitrary) medical standards to support reductive and biocentric definitions of "eligibility." For Cain, despite urging attention to the cultural dimensions that contribute to RED-S (see Ackermann et al., 2020), policy documents remain focused on individual diagnosis and treatment, rather than reimagining toxic sporting cultures.

Yet, as Foucault (2003a) observes, government is an unfinished process. While all participants and document texts indicated that the policies would be updated (as necessary) to reflect current societal values and scientific knowledge, some participants (e.g., Scientist H and Scientist B) went a step further to problematize sport's binary and biocentric structure. While their perspectives were neither reflected in the policies nor represented the majority of participants' viewpoints, they open the possibility for creating a more collaborative, holistic, and inclusive

“protection.” This likelihood is further spurred by the entrance of more diverse and gender-fluid athletes—most recently, Laurel Hubbard’s participation in the 2021 Tokyo Summer Olympics as its first transgender competitor.

While this article fills a necessary gap in the literature on how and why protective policies are created, there are two significant limitations. First, it is exploratory and presents a broad overview of a complex reality. The multiple rationales and technologies are formed from intricate webs of networks, actors, and knowledges: an area that future research should more closely investigate and excavate. Second, and as noted by several interview participants, there are several technologies of governing in addition to expert knowledge and policy texts. Thus, to more deeply interrogate the governance of women athletes through protective policies, future projects should include interviews with other stakeholders including but not limited to officials, athletes, sports physicians, and coaches.

Chapter 7: Felt Policy, Malleable Protection: Understanding the Creation and Implementation of Protective Policies

Throughout the previous three chapters, I have illustrated how “protection” often becomes scientized when written into protective policies, despite the joint roles of scientific and sociocultural dimensions in understanding the necessities of such policies. Yet, the dominance of medico-scientific discourses in document texts also reflects the general preference of most of the participants, which is illustrative of broader societal discursive structures (Foucault, 1978). The combination of both texts and participants in drawing from scientific evidence reinforces essentialized and binary constructs and thus, (attempts to) portray the body as controllable and regulatable (Markula & Pringle, 2006). Yet, amidst the privileging and circulation of “objective” scientific discourses, the interpretations of science—in policy, by participants, and by those impacted by protective policies—remain entwined with social and cultural dimensions. While some participants are aware of these complex relationships and realities, whether in instances of sporting cultures or the creation of sports integrity, rarely do these opinions manifest in written policy.

“Dueling Dualisms”: The Politics of Sex, Race, and Science

In this vein, Anne Fausto-Sterling (2000) discusses the idea of “dueling dualisms” as they manifest in sex/gender, nature/nurture, and real/constructed. Looking to overcome the incompatibility of the purported divisions between sex/gender and nature/nurture, she examines how scientists sculpted (and continue to sculpt as other have illustrated, see Jordan-Young & Karkazis, 2019; Richardson, 2013; Roberts, 2007) truths about the (sexed) body, which are shaped by social milieu and refashion our cultural environment. While this leads to changeable and contextual understandings of bodies, these are often assumed as taken-for-granted “facts.” Yet, as

she notes, “I also believe that what we call ‘facts’ about the living world are not universal truths” (p. 7).

In the context of health, Fausto-Sterling (2000) details how the emergence of biology began to gain a greater authority over understandings of “ambiguous bodies” in the 19th and 20th centuries. Subsequently, this shift towards medico-scientific techniques and classifications redefined “abnormal” bodies as unhealthy conditions meant to be cured. While she discusses this idea in the context of intersex or transgender bodies, medical language around health conditions such as RED-S often describe symptoms such as “abnormal eating and dieting behaviors” (Sundgot-Borgen & Torstveit, 2010). Correspondingly then, bodies that fail to meet standards of “healthy” behaviors due to such symptoms, are characterized as “abnormal,” and thus are in need of treatment. Throughout these endeavors to identify and “treat” bodies that violated normative standards of sex, gender, race, and health, scientific language and techniques of classification became dominant modes of understanding. Those in medical fields, which were dominated by scientists and medical men, thus insisted that the bodies of “males and females, of whites and people of color, Jews and Gentiles, and middle-class and laboring men differed deeply” (Fausto-Sterling, 2000, p. 39). Subsequently, and under the premise of “scientific advancement,” some bodies were perceived as more deserving of rights than others, despite taking place during broader political movements in the mid-20th century that argued for individual rights on the basis of human equality for all (Fraser, 2013).

Fausto-Sterling (2000), along with scholars who have illustrated the historical and contemporary uses of scientific racism to justify slavery particularly in American contexts (see Canada & Carter, 2021; Hannah-Jones, 2021; Kendi, 2017), points out that political theories invoking claims of equality or equity, not only threatened overthrowing regimes of authority and

monarchies, but also undermining “the logic behind fundamental social and economic institutions such as marriage, slavery, or the limiting of the right to vote to white men with property” (p. 39). In essence, despite espousing ideals of equality or equity, fears of radical change and a disruption of normative power relations and hierarchies encourage(d) those in authority positions to draw from and manipulate scientific evidence to justify retaining the status quo. Or, in another sense, to interpret or characterize forms of evidence to benefit a particular agenda.

These early uses and, at times, manipulations of science to justify sexism, racism, and other forms of discrimination continues today, in protective policies and under the adaptable, contextual, and changeable premise of “protection” and definition(s) of “woman.” As I have discussed in previous chapters, participants not only look to multiple forms of evidence to shape their opinions and approaches to “protection,” but also exhibit several ways of interpreting such ideas. Despite the veneer of medical and scientific objectivity within protective policy texts, preference for such discourses by participants, and overall attempts to separate social and biological dimensions, such a clear-cut and inseparable dichotomy does not exist. Put simply, and to borrow from Fausto-Sterling who quotes feminist philosopher Elizabeth Grosz, “we cannot merely subtract the environment, culture, history and end up with nature or biology” (Grosz, 1994, p. 117; as cited in Fausto-Sterling, 2000, p. 25). The malleability and multiple types of social, cultural, biological, medical, and political evidence that shape rationales and implementation strategies are part of the complexity of protective policies. Ultimately, this is why, as Scientist F notes, “everybody’s goal was always to protect women athletes. The difficulty, of course, is in the details.” Science is neither separate from sociocultural and political factors, nor is it “objective” or “unbiased.” Rather, it is made, understood, and interpreted to achieve particular (governmental) agenda (Mills, 2003).

To this end, in the previous chapter, I provided a broad exploration of the process behind creating and implementing protective policies, with consideration of the rationales within policy texts and participant's responses. I showed how contentious and messy this process can be and is, especially as participants (selectively) engaged or interpreted sociocultural and medico-scientific discourses in their responses. In this final empirical chapter, I build on this previous chapter to more fully examine the similarities and divergences between participant responses and policy texts with consideration to constructions of "protection" and "woman." In doing so, I interrogate the disparities between the attempt to convey scientific objectivity within document texts, with the blending of sociocultural and scientific discourses in participant responses. I especially focus on how and under what contexts particular forms of evidence are interpreted and incorporated to support these definitions, and how participants reinforce or challenge the predominantly scientific and medical nature of document texts. In doing so, I look to understand how the linkages between types of knowledge in rationales and technologies of governing, are utilized to achieve socially, culturally, or politically-laden aims that lead to (different) implementations of "protection."

Findings

The findings of this chapter are presented as three main themes. First, I discuss the creation and implementation of protective policies as both a scientific process and a "felt" experience. As shown in Chapter 4, protective policies draw from and convey an aura of scientific and clear-cut objectivity to maintain authority, whether it is in terms of defining energy deficiency or outlining recommended "treatments" (or, as some argue, all-but required in order to attain eligibility, else they face "impossible choices," see Karkazis & Carpenter, 2018). Yet, there remain strategies and discourses that continue to illustrate the influence of sociocultural, political, and geographic "norms," such as the identification of "suspicious" athletes or "abnormal" bodily functions. The

push-and-pull of these endeavors ultimately creates a complex reality, particularly for the implementation of protective policies. That is to say, while policy creation and especially policy enforcement draw from scientific evidence (and, in some cases, sociocultural dimensions), they are also embodied experiences.

Next, I explore the idea of “protected” participation, which involves the “mediated” inclusion of women athletes with strategies drawing from rationales of health, fairness, and safety. Within these explanations, participants point to role of (toxic) sporting cultures in creating an unsustainable and potentially dangerous space for athletes, especially women. Therein emerges two paradoxes. The first is that, while participants highlight the role of cultural norms in the development of harmful health conditions, particularly in women athletes, scholars have highlighted the role of protective policies (such as World Athletics’ female eligibility policy), in perpetuating systemic forms of violence (see Bekker & Posbergh, 2022; Karkazis & Jordan-Young, 2018; Pape, 2020b). The second paradox is the simultaneous health benefits of physical activity, with the identification of sport as a “risk factor.” That is to say, while participants (and document texts) indicate the importance of physical activity and engaging in sports for all individuals, this participation can sometimes result in dangerous health conditions. Thus, mediated participation (or even exclusion) is necessary, in such cases of health concerns. However, these arguments also extend to “fairness,” particularly for the women’s category, as some participants argue that the women’s category is intended to be “exclusive” and “policed” and thus, necessitate forms of “protected” participation.

Finally, I examine how discourses involving “a level playing field” have been updated and adapted to instead endorse a type of “controlled unfairness.” Specifically, as participants widely acknowledge that a “level playing field” is impossible, they argue that “meaningful” competition

is achieved through allowing and regulating the unfairness of “relevant” traits, an idea echoed in document texts. Of course, understandings of “relevant” characteristics differed amongst participant responses. For some participants, they approach these characteristics through a physiological perspective. In other words, “relevant” characteristics correspond to particular meritocratic and biological attributes that remain in-line with sport’s biocentric, androcentric, and binary classification systems: an approach that document texts assumedly adopt. Another group of participants draw attention to the aesthetic or “optics” of sport. A third group problematized the scientific grounding of “controlled fairness,” arguing that it contributed to creating harmful sporting cultures. In all, while participants took on myriad opinions and positions to the issue of “fairness,” document texts maintained their medico-scientific nature.

As a whole, these findings indicate the malleability of “protection”: an ever-shifting idea that is contingent upon how scientific and sociocultural forms of evidence are interpreted or selectively utilized, and how they understood or hidden in the context of social, cultural, political, and geographic considerations.

Protective policies as both a scientific process and a “felt” experience

Protective policies adopt a myriad of implementation methods, as discussed in previous chapters and especially Chapter 6: concrete rules or policies, consensus statements, or multi-method approaches that engage those who govern and who are governed. Nonetheless, many of these strategies predominantly draw from medico-scientific discourses, despite the persistence of social and cultural dimensions in shaping selective and particular scientific knowledge claims within document guidelines (Pape, 2019). Further yet, and as discussed in Chapter 4, there is a general lack of external accountability for scientific integrity and human rights standards of organization-developed (protective) policies. This subsequently invites questions around the

credibility and validity of such documents. “Expert” knowledge, especially from researchers in medical and scientific fields, is utilized to address these accountability measures, as well as reliance on the “truthiness” of medico-scientific knowledges and discourses (Jordan-Young & Karkazis, 2019a). Indeed, and as illustrated in previous chapters, all three policies heavily draw from scientific and medical evidence to guide their recommendations or boundaries of (un)acceptable behaviors. Doing so ostensibly construes these approaches as valid while simultaneously reinforcing and circulating the dominance of medico-scientific knowledges (Foucault, 1978).

In cases of situations that may arise once a regulation is in effect, policy texts continue to draw from the clear and unambiguous connotations associated with medico-scientific discourses. To do so, straightforward and linear solutions are outlined in response to various scenarios such as low energy availability (the IOC’s consensus statement), not satisfying eligibility conditions (World Athletics’ transgender eligibility policy), and dispute resolutions (World Athletics’ female eligibility policy). For example, in issues of “dispute resolutions,” World Athletics’ female eligibility policy provides clear procedural steps for “any breach of these Regulations by a Member Federation or Area” that include referring to the World Athletics Constitution or an “investigation by the Athletics Integrity Unit under the World Athletics Athletics Integrity Unit Report” (p. 11). If the dispute is “between the World Athletics and an affected athlete (and/or her Member Federation) in connection with these Regulations), this will “result in the involvement of the Court of Arbitration for Sport (CAS)” (p. 11). Creating clear-cut scenarios that may arise following the enforcement of policy guidelines, and the subsequent proceedings and (in some cases) punishments, creates an uncomplicated and facile illusion. In terms of accountability, the clearly denoted directions and indications of which groups or third-party organizations will become

involved, assumedly provides transparency and a level of accountability—despite the fact that some of the arbitrators are within the organization itself. In essence, policy implementation is conveyed like a mathematics question: if A happens, then B should occur; if C, then D; and so on.

Although such policy text “solutions” are supported by and maintain the unquestioned and universal “truthiness” of scientific evidence (Jordan-Young & Karkazis, 2019a)—which also seeks to simplify complex issues (such as those relating to “protection”) into reductive categories (Fausto-Sterling, 2000; Pape, 2020b)— participants questioned the widespread familiarity and utilization of the scientific evidence that ostensibly undergirds protective policies. For instance, when discussing research conducted by the IOC Medical Commission, which is often undertaken in collaboration with other sports organizations’ medical commissions such as World Athletics to create previous and current scientifically-grounded protective policies, Scientist F remarks, “I do think that some of these reports should be more widely circulated and promoted...these are excellent reports, but I don’t know that they get wide circulation or distribution.” They later rephrase their point as a question, noting, “This material, you know, does get published, but how much of it is really utilized?” In essence, Scientist F expresses concern over the circulation of the scientific knowledge and evidence within documents used to purportedly shape policy guidelines and recommendations. Although Scientist F considers the evidence to be of good quality, their remark reveals gaps between the research for policy guidelines, the drafting and writing of policies, and the circulation of these scientific knowledges.

Indeed, successful policy implementation (and other technologies of government) is not limited to the written discourses within policy texts (Rose, O’Malley, & Valverde, 2006). The gaps identified by Scientist F subsequently suggest that there emerge alternative and less quantitative methods of moving from policy research, to policy creation, to policy writing, to policy

implementation. In particular, other participants speak to the role of (lived) experiences and feelings in the overall policy creation and implementation processes. Therein emerges a stark contrast between policy texts and participant responses: while policy guidelines indicate a linear, matter-of-fact, and calculable implementation process, participants describe a far more subjective and embodied endeavor.

This is primarily due to two reasons. First, and as illustrated in Chapter 4, protective policies engage medical and scientific ways of knowing, which are forms of “elite” discourses. While elite discourses, in the case of protective policies, reinforce a purported “truth” around what constitutes a “healthy” or “eligible” athlete (Thurlow & Jaworski, 2017), such rhetoric is often inaccessible to general audiences. These groups frequently include those who protective policies seek to govern. The inaccessibility of elite discourses, and correspondingly, protective policy discourses, necessitates alternative ways of determining a policy’s validity, credibility, and accountability for those who policies is intended to govern. Subsequently, the importance and coalescence of these three elements by individuals involved with the enforcement of protective policies and/or who are (in)directly impacted by protective policies, is derived from emotive, social, or cultural dimensions. Put simply, successful “buy-in” and compliance with a protective policy is a “felt” experience.

In this vein, Scientist B spoke to the importance of *perceptions* of policies in the case of policy implementation, particularly for those (in)directly impacted by protective policies. As they explain,

And that’s where policies—like who actually reads policy? We *feel* policy. We *feel* it on the ground, we *feel* like an organization is well-functioning, a well-oiled machine, people in the right places doing the right things. You *feel* it as a parent or as a young person in sport. And you *feel*, and you *see*, and you *hear* when things are not working well. So yeah, I guess policies have changes at particular levels, but actually, they get felt all the way through. (italics added for emphasis)

For Scientist B, the actual written guidelines within policies are less important or recognized than the perceptions of the policy in question or its sponsoring organization. A widespread or public opinion of a policy is not achieved by reading the actual document texts or investigating the supporting science, but rather, through embodied, lived experiences (Thorpe, 2016). In other words, “buying-in” to protective policies and their respective organizations, subsequently, is the result of emotional, instinctive, and “felt” experiences (Wilson, 2015).

The characterization of policy as a “felt” experience contributes to the second reason for differences between policy texts and participants, especially when considering policy implementation: the inseparable relationship between sport and society, as discussed in Chapter 5. As sport continues to shape and be shaped by society, broad perceptions of various sociocultural or medical values constantly evolve, regress, or, at the very least, change. Correspondingly, support for, indifference to, and/or opposition of protective policies responds to these shifting societal beliefs, influencing how or if the governing and the governed “buy-in” to protective policies.

As discussed in Chapter 5, all document texts purport adjusting to evolving societal values. However, participants indicate the difficulties of actually doing so when creating and writing protective policies, particularly for protective “policies” that are concrete rules. Thus, and in spite of both these endeavors and preference for incorporating scientific knowledges to bolster the validity of protective policies, the “felt” experience of policy creation and implementation complicates the resulting authoritative connotations associated with science and policy. The result is a contextual and dynamic interpretation of the science supporting protective policies (and other “appropriate” forms of evidence), as well as opinions of the policies themselves (Wells, 2020).

For example, while not advocating for breaking the rules—which many participants described as important to ensure that there were clear boundaries between “right” and “wrong” (as discussed in Chapter 6)—Scientist G describes an element of subjectivity in the context of “feeling” whether a policy is fair or effective. Using the example of including transgender athletes, particularly transwomen, Scientist G remarks that, “the best way to include transgender women includes rules that are, I guess, clear and *feel* fair. That is, they *feel* like they erase advantage that might have been conferred from male biology relevant to the specific sport” (italics added for emphasis). Despite using medical discourses such as “male biology,” Scientist G suggests that, although scientific research and evidence may guide eligibility criterion, there remains a certain level of subjectivity around creating “fair” guidelines and rules, much like discussions of the “perceived” male advantage in chapter six.

Overall, the contrasts between the clear and unambiguous directives within policy texts and participants’ descriptions of protective policies as a “felt” experience illustrates the complexity and importance of multiple dimensions—in addition to scientific evidence—in developing protective policies. While document texts predominantly incorporate medico-scientific discourses in their “solutions” to ostensibly project objectivity, clarity, and simplicity (at the expense of reducing the complicated biological and social realities of sex, gender, and race, see Fausto-Sterling, 2000; Westbrook & Schilt, 2014), the interpretations, implementations, and enforceability of protective policies are actually much messier, embodied, and subjective processes.

“Protected” participation: The mediated inclusion of women athletes

Policy texts and participants universally agree that it is important for all individuals to have a pathway to participation in sport, despite a select number of participants arguing that the right to

participate in sport is not a human right⁷¹. However, for participants, “inclusion” sometimes incorporates varying levels of restrictions, especially for women who either engage in “unhealthy” behaviors or do not fit within dominant understandings of (gendered, sexed, raced) bodies. This thus proposes the idea of “mediated inclusion” of women through “protected” participation. In other words, qualified, limited, or non-existent inclusion for women athletes seeking to participate in sport, under the premise of “protection.”

The rationales behind this “mediated inclusion” often draws from two avenues of protection: protection of athlete/women’s health and protection of the women’s category. Generally, health-based protections support the removal of athletes (i.e., women) once they are in sport spaces⁷² whereas fairness-centered protections prohibit women from participating unless they alter their bodies to fit within prescribed (eligibility) standards. Though the “mediation” of an athlete’s participation occurs at different points (i.e., once an athlete is already competing versus before they can enter a competition), both remain grounded in tempered, negotiated, or partial inclusion. Additionally, both of these “solutions” operate at an individual or interpersonal level, rather than addressing the cultural norms and ideologies that shape *why* particular groups of

⁷¹ In particular—and as discussed in Chapter 5—Scientist D makes this point. While they state that “sport being a human right” is an argument that “somebody made up,” their surrounding descriptions and explanations imply that it remains important to have ways for all individuals to access sport and physical activity spaces. They do so in two primary ways. First, they draw attention to the health benefits of physical activity and sport, and the “health vein” that runs through (or, at least, should run through) physical activity and sport. Assumedly, *all* individuals, regardless of sex, gender, and race, should be able to enjoy these benefits, which suggests that *all* individuals should have access to such spaces. Second, Scientist D points out several ways in which women were and are excluded from sport and physical activity, while also noting the issues of “the system’s real investment in [women] as athletes, not just as women.” Highlighting the globality of this issue, they explain that there are “cultural signals that women are sent about being physical in a non-sexual way, those barriers.” Later, they explain there are still “lots of places where you can’t get out of your garb and be physical in any way that’s not shunned, at least private and hidden. And those places still exist today.” The negative connotation with which they speak to the difficulties that women face when trying to participate in physical activity or sports indicates then, at least to some extent, that they believe it is important for women to have access to such spaces. Ostensibly then, this argument extends to *all* athletes, given that women, as a broad category, encounter challenges to physical activity and sport to a greater extent than men.

⁷² For example, in the IOC’s consensus statement on RED-S, the authors strongly recommend that athletes who are at high risk for RED-S (or in the “red light” category) should not be allowed to compete and permitted to participate only in supervised training when they are cleared for adapted training (p. 496).

women experience mediated inclusion. This was an approach reflected in both document texts (see Chapter 4) and participant responses (see Chapter 6). Notably, the focus on the individual athlete (in lieu of drawing attention to broader influences) emerges even as participants indirectly (or, at times, explicitly) address the importance of cultural dimensions. Through this narrow lens, rationales behind protective policies and (heterogeneous, contextual) understandings of “protection” diminish the validity or significance of these sociocultural ways of knowing. Correspondingly, implications of who is excluded from protection or who is viewed as requiring protection continue to preserve dominant (and often damaging) ideologies of sex, gender, and race within sporting cultures.

While intrinsic to the values that undergird sport (as well as society and the women’s category, as discussed in previous chapters), ideals of “health” and “fairness” significantly shape policy and participants’ rationales behind the mediated inclusion of certain women athletes. For example, in the both of World Athletics’ policies, health and fairness are cited as two significant reasons for why these documents exist:

World Athletics needs to establish conditions for participation in the sport of Athletics, including eligibility categories, that (a) protect the health and safety of participants; and (b) guarantee fair and meaningful competition that displays and rewards the fundamental values and meaning of the sport. (WA, 2019a, p. 1)

The predominant concerns for the health and safety of the athletes (both impacted and not by the policies) and the importance of ensuring “fair and meaningful competition” suggest that, without a policy in place, these forms of “protection” are at-risk or violated (WA, 2019a, p. 2). Thus, interventions must be staged that require impacted athletes to alter their behaviors or bodies to meet organization-constructed standards of health, safety, and fairness. The same holds true for the IOC’s consensus statement, which cites the Olympic Movement Medical Code in its assertion that “protecting the health of the athlete is one of the goals of the International Olympic

Committee”: a goal that encompasses ideals of fairness, safety, and health (p. 491). Likewise, World Athletics’ female eligibility policy stresses the importance of health and safety, noting that: “[World Athletics] wishes the sport of athletics to be as inclusive as possible, and to encourage and provide a clear path to participation in the sport for all. World Athletics therefore seeks to place conditions on such participation only to the extent necessary to ensure fair and meaningful competition” (p. 2). The explanation that the policy conditions are “only to the extent necessary to ensure fair and meaningful competition” illustrates the implicit assumption that unmitigated participation is not the goal of the document. Rather, to achieve the “protective” goals of World Athletics and its policies, “protection” consists of a mediated form of inclusion for particular communities of athletes, namely, women with a DSD and transwomen: women who also purportedly violate gendered, sexed, raced, and cultural bodily norms (Linghede, 2018).

While all three documents simultaneously note that they want to encourage participation in their sport, these additional explanations of “health” and “fairness” suggest that it is a particular “protected” form of participation and inclusion that they seek out. To do so, women must adhere to (organization-constructed, scientifically defined) values of health and fairness for their protection. Yet, scholars have demonstrated how these constructed values of “health” and “fairness” in protective policies, such as World Athletics’ female eligibility policy, can and do disproportionately harm women who do not meet or ascribe to sport’s Western, biocentric, and binary classification system (see Doyle, 2013; Karkazis & Jordan-Young, 2018; Magubane, 2014, Pape, 2020c). These (un)intended consequences subsequently run contradictory to the alleged intentions of protective policies and perpetuate cultural norms that permit the very harms that protective policies purport to “protect” (women) athletes against.

In line with the “health” and “fairness” discourses found in policy texts, participants more clearly elucidate on the idea of “mediated inclusion” for women athletes. Specifically, they explain that “participation with restrictions” or “protective” participation are necessary (or should be) for those who were perceived as engaging in harmful or damaging behaviors, or assumedly do not align with normative and dominant constructions of sex, gender, and race. In situations where an athlete’s health or safety is at risk, Scientist F speaks to the necessity of those in authority positions to step in and remove such athletes: “Sporting agencies have a responsibility to see that, not only their events, but the whole lifestyle of athletics...the training regimens can be so intense that they become harmful to the athletes.”

Providing further context around *why* athletes might engage in such behaviors, Scientist A explains how athletes’ training programs are often extremely unsustainable, especially at the elite level. While indirectly highlighting the systemic problems and toxic cultures that not only allow such realities, but contribute to them, Scientist A adopts an identical approach to Scientist F and agrees that sports authorities should intervene in situations where athlete’s current and post-competition health is considered at risk:

The training regimens that the very top athletes go through are not necessarily the best way to live your life for longevity and for optimal health as an aging person...but should those who govern sports, those who administer sports step in at some point to protecting athletes from themselves? ...And I think the answer is yes, at some point. There are athletes who have been on the verge of starvation. And so certainly at some point, it is necessary to intervene with athletes who are endangering themselves by not eating sufficiently.

Through the example of disordered eating, Scientist A supports Scientist F’s comment that athlete training programs frequently demand that athletes engage in harmful and potentially life-threatening behaviors. However, while Scientist A proposes an interpersonal solution—for sport authorities to intervene in such situations—their comment points to the institutional problematics undergirding these issues, namely, a sporting culture that indirectly requires athletes to sacrifice

their wellbeing for performative successes. Yet, Scientist A's solution does not advocate for a drastic cultural shift and instead, centers on identifying and treating individual athletes (Schofield, Thorpe, & Sims, 2020). As discussed in previous chapters, this then contributes to primarily drawing from medico-scientific discourses and knowledges. Consequently, despite the illustrated relevance of sociocultural dimensions in formulating cultural solutions, such ways of knowing are hidden or viewed as subsidiary to medical and scientific "solutions" involving individual diagnosis and treatment.

Bridging Scientist A and Scientist F's arguments, Scientist E extends the cultural dimensions of the issue by characterizing sport "as a risk factor" while continuing to also urge those in authority positions to intervene in situations that pose a threat to an athlete's (or multiple athletes') health. As they remark:

People in sports leadership...should feel the responsibility because it's a matter that may be, if not caused by sport, at least perhaps further develop as a risk factor. Sport's a risk factor for the progression of these types of disorders.

For all three scientists, once an individual is an active participant in a sport, the governing sports body must look out for that athlete's health, even if it means reducing or removing the athlete from training or competition. Yet, Scientist E's assertion that "sport is a risk factor" illustrates a paradox that emerges from many participants' opinions on physical activity and sporting cultures. Specifically, while many interview participants recurrently underline the importance of sport and physical activity as beneficiary to long-term health, both for elite athletes and recreational exercisers (Mountjoy et al., 2014, 2016), the pervasive and toxic sporting cultures that exploit and harm athletes (especially women) contradict these social, mental, and physical benefits of sport and physical activity.

If, indeed, sport is a risk factor for developing conditions that sport authorities are then impelled to intervene on to “protect athlete health,” this suggests that the actions of such administrators will not actually solve the constructed “problem” (i.e., athletes engaging in “unhealthy” behaviors). Instead, as the root of the issue lies in the toxic sport cultures, such institutional norms—unaddressed and unproblematized by the proposed individual and interpersonal (medico-scientific) solutions—will continue to fuel a vicious cycle that includes overly intense training programs for athletes and long-term athlete damage. Subsequently, this contradicts the alleged “health vein,” as Scientist D describes in Chapter 5 that is intended to underline sports and physical activity.

While the mediated inclusion of women athletes through “protected” participation is intended for athletes who are already participating in sport, these ideas also persist *before* an athlete accesses these spaces. For such scenarios, participants often cite “fairness” as the primary driving force behind these governance techniques: a central value included in policy texts. For example, Scientist A initially states the need to ensure all individuals have a path to participation in sport: “First of all, I think everyone has a right to participate in sports.” Soon after, they amend this sweeping assertion and outline additional requirements to ensure that participants can enjoy “meaningful competition”:

But beyond just the right to participate in sport, I would suggest that women have the right to be in a category in which they can expect to enjoy meaningful competition to reap the same sort of benefits that those in the men’s category take for granted.

For Scientist A, while they believe that all individuals had a right to participate in sport, the importance of “fair competition” underlined which category an individual could and should compete in. If it was deemed that a woman-identifying athlete would violate boundaries of “fairness,” a sports organization must provide a path of “mediated” participation for the athlete, as

a means of balancing both the athlete's "right to participate in sport" and the fairness of the (women's) category.

Scientist D contextualizes this approach to intended and policed boundaries of the women's category. As they explain, following historical efforts to include women in sport and physical activity spaces, efforts were made to:

include women in sport but we have to protect them and take care of them and have them in their own separate space...a wall [around the women's category] needs to be built because the whole reason it was carved out is to exclude other people. Designed to be exclusive.

Focusing on those who wish to be categorized as an eligible woman athlete for the women's category, Scientist D notes that "protection" may manifest as an exclusionary (or mediated) strategy, given the initial purpose of the women's category. Through carefully policing these boundaries, Scientist D argues that women athletes (who compete in the women's category) will be protected, as will the integrity of the category: a rationale and approach that ultimately appears in all three document texts.

(Re)defining "a level playing field": Controlled unfairness

Central to the creation and implementation of protective policies is the understanding that they are necessary to protect athlete health, the boundaries of women's category, and/or the integrity of sport. A driving force behind all three of these understandings of "protection" is the idea of "fairness," or as it has also been referred to: a level playing field, an equal playing field, or, most recently, meaningful competition. In addition to scholarship that has debunked the possibility of truly creating a "level playing field" (see Buzuvis, 2010; Cooky & Dworkin, 2013), critical feminist and sports scholars have underlined how this notion subsequently typifies women who disrupt normative constructions of gendered, sexed, and raced bodies (i.e., transgender,

women with a DSD) as having an “unfair advantage” (Bavington, 2016; Buzuvis, 2010; Reeser, 2005; Schultz, 2011). Furthermore, the denotation of “unfair advantage” relies on the perception of biological advantages, which are derived from the essentializations of gendered and racial stereotypes (Karkazis & Jordan-Young, 2018).

At the same time, the construction of “fairness” with regards to athlete health adopts a complex and contextual understanding as instances of doping are assumed to violate ideals of fairness, but endeavors such as reparative surgeries, physical therapy, and equipment improvements—which are related to protecting or benefiting athlete health—are typically viewed as acceptable⁷³ (Murray, 2018; Pielke, 2016).

Although both policy texts and participants commit to or address the importance of upholding fairness, their specific interpretations of what “fairness” entails sometimes diverges. Specifically, while all three document texts explicitly cite ideas of “fairness” in their rationales and prescribed guidelines, these inclusions are brief and lack extensive explanation or nuance. For example, both eligibility policies define “fairness” to mean “fair and meaningful competition that displays and rewards the fundamental values and meaning of the sport” (WA, 2019b, p. 1). To achieve this understanding of “fairness,” World Athletics seeks to “create a level playing field and

⁷³ Both Dr. Roger Pielke (2016) and Dr. Thomas Murray (2018) present several case studies that illustrate the complexities of “fairness,” especially in cases that impact athlete health and safety. For instance, Dr. Pielke discusses the frequent need for baseball pitchers to undergo elbow reconstruction surgeries (i.e., Tommy John surgery), given the repetitive motion of throwing a baseball. While these surgeries are imperative for the players for daily functioning and significantly reducing pain, Dr. Pielke questions whether this form of modern technology might actually enhance athletic performance, to the point of violating constructions of “fairness.” In a similar manner, Dr. Murray explores how updated technologies intended to improve athlete safety might also violate understandings of fairness. To investigate this phenomenon, he examines the case of poles for pole vaulters. Specifically, current pole vaulters use fiberglass poles, which are safer but lighter than previous poles made of bamboo or aluminum. With lighter weights, fiberglass poles subsequently permit pole vaulters to run faster down the runway and require less strength to bend the pole, which permits them to vault higher. This results in significant improvements in performance. For example, Don Bragg, one of the last pole vaulters to use an aluminum pole, set the outdoor world record at 4.81 meters. Armand Duplantis, who jumps on fiberglass poles, holds the current world record at 6.18 meters. Although Dr. Murray ultimately concludes that these equipment enhancements do not violate the “spirit of sport,” he notes that he brings up this example to demonstrate the nuanced balance between “fairness” and sport/athlete enhancements.

ensure that success is determined by talent, dedication, hard work, and the other values and characteristics that the sport embodies and celebrates” (WA, 2019a, p. 2). In essence, a “level playing field,” which derived only of individual (e.g., talent) or meritocratic (e.g., hard work) characteristics, is necessary to create “fair and meaningful competition.”

Yet, throughout these inclusions of a “level playing field” and “meaningful competition,” there lacks more detailed explanation around what constitutes the “fundamental values and meaning of the sport.” In this vein, critical sports scholars have illustrated that the “characteristics that the sport embodies and celebrates” are often derived from sport’s male and Western identity, which institutionalize normative power relations relating to sex, gender, race, and coloniality (Carrington, 2015; Clevenger, 2017; Posbergh & Clevenger, forthcoming).

While the IOC’s consensus statement does not explicitly name “fairness” or “a level playing field” as a rationale and justification for its governing strategies, the document includes a citation to the Olympic Movement Medical Code⁷⁴ to identify its purpose. As the Olympic Movement “encourages all stakeholders to take measures to ensure that sport is practised to minimise harm to the health of the athletes and with respect for fair play and sport ethics,” the Medical Code is meant to help guide the balance of health, fairness, and ethics (p. 1). Specifically, in its preamble, it is noted that the document

recognises the primacy of athletes’ health, mandates best medical practice in the provision of care to the athletes, and the protection of their rights as patients...It supports and encourages the adoption of specific measures to achieve those objectives, recognises the principles of fair play and sport ethics and embodies the tenets of the World Anti-Doping Code.” (p. 3)

By connecting the importance of athlete health to pillars of “fair play and sport ethics,” the Olympic Movement Medical Code constructs athlete health as a necessary component of

⁷⁴ World Athletics also ascribes to the Olympic Movement Medical Code, as noted in *Part 1* of the World Athletics Medical Code (WA, 2012).

upholding fair (and meaningful) competition despite lacking a clear definition as to what constitutes “fair play.” Subsequently, to uphold ideas of “meaningful competition” or “fairness,” all three document texts propose reactive protective measures such as, but not limited to, removing athletes from competition, requesting (or forcing) athletes to change competition categories, and refusing competitive entrance to an athlete. As previously discussed, these ultimately constitute a form of “mediated inclusion.”

Despite the firm adherence of document texts to ensuring a “level playing field” or “fair play,” participants widely acknowledge that these constructs are impossible to achieve (as previously mentioned in Chapter 5). Scientist H made this point very explicit as they explain, “a level playing field, which absolutely does not exist...Sport integrity is really a very artificial concept because it’s created by each organization that makes its own rules.” Scientist H notes that the artificiality of “sports integrity,” or ideas relating to “a level playing field” emerges because these concepts are created by and for organizations. Given the compound interests of organizations (i.e., financial, prestige, globality), their constructions of “integrity” would ostensibly seek to benefit the organization above all else.

In a similar manner, Scientist E focuses on the label of a “level” playing field, particularly in the context of athletes’ talents and skills, as they remark:

We often talk about a level playing field, well, it can never be exactly level because the capabilities and qualities of the individuals are different by definition. And someone will win, and someone will be a loser. And that’s the meaning of competition. You have to accept differences, and that is what makes the whole competitive sport exciting.

For Scientist E, the fact that there is ultimately a “winner” and “loser” is illustrative of the inherently *unlevel* nature of sports. In other words, because athletes do not have the same abilities, they cannot truly be level with all other athletes. However, rather than lamenting this reality, they conclude that this unlevel-ness “what makes competitive sport exciting.”

Indeed, other participants also indicate that the differences in performance are part of sport's appeal and excitement. For instance, Scientist C who similarly comments that, "if it's given from the beginning, you always know this person will always win, then I think you will not find it fair. And it will not be exciting. It will not be sports anymore⁷⁵."

Thus, in the wake of a "level playing field," participants instead propose a more complicated idea of "fairness," given that the inherent unlevel-ness or unfairness between athletes is central to the "meaning of sport." As a result, the idea of "controlled unfairness" emerges as a means to protect the integrity of sport, the women's category, and athlete health/safety. This was specifically explained by Scientist J, as they discuss the importance of having "a playing field that's equal for everyone, [where] everyone has the same possibilities of winning and it's just a matter of their individual characteristics." In essence, Scientist J suggests that "meaningful" or "fair" competition excludes differences in social, political, geographic, or cultural standing and instead, should involve of a battle of biological and meritocratic components. Notably, Scientist J does not use the explicit language of a "level" or "equal" playing field. Instead, they acknowledge that there will and should be differences between competitors. Further yet, Scientist J indirectly speaks to the influence of these external dimensions (e.g., training facilities, strategy, or financial means) on athletic success, which disproportionately benefit athletes from privileged positions, geographical locations, and identities (Jones & Wilson, 2009; Loland, 2002). However, as Scientist J centers on biological characteristics to explain a "level playing field" without similar attention

⁷⁵ I found this comment by Scientist C to be particularly interesting as I felt that it incorporated a gendered element. While contending that "always knowing this person will always win" takes away from the excitement of sports, there are many instances in sports where an all-but guaranteed success *adds* to the excitement of the competition. Such is the case, I believe, for athletes like Usain Bolt, Sydney McLaughlin, Tom Brady, and Michael Phelps, and teams such as the USA national women's soccer team. Yet, this argument of "knowing who will always win" is frequently drawn upon to justify the regulation or exclusion of athletes who transcend the Western, white, and biocentric norms of sport. With this in mind, perhaps a more accurate way to characterize this statement is "always knowing this person *who does not fit within the gendered, colonial, and racial standards and expectations of sport* will always win."

to the social, political, geographical, and cultural dimensions, their response falsely implies that it is possible to separate the scientific from the sociocultural.

Other participants also incorporate this assumed separation as a means to justify governance over and policing of women's bodies, fostering the interpretation of "meaningful competition" as a form of "controlled unfairness." For instance, Scientist C remarks that "meaningful" competition is a "competition between participants whose relevant characteristics—it could be both physical, psychological, or other—are comparable, within a reasonable and normal range. So the outcome is not to be given." Through monitoring and regulating perceived performance-relevant physiological traits, "meaningful competition" through controlled unfairness can be achieved. Similar to Scientist J, Scientist C's focus on such characteristics supports the potential to separate biological and sociocultural factors. Put differently, through Scientist C and Scientist J's responses, it is assumed that biological *or* sociocultural factors influence an athlete's (potential) success or potential, rather than an entanglement of both, and that biological traits impact performance to a greater extent than sociocultural attributes. In the context of protection, this separation and emphasis on biological dimensions justifies regulatory actions that identify, monitor, and govern women's bodies, in order to ascribe to protective standards of "health" or "fairness."

To determine what biological traits should be regulated for purposes of "fairness" and "protection," participants advocate for the regulation of "relevant" characteristics, particularly for the women's category. However, descriptions of "relevant" characteristics differed across participant responses. Scientist A, for instance, took a physiological approach. When explaining World Athletics' female eligibility policy, they contend that,

There are people who, through no fault of their own, who have been identified and raised as female, but whose bodies contain internal testes, and they go through the same sort of

process that separates male pubertal athletes from female pubertal athletes...these are human beings who were identified as female at birth, but have a Y chromosome, testes, and fully functioning androgen receptors. And it takes all three of these to get this male-like advantage.

Focusing on biological traits as the most “relevant” characteristics in relation to performance, thus necessitating regulation, supports the idea of a “biological advantage.” Associating this label with women athletes, especially those who fit prescribed criteria of having a “male-like advantage” or, as discussed in the previous chapter, are “biological males.” In turn, this substantiates the dominance of medico-scientific knowledge and ostensibly seeks to support the veneer of medical truth (Markula & Pringle, 2006).

Conversely, some participants acknowledge the blend of biological and sociocultural traits in determining and monitoring “relevant” characteristics. However, the specific dimensions and corresponding opinions differ. For example, although Scientist D acknowledges the biological interpretation of “relevant characteristics,” they describe the importance of the “optics,” particularly for the women’s category. Specifically, they explain,

When it looks like there are androgens in women’s races, that’s not what people want to look at. So to the extent that that view continues to prevail, that’s why we have all women’s sports and that’s what [people] want to see.

For Scientist D, the presence of “androgens” in the women’s category violates the aesthetic purpose of the women’s category. While the discursive choice of “androgens” incorporates a scientific and medical undertone, the conveyed importance of “that’s not what people want to look at” engages normative and hegemonic constructions of femininity, especially in media representations of women’s bodies (Fink & Kensicki, 2002; Krane, 2001; Toffoletti & Thorpe, 2018, 2021). The confluence of social and scientific factors and discourses subsequently presents constructions of gender(ed appearance) as a binary, natural, and biological reality, as well as substantiating the physiological policing of women’s bodies (Pape, 2019a; Westbrook & Schilt, 2014).

Adopting a different approach, Scientist B does not discuss “relevant” characteristics as a singular factor. Rather, they speak of such traits as influenced and influencing a myriad of biological, historical, sociocultural, and geographical factors. The entanglement of these characteristics, under the backdrop of sport’s androcentric and Western roots (Carrington, 2015; Clevenger, 2017), subsequently reinforces problematic sporting cultures that disproportionately harmed different groups of athletes. As they note,

People recognize that there are problems and sporting cultures that are impacting people’s lives, athletes’ lives in ways that are not good. Whether it’s RED-S, whether it’s disordered eating, whether it’s abuse, whether it’s inclusive practices, or not. But I think sometimes—and I recognize the system’s kind of broken. It’s not fair for everyone, it’s not a good, healthy, sustainable environment.

While indirectly commenting on the biological responses of these cultural aspects (e.g., RED-S, disordered eating), Scientist B connects these physical realities to social and cultural practices (i.e., problematic sporting cultures). Given this intertwined relationship, upholding commitments to athlete health and safety, especially as they relate to conceptualizations of “fairness” cannot be achieved through solely monitoring and regulating (women’s) bodies. Being that “unfairness” is a *cultural problem* that elicits real, material, and potentially damaging consequences for women’s bodies, particularly for their long-term health, it requires a cultural solution that equitably attends to the uneven impacts on women athletes. This differed from other participants’ opinions on the intrinsic unlevel-ness or unfairness of sport: while many participants advocated for “controlled fairness,” Scientist B problematized this approach, noting that this type of (un)fairness is “not a good, healthy, sustainable environment.” In other words, for Scientist B, “relevant characteristics” are cultural rather than biological, and are part of a deeply entrenched and diffusive type of unfairness that systematically disadvantages athletes from certain (underrepresented) identities.

Discussion

In tandem with the previous chapter's "tensions," the findings in this chapter further elaborate on the dynamic, messy, and contrasting approaches to interpreting evidence for protective policies, and implementing document guidelines. These findings also reveal the disconnects between the myriad opinions/beliefs that participants hold, and the clear-cut guidelines within protective policies, regardless of their form (i.e., consensus statement or policy). Further yet, and across all empirical chapters, the idea of "protection" is malleable and contextual, illustrating both the multiple ways in which (women) athletes can and should be "protected" and the versatility of (scientific) evidence.

In effect, the title of "scientific protective policies" is a well-intentioned misnomer. First, these documents are not fully "scientific" as they rely on multiple discourses and forms of knowledge: scientific and medical, but also social, cultural, political, and geographical. This is not to say that both are equally utilized in protective policies though, as there remains a general preference for medico-scientific discourses in document texts and participant responses. At times, there are even attempts to separate sociocultural considerations from scientific "facts" to suggest that protective policies and governance strategies are objective, scientific, and straightforward. Such is the case in discussions of "controlled unfairness," as a truly "fair playing field" cannot be achieved. Instead, the "excitement" and essence of sport is in its inherent unlevel-ness between meritocratic and certain biological components. That is to say, the varying talents, work ethics, and abilities among athletes contribute to the "meaning" and appeal of sports. This then subsequently supports attempts to regulate "relevant" biological characteristics or, more specifically, traits that trouble dominant binary ideologies undergirding sports (Kane, 1995). However, the scientific can *never* be isolated from other sociocultural and political dimensions

(Jordan-Young & Karkazis, 2019a; Thorpe & Clark, 2020), as illustrated in the multiple explanations and definitions of “relevant” characteristics and endorsements of mediated inclusion. Thus, “scientific” protective policies instead rely upon multiple ways of knowing, despite the dominance of scientific discourses within document texts.

Second, “scientific protective policies” uphold different, contextual, and political ideas of “protection.” Though all documents generally draw from rationales of health, safety, or fairness, each is mobilized or interpreted in such a way to achieve a particular agenda (Mills, 2003). For example, the health dimensions of “protection” are connected to the unsustainable training regimes that athletes partake in, toxic training environments (which undergirds the characterization of “sport as a risk factor”), and the manifestations of these sociocultural dimensions in and through (women’s) bodies. Yet, even as protective policies seek to “protect” athletes from these dimensions through mediated participation, policies that draw on “fairness” rationales may run contrary to these health-related motivations (as in the case of World Athletics’ female eligibility policy) and actually inflict harm on athletes. Nonetheless, such policies share strategies of “protected” participation, despite these contrasting rationales and (un)intended consequences.

Lastly, “scientific protective policies” are not always policies, as illustrated in the case of the IOC’s consensus statement on RED-S (as discussed throughout this dissertation). Given that they are not always policies or rules, they may lack the enforceability that accompanies a written policy or rule. This is particularly reflected in the IOC’s consensus statement, which is assumedly intended to educate and guide rather than to police the boundaries of “right” and “wrong.” Yet, having concrete rules, as some participants contend, is important because otherwise there is an “anything goes” type of attitude. As such, in cases when a protective policy is not a “policy,” there is a tendency towards providing explicit and unambiguous guidelines, such as providing an

equation to determine if an athlete has low energy (even though discourses and knowledge shaping this “solution” are elite and thus, inaccessible for many individuals and communities) (Mountjoy et al., 2014). However, even when protective policies/documents clearly indicate the boundary between “right” and “wrong,” implementation is anything but a straightforward process. Policy is *felt*, policy is *embodied*, policy is *experienced*. Participants spoke to these emotive qualities across the entire protective policy process, from researching, to writing, to enforcing “rules that *feel* fair” and “*feel* like they erase advantage” (Scientist G). That is to say, despite the straightforward, black-and-white connotations associated with “policy,” there remains a significant level of subjectivity and intuition.

Overall, there exist many dimensions shape the contextual circumstances wherein some women are viewed as requiring or deserving protection, whereas others are seen as potentially infringing upon these protections. Despite indicating the blending of sociocultural and scientific considerations when describing or justifying protective policies (though there remains preference for medico-scientific discourses), participants and document texts advocate for individual or interpersonal solutions that involve identification, diagnosis, and treatment. This, in turn, fails to reimagine or address the systemic problems that necessitate the need for protective policies.

While it might appear more feasible to focus on individual athletes, along with the privileged characteristics of scientific-medico knowledge (i.e., the veneer of objectivity, clear-cut implementation strategies), such approaches ultimately act as a temporary and superficial solution to a systemic problem. Moreover, and as Rose and Valverde (1998) note, the individualization of such endeavors “affirms the equality of individuals in relation to a common standard. But, at the same time, that standard makes visible and practicable the differences, discrepancies and disparities amongst individuals” (p. 545). In the context of protective policies, focusing on the

“problems” within individual athletes prompts parallel individual “solutions.” Furthermore, the narrow and individualistic practices associated with individual solutions contribute to further constructing the “problem” as individual. Subsequently, these approaches do not problematize the dominant and often narrow discourses that underpin the construction of protective rationales and technologies.

As a result, there exists an overarching disconnect between acknowledging the broader, systemic dimensions involved in protecting women athletes, and proposing individual solutions that fail to adequately address the deeply entrenched power relations and normative ideologies at the center of these sporting cultures (Andrews, 1993; Markula, 2003). Although some participants actively center and highlight the broader cultural, social, and political power relations involved (e.g., Scientist B), their opinions are often left out of the final document texts in favor of individual and scientific protective “solutions.” This is not to say that harmful behaviors or conditions do not exist and should be overlooked. Rather, the opposite is true: it is vital to invest in both athletes currently within the sporting system *and* the institution of sport and sporting cultures, in order to enact long-term changes that are not at the expense of athletes in the system. As Scientist J succinctly explains it, there should be a “whole or comprehensive approach” to protection, to ensure that current *and* future athletes are equitably “protected.”

Chapter 8: Conclusion

The overarching purpose of this dissertation was to understand how protective policies draw upon forms of evidence (especially science) to differently define “woman” and thus, uphold and enact malleable definitions of “protection” through multiple technologies of governing. I was particularly interested in the relationship between scientific, social, cultural, political, and geographic dimensions of creating and justifying these changing definitions of “woman” and, correspondingly, heterogeneous applications of “protection.” Through these myriad types of “protective policies,” I then sought to understand how these rationalities, derived from many manipulable forms of evidence, corresponded or were translated into governance techniques and forms (i.e., consensus statements, policies). Within these interpretations and implementations, I was also interested in understanding how “expert” knowledge is legitimated and operationalized to individualize and discipline women athletes and their bodies.

In a political sense, I wanted to make sense of how and why protective policies, with their different interpretations of “protection,” can continue to co-exist in the same sporting milieu and/or organization, despite sometimes eliciting contrasting (harmful) consequences on particular communities of women athletes. To achieve these aims, I drew from Foucauldian ideas of “disciplinary power” and “governmentality” to investigate the nuances of governing in protective policies, and how constructions of “abnormal” and “normal” bodies (through discourses of “suspicious” or “(un)healthy”) engage dominant discourses of gender, sex, and race. Additionally, I used these Foucauldian inspired ideas to explore the constructed “problems” and “solutions” in both document texts and participant responses, later comparing the two data sets to see if, how, and when they converged or differed.

While document texts heavily rely on medico-scientific discourses and knowledges to justify their intentions and governance strategies, and frequently present straightforward or clear-cut mechanisms of defining the “problem” at hand and providing a “solution,” the reality is far more complicated. As a starting point, there is no such thing as objective or “simple” science: the separability of the scientific from the sociocultural is a myth, given the implicit biases and values that contribute to *what* a researcher chooses to study, to *how* they analyze and interpret their data, to *why* some forms of evidence are deemed more “appropriate” or “better” than others (Jordan-Young & Karkazis, 2019; Pape, 2019a). In the case of protective policies, these multiple dimensions begin with the opinions and beliefs of those involved with researching, creating, drafting, and implementing protective policies. Even when explaining why protective policies exist, participants look to a range of reasons, as discussed in Chapter 6.

Moreover, the values that underpin their justifications and rationales for protective policies differ in terms of how they view the relationship between sport and society or how they perceive the idea of “male advantage” (i.e., an irrefutable truth or a matter of opinion). Rarely, if ever, did participants agree on a topic, whether it was defining “protection,” the need for a separate women’s category, or the best mechanism for policing and governing women’s bodies. Indeed, in response to a question asking about circumstances in which protection might be more valued than participation (or the other way around), Scientist F remarks, “you will likely get different answers from different people. That’s why it’s going to remain a controversial issue!”

At times even, there were intra-contradictions within participants’ responses, such as discussions around women athletes and the “inferior female body.” More specifically, while some participants directly asserted that historical, cultural, political, biological, or social beliefs around women’s bodies as inferior to men’s bodies were outdated or flatly wrong, they sometimes later

reinforced the performative and athletic superiority of men's bodies and men athletes, creating an intra-contradiction within their own beliefs and viewpoints. I point this out, not to condescend or criticize their responses, but instead, to demonstrate the complexity and myriad viewpoints, opinions, and beliefs within policymaking and implementation. This multiplicity and messiness—in tandem with the inter-contradictions between document texts and participant responses—is part of the difficulty of creating (protective) policies, even if and as those involved have the best intentions of “protecting” (women) athletes.

Notably, there was a marked acknowledgement of the importance of social, cultural, political, and geographic considerations, particularly in the rationales of protective policies. As I show in Chapter 6, some participants speak to the historical exclusions of women, even characterizing these efforts as “misogynistic.” Others take a more health-centered approach and highlight the physiological impacts of sport, especially in the case of relative energy deficiency, noting that these conditions are significantly more common in women. Because of the higher occurrence in women, this potentially elicits serious implications for their reproduction and fertility—concerns that are unique to women's bodies but engage both biological and cultural dimensions (Thorpe & Clark, 2020). Even participants who either revealed their preference for physiological approaches or predominantly utilized medico-scientific discourses in their responses, spoke to the toxic and unsustainable sporting cultures that disproportionately harm women and thus, necessitate protective policies. Such was the case with document texts as well. Though elite medico-scientific discourses were primarily used throughout the documents, there were notable incorporations of social and cultural dimensions, such as identifying “suspicious” athletes and the intentions of the sports organizations (and thus, the protective policies) to uphold

“fair” and “meaningful” sport. In all, and across all data sets, sociocultural forms of evidence were ever-present and entangled with bio-physiological knowledges.

This was particularly illustrated in participants’ different understandings and explanations of the “meaning” or “spirit” of women’s sport. Throughout these discussions, participants expressed multiple opinions of how, when, and if to balance sex differences, the historical oppression of women athletes, and values of inclusion or participation: a contextual and changing balancing act that was also reflected in document texts. Universally, participants agreed that women had been historically undervalued, discriminated against, and excluded from sport for sexist, misogynist, or plainly false scientific or social reasons. Yet, their “solutions” for moving forward and continuing “progress” for women athletes lacked a similar consensus. Overall though, a majority of participants proposed forms of “mediated inclusion,” which described varying levels of participatory restrictions for different categories of women (i.e., women with RED-S, women with a DSD, or transwomen). These suggestions often, if not always, found their ways into document texts.

However, understandings and determinations of *who* is protected through these forms of mediated inclusion reflected the malleability of “protection” and definitions of “woman,” while also continuing to reinforce dominant bodily, gendered, and raced ideals. In general, athletes whose bodies conform to normative, binary, and Western constructs were considered or implied as worthier or in greater need of protection whereas those who transcend or violate such norms (i.e., women with a DSD or transgender women) were deemed in less need of protection. Much of these designations were opportunistically framed around (Western) interpretations of health and fairness, frequently drawing from (and thereby reifying) raced and gendered stereotypes (Wynter, 2003)

Such was the case for the IOC's consensus statement on RED-S. While women with (or suspected of having) RED-S were viewed as needing protection, women of color, especially Black women, were characterized as being at lower risk of developing RED-S and thus, less in need of protection (Mountjoy et al., 2014). In addition to lacking substantial evidence to support such claims, this designation for women of color and Black women reinforces myths of the “superior Black athlete” (Carrington & McDonald, 2001; Lansbury, 2014). This reality is undoubtedly shaped by the entanglement of Western understandings of “health” with the Eurocentric, colonial, and white origins of sport (Carrington, 2015; Clevenger, 2017), as well as the “authority” and purported “objectivity” of medico-scientific discourses and knowledge (Jordan-Young & Karkazis, 2019a; Markula & Pringle, 2006). In addition to the IOC's consensus statement, this dissertation and other research has elucidated on the intersection of sexism and racism in the science that informs female eligibility policies (Henne & Pape, 2018; Karkazis & Jordan-Young, 2018; Magubane, 2014), as well as defining or understanding “transgender” in health contexts which can and do extend to transgender eligibility policies (Koyama, 2020; Stryker, 2012).

Ultimately, the flexibility, malleability, and manipulability of determining “who” or “what” is protected is largely contingent on the perspectives of “experts” involved with researching, creating, and implementing protective policies, most of whom are based in the Global North and come from medico-scientific backgrounds. In addition to the dominance and elite nature of medical and scientific knowledge, participants' involvement with elite sports organizations such as World Athletics and the IOC—and being part of these close-knit, rarefied communities—continues to legitimate their roles of instructing and caring for athletes (Bekker & Posbergh, 2022; Foucault, 2003b). This is further buttressed by authorization strategies found within documents, which includes the use of elite discourse, the dominance of medico-scientific knowledge,

expressed commitment to human rights, and the (purported) importance of scientific integrity (as discussed in Chapter 4). Although the binary between “governed” and “governing” is, at times, blurred (as discussed in Chapters 6 and 7), individualizing techniques derived from dominant and normative “truths,” discourses, and beliefs continue to shape and undergird protective policies more specifically, and sport more broadly. As a result, “protection” sometimes became less about the individual athletes, but more about preserving deeply entrenched ways of “knowing” bodies, gender, sex, and race.

With this in mind, and as some have observed, because women have fought for so long to gain access to physical culture and sport spaces, there is a reluctance to share or “give up” that space for other marginalized or underrepresented women’s groups (Charleston et al., 2014; Sweeney, 2004; Wilson, 1996). Critical feminist and STS scholars have described this form of “feminism” as protecting “idealised notions of white female vulnerability,” especially in trans-exclusionary discussions or, as some refer to it, the “TERF” wars, (Pearce, Erikainen, & Vincent, 2020, p. 680; see also Koyama, 2020; Patel, 2017). I believe it is important to note though that not all participants advocated for such a feminism and instead, encourage more radically inclusive forms of “protection” and “participation.” Scientist B, for example, urged sports organizations and sports culture to center inclusion, empathy, and diversity, especially for transgender athletes. At the same time, Scientist B’s perspective—particularly their attention to social, political, cultural, *and* biological dimensions—was neither shared by most other participants nor appeared in document texts.

In this vein, there often emerged efforts to suggest that scientific and sociocultural dimensions *can* be separated, through advocating for an individual-focused “solution,” or explanations of “controlled unfairness” and excluding/regulating “biological males.” The result is

a justification of governance over and policing of women's bodies, thereby characterizing them as an "object under the regime of medical truth" (Markula & Pringle, 2006, p. 25). Furthermore, the attempted separation of scientific and sociocultural ways of knowing bolstered the superiority of Western medical knowledge, as in the geopolitical explanations of the simultaneously "exploited" and "athletically superior" athlete from developing countries. This, in turn, allows for sports organizations—most, if not all, of which are located in the Global North and whose sports administrators and authority figures are also from the Global North—to require or "recommend"⁷⁶ Western medical "treatments" to athletes using health-centered narratives. Without denying the medical and physiological realities of (certain) life-threatening conditions, the problematic positioning of the West as "saviors" cannot be ignored (Mwaniki, 2017). Moreover, these treatments can sometimes lead to worse health outcomes or quality of life, as illustrated in the narratives of Annet Negesa following her gonadectomy, or Caster Semenya while she was forced to take testosterone-lowering hormones from 2010 to 2015 (Bekker & Posbergh, 2022).

From what I have learned in this dissertation, developing and enforcing protective policies is a messy and contentious process: a reality that is not necessarily reflected in document texts. At the same time, there remain notable similarities between document texts and participant responses, such as the preference for medico-scientific knowledges, the subtle incorporations of sociocultural discourses that quietly promote commonsensical or taken-for-granted ideas such as "fairness," "normal," and "(un)healthy," and the individual athlete focus. Yet, ultimately, the multiple definitions of "woman" that manifest in protective policies (and the unevenness of which women's

⁷⁶ Karkazis and Carpenter (2018) have highlighted how World Athletics' female eligibility policy presents "impossible choices" for women as the regulation does not "require" women to undergo treatments to attain eligibility (thereby providing "choices"), but instead, forces women to either alter their bodies through these procedures, have their identity called into question, or quit (see also Jordan-Young, Sönksen, & Karkazis, 2014 for further discussion on ethical and medical issues of requiring medically unnecessary surgical or hormonal treatments for women).

bodies are governed) stem from the numerous opinions of those involved with creating and implementing these documents. As forms of evidence—scientific, sociocultural, or otherwise—can be interpreted through many different ways depending on the biases, professional training, or personal beliefs of individuals (even “objective” and “quantitative” scientists), “protection” refuses a universal definition. It is in this way that even the most well-intentioned individuals and sports organizations can sometimes enact irreparable harm on women athletes, even the ones they espouse to “protect.”

As a PCS project, the cultural politics of questions around “protection” cannot be ignored, especially in the current state of the United States (from where this dissertation was written and where I am based) and the world. At the time of writing this dissertation, more than 300 legislative proposals have been put forth nationwide with regards to the LGBTQ+ community, with approximately 140 targeting transgender youth (Berg-Brousseau, 2022; Jones & Navarro, 2022). Despite several Republican governors vetoing initial bills for reasons such as “err[ing] on the side of kindness, mercy and compassion” (Whitehurst & Metz, 2002, para. 4), lack of evidence to substantiate claims of unfairness (Hernandez, 2002), and having very few (i.e., zero or one) transgender girls participating or seeking to participate in youth sports (Peiser, 2022), state governments have overridden these vetoes and pushed for these bills to become law. “Protecting” women’s bodies has also extended beyond sexual orientation and representation as well, with the recently leaked United States Supreme Court overturning the landmark *Roe v. Wade* decision (Baker, 2022). Yet, the political intricacies of these phenomena cannot be ignored, as a large number of *Republican* governors have indirectly (or directly even, in cases where Republican governors have vetoed anti-transgender bills) pushed back against narrow ideas of “woman” and “protection,” which are typically associated with far right or right-leaning political ideologies. In

turn, their efforts—especially in the context of proliferating legal documents and corresponding protests and social movements—rebut the uniformity of consistent political tropes and narratives. This is, of course, not to discount the global rise of far-right ideology, which has influenced conceptualizations and implementations (especially at the policy-level) of “protection” and “woman” (Falcous, Hawzen, & Newman, 2019; Flores et al., 2020). All this to say, the political landscape of “protection” inside and outside of sport is, and will remain, complex and relevant.

Lastly, my interest and research around (sport) policies, complex entanglements of sociocultural and scientific dimensions, and interpretation of (scientific) evidence into written text frame “my” PCS, which build on and complement previous PCS research (see Esmonde, 2019; 2021; Jette, 2009; Jette, Bhagat, & Andrews, 2016; Jette, Esmonde, & Maier, 2019). Moreover, the location of this research within the broader context (or “conjuncture,” as Grossberg or Andrews might describe, see Andrews, 2019; Grossberg, 2010) of a contentious and current political moment also represents a key part of my place within and contributions to existing PCS research and the PCS community. While all PCS projects are political in nature, “my” PCS directly engages with a highly contentious, relevant, and mainstream topic (i.e., “protection” in women’s sports as related to transgender athletes, science, the definition of “woman”), which manifests inside and outside of sport and thus, illustrates the political, cultural, and social importance and urgency of this research. Through doing so, “my” PCS is especially influenced by the political tenet of the PCS project, while also endeavoring to remain anti-relativist (Andrews & Silk, 2015). With the tensions around questions of woman, policy, and “protection,” I seek to approach my research with critical feminist and race sensibilities, recognizing both as entangled and intersectional. In doing so, my hope is to address criticisms of PCS not properly attending to feminism (Adams et al., 2016) and contribute to the anti-racist nature of, hopefully, all past, current, and future PCS

projects. In all, it is through these characteristics that I hope this project (and future research relating to this dissertation) extends and benefits the broader PCS project.

Limitations and Future Research

At the start of working on this project in late 2019, I had no idea what the next two years would hold but I was cautiously optimistic: I had received multiple research grants to connect with and potentially interview potential participants in-person at the IOC World Conference on Sport Injury and Prevention in March 2020. With both the limited number of total possible participants and their busy schedules, I believed that meeting participants in-person would both increase my likelihood of successfully soliciting interviews with them and generate richer interview data. Little could I have predicted the COVID-19 pandemic that would grip the world and indefinitely delay this research trip. While I was able to solicit interviews with nine (of thirty) experts through cold-emails, I believe that one of the primary limitations of this project is indeed the number of interview participants.

This is not to say that the findings in this dissertation are not useful or that the interviews conducted did not produce “good” data, especially as the participants interviewed for this project were recruited for their expert and intimate knowledge of the three case studies. Indeed, there is no concrete number of interviews to reach data saturation (Baker & Edwards, 2012; Francis et al., 2010) and the idea of data saturation in qualitative research elicits different opinions (see Braun & Clarke, 2021b; Guest, Bunce, & Johnson, 2006). At the same time and considering the heterogeneous opinions of those involved with creating protective policies, I believe that conducting more interviews with other individuals involved with creating protective policies may reveal further interesting insights.

In a similar vein, and as some participants pointed out, the technologies utilized by protective policies are not limited to the documents themselves, but also engage individuals such as athletes, coaches, and journalists, and thereby troubling the binary between “governing” and “governed” (Rose, O’Malley, & Valverde, 2006; Rose & Valverde, 1998). Although my interviews with scientists, lawyers, physicians, and researchers behind creating and implementing protective policies fills a gap in existing literature, particularly around the rationalities of government, I believe future research can and should also incorporate interviews with the “governed;” those who *feel* and *experience* policy and thus, are a critical part of the rationalities and especially the technologies of protective policies. Through uncovering the complexities of the technologies of government, a more comprehensive and complete description of the *whole* process of protective policies can be generated.

While I have attended to dimensions of sex, gender, and race throughout this dissertation, I would encourage future research to also consider economic and social class as an important consideration for defining “woman” and enacting “protection.” This is an especially notable factor for transgender athletes, who are required to pay for physician visits and treatments themselves to attain organizational eligibility guidelines. As I argue in Chapter 4, this not only necessitates cultural knowledge of such processes and procedures, but also a high level of financial capital. In this particular case, there emerges important and interesting questions around how social class also factors into defining “woman” and who is viewed as requiring or deserving of protection: questions that I hope future research will undertake.

The three case studies examined in this dissertation were chosen as they reflect the broad range of protective policies and are science-supported, but are not without their limitations, especially in terms of organizational affiliation. While I maintain that focusing on these three

particular policies permitted a broader examination into the development and implementation of protective policies, these findings also remain somewhat unique to the IOC and World Athletics, their cultures, and the relationship between the two organizations. Investigating protective policies for different organizations would most likely reveal slightly different cultural realities for those respective organizations. For example, World Athletics is currently the only international sport federation that has a specific female eligibility policy. While it is not the only organization with a transgender eligibility policy, these types of policies range from complete exclusion of transwomen (World Rugby), to requiring surgery (Association of Boxing Commissions), to no presumption of advantage due to an individual's transgender status (IOC). While I would characterize all these regulations as "protective policies," their differences are illustrative of the unique cultural values, interpretations of science, and (perceived) physical demands for their respective sports. As such, it would be beneficial for future research to expand their policy data to include other organizations' protective policies, in order to construct an even more comprehensive and holistic understanding of how such documents are created and implemented, and how these strategies are similar or different between and within sports organizations.

Lastly, I have looked to Foucauldian ideas of disciplinary power and governmentality to understand how "woman" is defined in protective policies, the consequences of these unique and contextual understandings, and how systems are designed to uphold and circulate particular interpretations. The purpose of this particular theoretical framework was to provide a means of interrogating the relationships between power, knowledge, and discourse in the rationalities and technologies of government (Rose, O'Malley, & Valverde, 2006). At the same time, throughout this research, it has become clear that there are multiple human and non-human actors involved in the governance of women athletes through protective policies, beyond simply the policy texts

themselves. This subsequently invites questions into the networks that determine the nature of a phenomenon (i.e., protective policies as a category, or even a single protective policy). To this end, Wells (2020) recently traced the “coming-into-being of sex testing policies” (p. 16), drawing from Bruno Latour’s Actor-Network-Theory (ANT) to examine *how* facts are created, rather than *why* (Hor & Iedema, 2015; Latour, 1987). In doing so, Wells (2020) sought to identify and bring together the diverse “actants” involved with the “resiliency” of sex testing. In the case of protective policies, an important area of future research may adopt a similar approach using ANT or other socio-material approaches to examine *how* protective policies—even and especially ones with seemingly divergent rationales, implementations, and consequences—are constructed and remain their assumed “factiveness” (Bertotti & Miner, 2019).

The Future of Protecting Women Athletes? And this Dissertation?

A question that several of my participants asked me at the end of their respective interviews was something along the lines of, “your topic is timely and interesting, but what are you going to *do* with it?” One participant asked if I could develop a type of checklist for sport organizations so they can ensure that they are doing all that they can to protect their (women) athletes. Another recommended that I publish in non-scientific journals to circulate my findings to coaches, athletes, and other individuals who were not privy to the “elite” forms of academic knowledge. After spending the past two years reflecting on these recommendations, their suggestions indicate to me the exigence of this work and the authenticity of the desires to protect women athletes. More than that though, I believe that this demonstrates the necessity of creating protective strategies that are accessible, compassionate, and elevate the voices and experiences of women.

Looking forward, I hope that this dissertation provides insight for others—researchers, physicians, lawyers, scientists, advocates—into how messy, contentious, and incomplete the

project of “protective policies” is for sports. Even more so, I hope it sheds light on the versatility and thus, inadequacy, of medico-scientific knowledge to singularly shape protective policy guidelines: an endeavor that contributes to the works of feminist, PCS, and STS scholars who have highlighted the impossibility of “objective” science, particularly in sport and spaces of physical activity (Jette, 2018; Jette, Esmonde, & Maier, 2019; Jordan-Young & Karkazis, 2019a; Karkazis & Jordan-Young, 2018; Pape, 2020b, 2020c; Pape & Pielke, 2019).

Soliciting and conducting interviews with nine individuals who were and are intimately involved in the creation, drafting, and implementation of protective policies has provided me with a considerably deeper understanding of how difficult it is and can be to balance scientific, medical, cultural, social, political, and geographic dimensions, especially as they relate to protection of women athletes. As I discuss in Chapter 5, even as I highlight some of the problematic underpinnings of their logics and approaches, I genuinely believe that each individual truly wants to protect women athletes. Yet, there are so many ways that (women) athletes can and should be protected—not in a paternalistic way, but in a way that allows women to feel safe walking or running at night (Nagesh, 2018). To achieve this goal requires solutions that attend to immediate physiological and biological effects on athletes, but also to the hierarchical power relations that are normalized and embedded in cultures that allow these egregious harms to persist—especially for women from underrepresented identities. From the Global South. From working class backgrounds. Of color.

I am also convinced that the diversity of sports authorities must improve if sport organizations are to change their cultures, and not to merely pay lip-service to equity and inclusion commitments. Every participant that I interviewed and nearly every single potential participant is from the Global North. World Athletics’ headquarters are in Monaco and the IOC’s premier world

conference on sport injury and prevention is also held in Monaco, which is *the* wealthiest country in the world (De Lea, 2019). Even as the IOC trumpets investing in the Global South and sport for development efforts (IOC, 2021d), there remains a vast disconnect between sports organizations and their authority figures (such as the IOC and World Athletics), and individuals who assumedly *need* the most protection. Indeed, in their exploration of the perceived and actual barriers to physical activity for Muslim women and sports facilitators, Ahmad, Thorpe, Richards, and Marfell (2020) remark that the lack of culturally diverse administrators and leaders is a notable barrier to creating more inclusive sporting cultures and opportunities. Likewise, Pape (2020d) observes that, “a growing body of evidence suggests that the gender composition of leadership is particular important in establishing the norms that shape an organization’s broader gendered character”—a relationship that can assumedly be extended to other social identities as well. All this to say, *representation matters*.

As for me, in moving forward, I would like to remember Scientist B’s comments on “fighting that fight” for equitable and compassionate change:

I think that fighting that fight...it’s less confrontational than it sounds. It’s not combative. It’s not ‘boom, boom, boom,’ that’s not actually how I see how the change happening. I think it’s about relationships. It’s about relationships over time and building that trust. And being part of that conversation again and again, although you might get ignored, although you’re going to get overlooked, although you get marginalized. It’s like, keep coming back and you get little wins along the way.

Creating necessary, positive change in sporting cultures is a wickedly challenging endeavor. I think this is the case even more so in an increasingly polarized and politicized world (Andrews, 2019; Klein, 2020). Not singularly because of the current preference for and dominance of individual, biological discourses and knowledges, but also because changing a culture—especially one as deeply entrenched in normative constructs of sex, gender, and race as sport—is not something achieved overnight. A problem as multifaceted as “protection” requires complex, multi-

dimensional, and transdisciplinary solutions that revitalize and perhaps even reimagine previous “protective” strategies. These solutions will also require critical reflexivity of how gender and race is or might be essentialized in texts—or even in our own subconscious opinions.

Appendix A: Script for Participant Interview Recruitment

Dear _____,

Hello, my name is Anna Posbergh and I am a doctoral candidate from the Department of Kinesiology at the University of Maryland, working with Dr. Shannon Jette. I would like to invite you to participate in my dissertation entitled, “Protection for whom? A critical examination into the governance of women athletes through policies.” The purpose of this research project is to better understand how policymakers, scientists, and other stakeholders invested in protective policies for elite women athletes (e.g., regulations/guidelines around female eligibility, transgender eligibility, and relative energy deficiency syndrome/RED-S) understand, interpret, and translate science into policy. I am seeking to conduct interviews with people who are involved with World Athletics’ policy on female eligibility, World Athletics’ policy on transgender eligibility, and the International Olympic Committee’s (IOC) consensus statement on RED-S.

Given your expertise on the subject matter, I am emailing to ask if you would be willing to allow me to interview for my dissertation. This project has IRB approval, which I have attached to this email.

If you are interested in participating in this study, please read, initial, and sign the consent form attached to this email and we will arrange an interview via Zoom, WebEx, Skype, or another virtual platform at a time that is convenient to you. The interview will range from 30-90 minutes, and will be audio-recorded. Questions in the interview guide cover your involvement with one or more of these policies, your opinions on women-centered sport policies, the relationship between supporting science and its respective policy, the effects of such policies, and the meaning/integrity of women’s sport.

There are no direct benefits and no known risks from participating in this research.

If you have any questions about your rights as a research participant, please contact the University of Maryland College Park Institutional Review Board Office. Their contact information is provided below. They have reviewed and approved this study. If you have any questions or are interested in participating in the study, please do not hesitate to reach out to me.

I look forward to hearing from you and thank you for your time.

Sincerely,
Anna

Appendix B: Interview Guide

Category Topic	Questions
(Women's) Sport and Women Athletes	<ol style="list-style-type: none"> 1. How do you understand the meaning or integrity of sport? 2. How would you describe “fair” and “meaningful” competition in women’s sport? 3. What evidence, values, or beliefs do you rely on to come to this understanding of women’s sport? 4. What are challenges that women athletes have historically faced, currently face, and may face in the future? 5. What intrinsic rights do women athletes have around sport, eligibility, and the competition environment?
Protection	<ol style="list-style-type: none"> 6. How do you understand “protection” in the context of sport, sport policies, and athletes? 7. Should sport organizations actively endeavor to protect athletes? Through what mechanisms? 8. Should sport policies seek to protect athletes, especially women athletes? If so, how can policies adopt this protective approach? 9. Which women athletes should sport organizations and sport policies protect? Why? Under what circumstances? 10. Are there circumstances in which some women should/are more protected than others? Why or why not? 11. How do policies balance protecting women athletes and encouraging the participation of girls and women? Are there situations in which one is more valued than the other?
RED-S Consensus Statement	<ol style="list-style-type: none"> 1. Are you familiar with the condition “relative energy deficiency in sport”? 2. How can sport organizations create policies or implement measures to protect athlete health? Is this a responsibility of organizations to do so? 3. Should sport organizations specifically protect the health of women athletes, or all athletes? Or are there circumstances in which sometimes women should be more protected than men? 4. From your understanding, what are the key points from the science supporting the new regulations? 5. In your view, what is the desired outcome of protecting athletes with regards to RED-S? Do you think this consensus statement will achieve this outcome? Why or why not? 6. Are there points in the document that you believe to be incongruent with the science supporting it? Why or why not? How and where do they diverge?

	7. How do you think this consensus statement will change/affect sport and how women athletes experience sport?
Female Eligibility Policy	8. How does this particular policy look to protect athletes, especially women athletes? 9. From your understanding, what are the key points from the science supporting the new regulations? 10. In your view, what is the desired outcome from this policy? Do you think it will achieve this outcome? Why or why not? 11. Are there points in the policy that you believe to be incongruent with the science supporting it? Why or why not? How and where do they diverge? 12. How do you think this policy will change/affect sport and how women athletes experience sport?
Transgender Eligibility Policy	1. How can transgender athletes be equitably included in elite sport? What are some concerns around including them, and challenges at the policy level? 2. What are your thoughts on the updated World Athletics transgender regulations, particularly with the testosterone limit? 3. How does this particular policy look to protect athletes, especially women athletes? 4. From your understanding, what are the key points from the science supporting the new regulations? 5. In your view, what is the desired outcome from this policy? Do you think it will achieve this outcome? Why or why not? 6. Are there points in the policy that you believe to be incongruent with the science supporting it? Why or why not? How and where do they diverge? 7. How do you think this policy will change/affect sport and how women athletes experience sport?
Closing	1. Do you have any questions for me? 2. Is there anyone else I should speak to on this topic?

Appendix C: IRB Consent Form

CONSENT TO PARTICIPATE

Project Title	Protection for whom? A critical examination into the governance of women athletes through protective policies
Purpose of the Study	This research is being conducted by Ms. Anna Posbergh at the University of Maryland, College Park. We are inviting you to participate in this research project because you are a stakeholder, scientist, or policymaker involved with transgender eligibility, female eligibility, or relative energy deficiency syndrome/RED-S sport policies and guidelines. The purpose of this research project is better understand how protective policies are created and implemented, especially with regards to defining 'woman,' interpreting science, and governing strategies.
Procedures	<p>The procedures involve one semi-structured interview, conducted in-person on site or virtually following the conclusion of the conference. Ms. Posbergh will either meet with you at a pre-agreed public location on or near the Grimaldi Forum, or will arrange a future virtual meeting via Zoom (or another virtual platform of your choosing), to conduct the interview based on an interview guide. These interviews will be between 30-90 minutes, and will be audiorecorded and later transcribed.</p> <p>Questions in the interview guide cover your understandings and opinions of protective policies, the meaning/integrity of women's sport, and the processes behind developing protective policies.</p>
Potential Risks and Discomforts	There are no known risks from participating in this research study.
Potential Benefits	There are no direct benefits from participating in this research. Potential benefits include a greater understanding of the translation process between science and policy, how the participant understands the 'problems' and 'solutions' evident in each policy, and how all three policies connect and are interrelated to each other.

Confidentiality	<p>Any potential loss of confidentiality will be minimized. First, you will be given a pseudonym and all identifiable information (such as your vocation, employer, and role in the policy process) will be altered so as to not reveal your identity. Second, the researchers will not reveal any kind of participant information learned through the study to other participants or those affiliated. Third, all data (audio files, transcriptions, and notes) will be stored on the researchers' password protected computers used for research and their corresponding back up drives. Only Ms. Posbergh (the project's PI) and Dr. Jette (the PI's dissertation advisor) will have access to the data. Fourth, all data will be destroyed ten years after the completion of the study. This includes shredding of all paperwork related to the research and deletion of all digital files.</p> <p>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
Right to Withdraw and Questions	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you are an employee or student at UMD, your grades, standing or employability at UMD will not be positively or negatively affected by your decision to participate in the study.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p style="text-align: center;"> Anna Posbergh School of Public Health, Room 1223 4200 Valley Drive College Park, MD 20742 posbergh@umd.edu 651-503-4229 </p>

	<p align="center">Dr. Shannon Jette School of Public Health, Room 2363 4200 Valley Drive College Park, MD 20742</p>	
Participant Rights	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p align="center">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount Hall College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>	
Statement of Consent	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please sign your name below.</p>	
Signature and Date	NAME OF PARTICIPANT [Please Print]	
	SIGNATURE OF PARTICIPANT	
	DATE	

Appendix D: IRB Approval Form



1204 Marie Mount Hall
College Park, MD 20742-5125
TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu
www.umresearch.umd.edu/IRB

DATE: December 20, 2021

TO: Anna Posbergh
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [1499116-5] Protection for whom? A critical examination into the governance of women athletes through protective policies

SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED
APPROVAL DATE: December 20, 2021

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category #7.

Thank you for your submission of Continuing Review/Progress Report materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Prior to final approval of this project scientific review was completed by the IRB Member reviewer.

This submission has received Expedited Review based on the applicable federal regulations.

This project has been determined to be a MINIMAL RISK project.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Unless a consent waiver or alteration has been approved, Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate Amendment forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of seven years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

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