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# Rupturing the World of Elite Athletics: A Feminist Critical Discourse Analysis of the Suspension of the 2011 IAAF Regulations on Hyperandrogenism

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Rupturing the World of Elite Athletics: A Feminist Critical Discourse Analysis of the  
Suspension of the 2011 IAAF Regulations on Hyperandrogenism

by

Ella Rachel Browning

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
with a concentration in Rhetoric & Composition  
Department of English  
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## **DEDICATION**

This dissertation dedicated to female athletes across the world who have been unfairly subjected to sex verification testing policies historically and who continue to be policed by such policies today, albeit in new and increasingly complex forms. My hope is that this study will contribute to a move away from such policies. This dissertation is also is dedicated to my family, for supporting me through these many years of graduate study, for nurturing my love of writing and reading from an early age, and for encouraging me to pursue that love as a career. But most of all this is dedicated to my husband, Barrett, who has been by my side since the beginning of all of this. Barrett: you mean more to me than I can say. Thank you for your unwavering support and encouragement, your willingness to listen to me talk out my ideas even when they were half-formed, your smart insights, your partnership, and most of all, for your love, every single day. I couldn't have done this without you.

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## ABSTRACT

In 2011 the International Association of Athletic Federations (IAAF) published the Regulations on Hyperandrogenism, a health policy banning female athletes from track and field competition if their natural levels of testosterone were found to be higher than those of most female athletes. In 2014, Dutee Chand, a sprinter from India, was banned from competition based on these regulations. She appealed her ban in the Court of Arbitration for Sport (CAS) and as a result the 2011 IAAF Hyperandrogenism Regulations were suspended for two years. The issues at stake in the suspension of these regulations are, at their core, rhetorical issues related to health and medical technical communication: how information about health and medicine is communicated to stakeholders, the ethics of such communication, and the implications of such communication. They are also issues related to the medical regulation of sex and gender: Chand's case is the latest in a history of sex verification testing of elite female athletes that began well before 2011. In this study I use feminist critical discourse analysis methods within the computer assisted qualitative analysis software program *NVivo* to analyze the 2011 IAAF Hyperandrogenism Regulations and the transcript of the CAS Award that suspended them. I argue that the 2011 IAAF Regulations and the CAS Award are an example of what I describe as a closed, Foucauldian system, which is not open to outside voices, stakeholders, expertise, or evidence. I also argue for the use of a heuristic alongside a feminist technical communication perspective on health and medical rhetorics that technical communicators might use to insert themselves into closed Foucauldian systems such as this one in order to enact positive change.

## CHAPTER 1: BACKGROUND AND CONTEXT

“The maintenance of sex-segregated sports in the twentieth century has been based on two assumptions: that human beings come in two sexual forms, male and female, and that one of these forms has significant biological advantages in terms of sporting performance. From the 1930s sports organisations have increasingly turned to biomedical experts to provide ‘objective’ scientific tests to maintain segregation in sports, an activity nearly always justified by an appeal to the notion of fair competition. Ironically, through the same period a range of scientific disciplines – including genetics, endocrinology and forensic psychology – as well as social sciences such as anthropology and sociology, began to describe human gender identities as flexible and continuous, and identified not a binary sex system, but a complex identity built of many kinds of sex (e.g. Fausto-Sterling, 1992)”. (Heggie, 2014, p. 339)

- “Subjective Sex: Science, medicine, and sex tests in sports”

### Introduction

The case of Indian sprinter Dutee Chand, who was banned from international track and field competition based on a diagnosis of “hyperandrogenism,” or naturally high testosterone levels, is the latest in a history of sex verification testing that began well before the 2011 publication of the IAAF Hyperandrogenism Regulations that resulted in her ban. This history is an important starting point for this study. In this study I use feminist critical discourse analysis (feminist CDA) to rhetorically analyze the current culmination of this problematic history in two different text sites: (1) the 2011 IAAF Hyperandrogenism Regulations, their associated appendices and explanatory notes; and (2) the CAS interim arbitral award delivered in response to Chand’s appeal of her ban from competition, titled CAS “2014/A/3759 Dutee Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF),” which resulted in the two-year suspension of the 2011 IAAF Hyperandrogenism

Regulations. In this chapter I provide background on the history of sex verification testing policies in international athletic competitions at the elite level, culminating in the IAAF's Regulations on Hyperandrogenism and their suspension by the CAS. In so doing I elucidate the complex gender- and sex-related issues at stake in the history of sex verification testing policies, as well as Chand's claim that the 2011 IAAF Hyperandrogenism Regulations were discriminatory and based on faulty evidence. In tracing this background, I integrate critiques of historical and contemporary sex verification testing procedures drawn from the fields of feminist science studies and queer theory, explicating one problematic assumption at the heart of this history and these regulations: the division of athletes into two explicit categories, male and female, based on too-narrow and oversimplified conceptualizations of human sex and gender. These types of regulatory health communication documents are worth studying from a feminist technical communication perspective because, as technical documents that communicate complex medical- and health-related information to international audiences and police individuals who do not fall in line with the ideology that supports them, they have both discursive and material impact on the bodies they regulate.

Chand's case has garnered renewed media attention regarding the IAAF's history of sex verification testing policies. However, technically neither the IAAF nor the IOC performs sex verification tests anymore. In a recent article in *The New Yorker* profiling Chand's situation author Alex Hutchinson explained the issues at hand well: "Strictly speaking, the IAAF and the IOC no longer have gender tests; they have testosterone tests. This is a rhetorical distinction, and perhaps also a scientific one, but it doesn't change the fact that creating categories is socially fraught. In theory, the new rule addresses only how hormones affect athletic performance, but in practice it inevitably becomes entwined with debates over femininity" (2015, n.p.). This

“rhetorical distinction” is the key exigency at the basis of this study. The issues at stake in the suspension of 2011 IAAF Hyperandrogenism Regulations are, at their core, rhetorical issues related to health communication: how information about health and medicine is communicated to stakeholders, the ethics of such communication, and the implications of such communication. Indeed, these rhetorical issues are at the core of my research questions for this study, with which I conclude this chapter. Because my project is firmly rooted in the tradition of rhetoric and technical communication scholars attending to both medical rhetoric and health communication, throughout this chapter I integrate relevant literature from the emerging field of “rhetorics of health and medicine” (Meloncon & Frost, 2015, p. 8; Scott, Segal, & Keränen, 2013, n.p.). I do this for two reasons. First, this literature demonstrates that the suspension of the 2011 IAAF Hyperandrogenism Regulations is an issue of importance to the field of rhetorics of health and medicine because it shows how the results of questionable health communication strategies can have both material and discursive impact. Second, this literature demonstrates that text sites such as the two this project explores benefit from rhetorical analysis that draws on the fields of rhetoric and technical communication and their rich histories of critically exploring the complexities of communication of and about health and medicine.

In this chapter, I first explicate some of the nuances of governing bodies of elite track and field and the scope of their policies. Then I provide some brief background on sex verification testing policies and the historical fear of “gender fraud” in elite international track and field competitions. Next I review the case of Caster Semenya, a South African runner whose time in the international spotlight brought renewed attention to sex verification testing policies after the year 2000 when such policies were no longer used by the IAAF except in cases that “warranted investigation.” After this I shift to the most recent controversy in this history: the case of Dutee

Chand, her appeal with the Court of Arbitration for Sport, and the resulting suspension of the 2011 IAAF Hyperandrogenism Regulations. Finally, I conclude this chapter with my research questions, an explication of the use of exploring the suspension of these regulations from a rhetorical, feminist technical communication perspective, and a brief preview of subsequent chapters of this project.

### **Background: Governing Bodies in Elite International Track and Field**

Before recounting the history of sex verification testing in elite international track and field and how such testing culminated in the 2011 IAAF Hyperandrogenism Regulations, I need to provide some brief context on official governing bodies in sports and their relationship to one another. The International Association of Athletics Federations (IAAF) was founded in 1912 as the International Amateur Athletic Federation (IAAF), “the world governing body for the sport of track and field athletics” ([www.iaaf.org](http://www.iaaf.org)), changing their name to its current version in 2001 to better “reflect the growth of a professional sporting world which did not exist in 1912” ([www.iaaf.org](http://www.iaaf.org)). This justification is important because it reflects that the IAAF does in fact view athletes under its jurisdiction as professionals, rather than amateurs – the distinction between the two being that professionals are paid to compete, and amateurs are not. As policies regulating the participation of professional employees in their careers, sex verification testing policies in general and the 2011 IAAF Hyperandrogenism Regulations specifically can thus be understood from a technical communication perspective as workplace or labor policies, well within the scope of study for the field (Bandow & Hunter 2008; Genova 2009; Markel 2009; Ranney 2000). It should be noted that the capitalized term “Athletics<sup>1</sup>” as it is used in the context of the IAAF’s

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<sup>1</sup> Similarly, my usage here of the capitalized term “Athletics” refers to track and field events. My usage of the lower-case term “athletics” refers to competitive sports, generally.

name, press releases, regulations, and other officially-sanctioned documentation produced by the organization can be understood to specifically cover the following: all track and field events, road running, cross country running, and race walking ([www.iaaf.org](http://www.iaaf.org)). This distinction will become important in Chapters 4 and 5 when I present my analysis of IAAF and CAS official documents and the implications of those findings. For the purposes of this project, I will use the term “track and field” or “Athletics” generally to cover all Athletic events covered by the IAAF.

Because of the prominence of Olympic competitive events in the world of international elite sports, the relationship between the IAAF and the International Olympic Committee (IOC) is an important one to understand, albeit briefly. The IAAF was originally created due to the need for an international governing body to establish and uphold codified and consistent rules and regulations for elite, international track and field competition, as well to keep track of records achieved throughout the sport ([www.iaaf.org](http://www.iaaf.org)). As it has evolved and grown the IAAF has also supported the organization of local, continental associations “as an important basis for the organisation of less expensive competition for many of the poorer countries and as a valuable training for top-level competition” (Houlihan, 2014, p. 137). One example of this is the Athletics Federation of India (AFI), which is named along with the IAAF as the subject of Chand’s suit. The IOC, on the other hand, can be considered “an international event organizing body” for all elite sports that are included in Olympic competitions. When it comes to track and field events, the IOC typically abides by the rules and regulations set by the IAAF, but may also set its own rules and regulations if it disagrees with ones established by the IAAF. This is especially true with reference to controversial regulations such as those related to sex verification tests.

Governing bodies in sports are large, sometimes nebulous organizations with complex relationships to one another, especially at the elite level. The IAAF and the IOC often work

closely to influence national athletic policy committees (Houlihan, 2014, p. 139) and the history of IAAF sex verification policies is deeply intertwined with the history of IOC sex verification policies until the late 1990s. Indeed, much of the history of sex verification testing in sports has come as a result of controversies at the Olympic games or at competitions using the Olympic name. The IAAF has historically designed its policies and regulations in response to these controversies, even when such controversies play out in competitions outside of IAAF purview. The world of elite sports is a small one, and when controversial exigencies arise in one elite competition, they are bound to arise in another. At least, this seems to have been the opinion of policy-makers when the notion of “gender fraud” first became a (supposed) cause for concern in elite track and field competitions.

### **Background: Sex Verification Testing and “Gender Fraud” in Elite Track and Field**

Women first began competing in Olympic games in 1900 (Xavier & McGill, 2012, n.p.) but it was not until 1928 that women’s events were added to track and field competitions at the Olympic level. The IAAF thus cites 1928 as the beginning of the strict division of male and female classifications in track and field events at the elite international level ([www.iaaf.org](http://www.iaaf.org)). This strict division becomes more and more important as sex verification testing policies subtly change throughout the twentieth century. In the IAAF’s preface to the official document, “IAAF Regulations Governing Eligibility of Females with Hyperandrogenism to Compete in Women’s Competition”<sup>2</sup>, the authors explain,

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<sup>2</sup> I use the term “Hyperandrogenism Regulations” or the “HA Regulations” interchangeably to refer to this document, its appendices and its explanatory notes instead of the full name of the document and the accompanying material. When specifying an appendix or the explanatory notes to the regulations, I reference the specific appendix or the explanatory and one of the above shortened versions of the full name. For example, “Appendix X of the Hyperandrogenism Regulations” or “Section Y of the explanatory notes to the HA Regulations.”

Since 1928, competition in Athletics has been strictly divided into male and female classifications and females have competed in Athletics in a separate category designed to recognize their specific physical aptitude and performance. 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. It is also known from experience that there are rare cases of young females competing in Athletics today who are affected by hyperandrogenism which, if the condition remains undiagnosed or neglected, can pose a risk to health. Despite the rarity of such cases, their emergence from time to time at the highest level of women's competition in Athletics has proved to be controversial since the individuals concerned often display masculine traits and have an uncommon athletic capacity in relation to their fellow female competitors. These Regulations set out to formulate a reasonable and suitably adapted approach by the IAAF to the management of such cases in Athletics... (IAAF Regulations, p. 1).

I will return to the IAAF's explanation of hyperandrogenism and the organization's justification for their hyperandrogenism regulations later in this chapter and in detail in Chapter 4. However, there are a few aspects of this explanation worth noting briefly here, as they will arise again and again in the history of sex verification testing policies:

1. The IAAF argues that the division of competition into male and female classifications is done in order to "recognize [female athletes'] specific physical aptitude and performance," the assumption being that if male and female athletes competed against one another, male athletes would consistently win;



2. this imbalance in physical aptitude is based primarily, according to the IAAF, on androgenic hormone levels, which later in these regulations are referred to simply as “testosterone”;
3. the IAAF expresses concern for the health of female athletes who may have undiagnosed hyperandrogenism, which at this point in the regulations they have not defined except to say that
4. the display of masculine traits is something to be concerned about, as it is potentially related to “unfair” competitive advantage.

These questions and themes, related to fairness of competition between male and female athletes and among female athletes, to what physical attributes and traits contribute to competitive advantage, and to the health of female athletes, can be seen throughout the history of sex verification testing policies in both IOC and IAAF competitions.

Since the 1928 division of elite international track and field competitions into male and female categories, both the IAAF and the IOC have been concerned about the possibility of men “masquerading” as women in order to gain competitive advantage (Slater, 2015). Although rumors have occasionally circulated regarding female athletes with masculine features secretly being men disguised as women to outperform their female competitors, a practice often referred to as “gender fraud”<sup>3</sup> (Xavier & McGill, 2012, n.p.) in the regulations and related literature, there is only one confirmed case of “gender fraud” in the history of sex verification testing of elite female athletes. During the 1936 Summer Olympic Games held in Berlin, Germany, a member of the German Olympic team competing as a female athlete under the name “Dora Ratjen” earned fourth place in the high jump. Ratjen later admitted to being male, not female, and told

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<sup>3</sup> The terms “gender” and “sex” are often conflated in sex verification testing policies for elite athletic competition and some literature on them. Briefly, “sex” refers to a person’s physical anatomy, while “gender” refers to a person’s individual self-identification as male or female. I expand on these differences more in Chapter 2.

reporters that he was instructed by the Nazi regime to compete as a female athlete rather than as a male athlete (Xavier & McGill, 2012, n.p.). Heggie, however, notes that this story might in fact be myth, one designed to cover a more complex personal history of gender identity. She explains that Ratjen's story "seems to be one of gender confusion at birth and an ongoing inability to negotiate a new sexual or gender identity once he had mistakenly been registered as a female (Heggie, 2010)" (2014, p. 340). Although it is not clear in this context what Ratjen's possible "gender confusion" stemmed from, whatever the real story, Ratjen's case confirmed in the minds of many that the "gender fraud" about which the world of sports worried could indeed happen. Therefore, after 1936 sex verification testing of female athletes became a common occurrence in elite competitions across the globe (Xavier & McGill, 2012, n.p.). The example of Ratjen would not be the last time attempts by the IOC and IAAF to fit athletes neatly into a binary system became complicated by individuals who did not conform to such a system.

Initially sex verification testing was only used as a way to confirm that athletes suspected of gender fraud were not falsifying their biological sex. The earliest sex verification tests in the 1930s were physical ones, usually as a result of accusations by other athletes of possible gender fraud. At this time, female athletes were permitted to provide their own "certificates of femininity" signed by a doctor, usually a family doctor, as team doctors were still rare in the 1930s (Heggie, 2014, p. 341). The nature of having a family doctor approved to provide certification of the athlete's femininity implies a certain familiarity between doctor and patient in this context. This changed dramatically in the 1960s, when sports governing bodies began requesting a more "objective" assessment of female athlete's confirmed sex. In the 1960s, sex verification tests evolved from tests performed on athletes *suspected* of gender fraud to mandatory, systemic tests for all athletes seeking to compete in the female category. There was

no corollary test for athletes seeking to compete in the male category. The earliest reports of mandatory, institutionalized sex verification tests of female athletes identify the 1966 European Athletics Championships in Budapest, Hungary (Xavier & McGill, 2012, n.p.), the 1966 Commonwealth Games in Kingston, Jamaica (Xavier & McGill, 2012, n.p.), the 1968 winter Olympic games in Grenoble, France (Genel, 2000; Slater, 2015), and the 1968 summer Olympics in Mexico City, Mexico (Genel, 2000; Slater, 2015; Xavier & McGill, 2012) all as competitions that initiated the tests on a trial basis. After the 1968 summer Olympics in Mexico City the IOC formally adopted sex verification tests of female athletes as official practice across all Olympic events and preliminary Olympic qualifying events.

Sex verification testing practices have varied during and since their official adoption in the 1960s. When sex verification testing was established on a trial basis at the 1966 Commonwealth Games in Kingston, Jamaica, for example, and at a number of other elite international sports competitions during the 1960s, female athletes were required to undergo a physical examination of external genitalia. Heggie recounts testimony from two different female athletes forced to undergo sex verification testing during the 1960s (2014). Their accounts demonstrate what Heggie describes as both the “unpleasantness and invasiveness of the test” (2014, p. 342). American shot putter Maren Siedler recalls that at the 1967 Pan-American Games in Winnipeg “they lined us up outside a room where there were three doctors sitting in a row behind desks. You had to go in and pull up your shirt and push down your pants. Then they just looked while you waited for them to confer and decide if you were OK” (Heggie, 2014, p. 342). Even more alarming is an account from Mary Peters, a British pentathlete, describing her experience at the 1966 Commonwealth Games in Jamaica: “...it was the most crude and degrading experience I have ever known in my life... I was ordered to lie on the couch and pull

my knees up. The doctors then proceeded to undertake an examination which, in modest parlance, amounted to a grope. Presumably they were searching for hidden testes. They found none and I left” (Heggie, 2014, p. 342). Referred to by the media as “the nude parades,” these physical examinations as sex verification testing practices drew criticism for obvious reasons and were replaced with a different type of testing: chromosomal testing in the form of the Barr body test (Genel, 2000; Slater, 2015; Xavier & McGill, 2012).

Developed in the 1950s, it was clear before the end of the decade that the Barr body test (a sex chromatin test) was flawed in two key areas. First, studies on people with chromosomal disorders indicated that the Barr body test was not the “reliable indicator of the dominant sex of the patient as a whole” hoped for. Second, two of Barr’s assumptions about the Barr Body itself were overturned in subsequent research, notably regarding how many X chromosomes formed the Barr body (Barr assumed it was formed of both X chromosomes; instead, it was found to be a single X chromosome) and the role of the Y chromosome in sex determination and development<sup>4</sup> (it was wrongly assumed that the Y chromosome was inert) (Heggie, 2014, p. 343).

Nevertheless, the Barr body test was adopted as official practice for sex verification testing by the IOC in 1968, and beginning that year all female athletes had their cheeks swabbed and their chromosomes tested to be eligible for competition. Xavier and McGill explain, “The Barr body is a remnant clump of DNA that represents inactivation of one of two X-chromosomes, and thus male cells typically are negative and females are typically positive” (2012, n.p.). However, it was quickly realized that, like human physical anatomy, the chromosomal makeup of the human body cannot be easily divided into two distinct categories, and the Barr body test proved as problematic as previous sex verification tests. Heggie speculates below on why the IOC decided

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<sup>4</sup> I explain in more detail the relationship between the X- and Y-chromosomes and human sex development and sex differences, as well as feminist critiques of the language used to describe such science, in Chapter 2.

to implement the Barr body test even though it was found to be based on incorrect assumptions long before the IOC officially adopted it as systemic practice:

I would suggest three factors may have played a role in this choice: firstly, the test seemed both scientific and objective, and gave a straightforward negative or positive outcome, which meant it had significant advantages of the apparently subjective, human process of assessing phenotypical and physical sex. Secondly, the test was largely non-invasive, involving initially a cheek swab (buccal smear) and later a hair sample, reducing the need for the deeply unpopular and unpleasant visual and manual tests. Thirdly, the committee tasked with organising sex testing was not a specialist committee, but a subcommittee of the newly formed Committee on Doping. No permanent Medical Committee was formed by the IOC until 1967, and, as Alison Wrynn (2004) has shown, this organisation was riven in its early years by disputes about authority, remit, and funding. (Heggie, 2014, p. 343-344)

This need for a “straightforward,” “objective” assessment is a recurring theme throughout the history of sex verification testing policies. In addition to the desire to avoid gender fraud, this desire to find an assessment that gives an easily digestible positive or negative outcome also seems to be a key exigency to which the development of various versions of sex verification testing policies were responding. Unfortunately, no test has been able to confirm that human phenotypical or physical sex can easily be divided into two explicit categories. As Heggie notes, the IOC did change their procedure slightly in the 1970s when the switch was made from a buccal smear to a hair sample, but controversy remained along with the practice of chromosomal testing.

Critiques from contemporary scholars of feminist science studies and queer theory elucidate the ways that the supposedly objective scientific research utilized throughout the history of sex verification tests is in fact part of a larger discursive process that empowers certain understandings of the body and disempowers others. Anne Fausto-Sterling, for example, notes that the problem with chromosomal testing is that it cannot do what the IOC wanted it to do: “A body’s sex is simply too complex. There is no either/or. Rather, there are shades of difference” (2000, p. 3). Similarly, Sara Richardson (2012) argues that discourse about human sex chromosomes overly simplifies the true complexity of the range of sexes by using gendered tropes in both popular and scientific writing on sex chromosomes to further the notion of a simple binary (p. 912). In tracing the history of research on “the X” as the female chromosome through the 1960s, Richardson emphasizes the moment when human cytogenetic studies found that the X actually plays no special role in female development (2012, p. 914). Rather, scientists found that female development is controlled by a variety of genes on several different chromosomes (Richardson, 2012, p. 914). Despite these findings, however, Richardson demonstrates that the gendered notion of the X has continued in both popular and scientific writings through today. Incorporating the work of Fausto-Sterling, Richardson, and other scholars from feminist science studies, intersex studies, and queer theory, into studies in the rhetorics of health and medicine is an important goal of this project, and one that responds to recent calls in the field to focus greater attention on the insight these kinds of theoretical approaches can bring to projects focusing on and medical rhetorics. I expand on these theoretical approaches and others in Chapter 2.

For the purposes of this chapter, Fausto-Sterling’s and Richardson’s explorations of chromosomal biology are especially useful considering the ways that chromosomes were thought

to be the “secret ingredient” for determining whether an athlete was biologically “fully” female or male. It was this thinking that led to the belief that the Barr body test would finally solve the problem of determining “true femaleness” in female athletes and avoiding gender fraud.

Concerns about chromosomal testing voiced throughout the 1970s and 1980s from activists, professionals, and scholars regarding the fact that the test did not acknowledge the complexity of human chromosomal makeup and that it disproportionately targeted female athletes had little impact, however, due to the secrecy of the results of the test and the subsequent diagnoses of athletes (Genel, 2000, n.p.). As an officially adopted IOC and IAAF practice, the use of the Barr body test for sex verification testing of athletes lasted through the end of the twentieth century.

Before the IOC discarded chromosomal sex verification tests in 2000, the IAAF officially did away with them in 1992, based largely on the case of Spanish hurdler Maria Martinez-Patiño, whose case Fausto-Sterling recounts in the first chapter of *Sexing the Body* (2000). Controversies arising from Martinez-Patiño’s case, along with ones associated with the case of South African sprinter Caster Semenya (to which I will turn shortly), seem to be the basis from which the IAAF’s 2011 Regulations on Hyperandrogenism evolved. At the 1983 World Track and Field Championships in Helsinki, Martinez-Patiño underwent a sex verification test, passed, and was subsequently given a certificate of eligibility (Fausto-Sterling, 2000; Genel, 2000; Heggie, 2014). In 1985, Martinez-Patiño traveled to Japan for the World University Games and, having forgotten her 1983 certificate, was forced to undergo an additional sex verification test to compete in these games. This time, she failed (Fausto-Sterling, 2000; Genel, 2000; Heggie, 2014). A common practice at that time for female athletes who failed sex verification tests was to fake an injury or illness in order to avoid the public scandal of having one’s sex questioned (Fausto-Sterling, 2000; Genel, 2000; Heggie, 2014; Slater, 2015; Xavier & McGill, 2012). When

Martinez-Patiño failed her 1985 test, her coach advised her to fake an injury and return home, and she complied. When she tried to compete again the following year, “her story was leaked to the press; she was banned from her teams, her medals and records were revoked, her fiancé left her (Patino, 2005)” (Heggie, 2014, p. 345), she was forced to move out of the national athletic residence in which she lived, and she lost her scholarship (Fausto-Sterling, 2000). In short, Martinez-Patiño’s career and personal life were very quickly both destroyed, and she began a campaign for reinstatement that would ultimately take three years of her life and change both the status of required of sex verification testing policies and what we know about the biology of sex differences.

Martinez-Patiño found an ally in Finish geneticist Albert de la Chapelle, whose research investigated “XX males,” described as people who are physiologically and hormonally “male” but chromosomally “female” (Heggie, 2014, p. 345). Between the years 1984 and 1987, de la Chapelle and colleagues published research in high-profile journals like *Nature* and *Science* demonstrating that the Y-chromosome, not the X-chromosome, plays a crucial role in sex determination (Heggie, p. 345). As Richardson has shown, of course, this revelation did not keep speculation regarding the role of the X chromosome in sex determination from continuing. It did, however, help Martinez-Patiño’s case. De la Chapelle and colleagues concluded that although the “default” development pathway of a human fetus had been thought to be male, or XY, it is in actuality female, or XX: “Instead of a ‘double dose’ XX signal directing female development, a signal from a specific region of the Y-chromosome (later known as the Sex Determining Region, or SDR) starts a cascade of events which lead to male phenotypical development” (2014, p. 345). More importantly, de la Chapelle and colleagues determined that the X- and the Y-chromosomes can sometimes “cross over” during cell division and exchange genetic material. When this



happens, the Sex Determining Region (SDR) can end up on an X-chromosome instead of a Y-chromosome (Heggie, 2014, p. 345). In an XX male, for example, although the individual is chromosomally female, the SDR is on an X chromosome and signals the fetus to develop as male. In Martinez-Patiño's case, although chromosomally XY, the testosterone receptors in her body were not affected by the SDR's signals for male development; a syndrome called Androgen Insensitivity Syndrome. de la Chapelle determined that, based on her development has a female with XY chromosomes, Martinez-Patiño gained no competitive advantage from having a Y-chromosome and excess testosterone, and she was successfully reinstated as eligible for competition 1988 (Fausto-Sterling, 2000; Heggie, 2014).

The same year Martinez-Patiño was reinstated, 1988, and based in part on Martinez-Patiño's case, the IAAF decided to abandon chromosomal-based sex verification testing, briefly choosing to return to the system of physical examinations used during the 1940s (Heggie, 2014, p. 345). Finally, in 1992, the IAAF discontinued all forms of sex testing, explaining: "because athletes had to pass urine in front of witnesses for drug testing, and because of the revealing nature of tight sports clothes, it did not consider sex fraud a genuine threat to sport" (Heggie, 2014, p. 345). This justification signals that even though sex verification testing policies have slowly changed since the 1960s when they first appeared, the purpose of such testing has remained the same: confirming that athletes conform to one of two sex categories. "Of course," Heggie continues, "sports organisations—including the IOC and the IAAF—have reserved the right to insist on sex testing for athletes if specific accusations are made, or suspicions raised about their 'true' sex" (Heggie, 2014, p. 345). What happened next in this history Slater puts most succinctly: "And then Semenya burst onto the scene" (2015).

### **Caster Semenya: A Case That “Warranted Investigation”**

It is impossible to talk about sex and gender controversies in contemporary elite international athletics without talking about Caster Semenya. In 2008, Semenya, a female runner from South Africa, won gold in the 800 meters race at the Commonwealth Youth Games at the age of seventeen. In 2009 she went on to win gold in both the 800 and the 1500 meters at the African Junior Championships, improving her times significantly in both races. This is where the trouble began. The IAAF later released statements saying that Semenya’s case warranted investigation because her improvements at the African Junior Championships were “the sort of dramatic breakthroughs that usually arouse suspicion of drug use” (Smith, n.p.). This seems to be in line with the IAAF’s post-2000 policy to investigate athletes when the situation “warranted investigation,” even though the IAAF no longer supported systematic sex verification testing. What probably happened in the case of Caster Semenya is a combination of suspected doping along with accusations of gender fraud from other athletes, coaches, or officials in the sports world. Semenya’s physical appearance had been the source of rumors and speculations since she burst onto the international scene, with many accusing her of looking “too manly.” The Hyperandrogenism Regulations have a stated emphasis on “a respect for confidentiality in the medical process and the need to avoid public exposure of young females with hyperandrogenism who may be psychologically vulnerable” (IAAF, 2011, p. 1). Heggie has noted that this concern for the mental health of female athletes is one of the conflicting stated goals of sex verification testing throughout the history of elite sports (2014, p. 346). Nevertheless, many suspect that the Hyperandrogenism Regulations and their emphasis on confidentiality were created as a result of the way that Semenya’s case played out in the public sphere, notably the media attention and

widespread speculation regarding both her physical appearance and questions about her sex and gender.

Based on her times at the African Junior Championship, Semenya was set to compete in the 2009 IAAF World Championships in Berlin, an IAAF-sanctioned international competition. However, three hours before the 800-meter women's finals, in which Semenya was the favorite based on semi-final races earlier in the competition, news broke publicly that the IAAF had asked Semenya to take "a gender test"<sup>5</sup> (Fordyce, 2009). The IAAF maintains that this was a leak, a breach in protocol that should never have happened. Nevertheless, it did. Reporting on the World Championships for the BBC, Fordyce recounted the perceptible shift in mood as the news circulated:

The story fizzed round the Olympiastadion. What did the test involve? When would the results be known? Would Semenya even be allowed to run? Gradually the prevailing mood shifted. Why was this coming out now? In the case of a doping test, the media are not notified unless both 'A' and 'B' samples have tested positive. Until then there is silence. Yet here a cloud of official suspicion was being allowed to gather before anything had been proved. (2009, n.p.)

Semenya was indeed allowed to run, and she won handily. Subsequently, the hundred of reporters covering the event waited at the post-race press conference for her to emerge to answer their many questions. However, Semenya never appeared to speak to reporters after her win. According to the IAAF secretary general at the time, this was "to protect her" (Fordyce, 2009, n.p.). Although he could not have known the extent to which his prediction would come true, Fordyce anticipated what would happen next: "those results could be weeks away. From all

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<sup>5</sup> Again, it should be noted that often in reports on sex verification testing the terms "sex" and "gender" are conflated.

accounts they are also incredibly complicated and open to various interpretations. In the meantime, Semenya will be under media siege. The most private aspect of her life will be the subject of intense public scrutiny” (2009, n.p.). Over the next year debates about Semenya played out publicly in the international media, with headlines speculating wildly about her sex, her gender, and the fairness of having her compete against other women. By March 2010 the IAAF still had not released her results and so she was deemed ineligible for competition. Semenya was not cleared for competition until July of 2010, almost a full year after the world learned there was some question about her eligibility and starting speculating publicly and widely about both Semenya’s biological sex and her gender in August of 2009 at the World Championships in Berlin.

Semenya’s case and the IAAF’s public bungling of it have been studied by scholars in a range of disciplines, including cultural studies (Vannini & Fornssler, 2011), bioethics (Behrens, 2013; Bonte, Sterckx & Tolleneer, 2013; Dworkin & Cooky, 2012; Karkazis, Jordan-Young, Davis, Camporesi, 2012; Sailors, Teetzel & Weaving, 2012), law (Berry, 2012; Crincoli, 2011; Menon, 2010), sexuality studies (Cooky & Dworkin, 2013; Sánchez, Martínez-Patiño & Vilain, 2013), sport studies (Cooky, Dycus, & Dworkin, 2013; Krane & Barak, 2012; Sullivan, 2011; Wells & Darnell, 2014) women’s and gender studies (Cooper, 2010; Magubane, 2014; Swarr, Theron & Gross, 2009), and even celebrity studies (Schultz, 2012). These studies typically have focused on the version of the Hyperandrogenism Regulations that existed prior to their revision and subsequent republication in 2011, the policy to pursue cases that warranted investigation. Although worth exploring in depth, the IAAF’s pre-2011 Hyperandrogenism Regulations are beyond the scope of this project. In 2011, the current version of the regulations was released, and with it came a new round of controversy.

### **After Semenya: Critiques of the IAAF's 2011 Hyperandrogenism Regulations**

Rather than focusing on physical examinations or chromosomal testing, the IAAF's 2011 Hyperandrogenism Regulations focus on testosterone levels. I analyze these regulations in more detail in Chapter 4. Briefly, as previously noted, the focus of these regulations is on “rare cases of young females competing in Athletics today who are affected by hyperandrogenism,” a disorder that if left undiagnosed or neglected, according to the IAAF, can pose a health risk, although initially they do not state what, exactly, that health risk might be (p. 1). In the explanatory notes accompanying the regulations, the IAAF explains that hyperandrogenism, or as it is commonly referred to in IAAF documents, “HA,” is “a term used to describe the excessive production of androgenic hormones in females. The androgenic hormone of specific interest for the purposes of the new Regulations is the performance enhancing hormone, testosterone” (HA Regulations – Explanatory Notes, 2011, p. 1). Explicating the rationale in regulating the eligibility of female athletes with hyperandrogenism, the IAAF has justified this decision by emphasizing two key things: (1) fairness; and (2) health concerns. They explained,

The IAAF's role as the international governing body for the sport of Athletics is first and foremost to guarantee the fairness and integrity of the competitions that are organised under its Rules. Men typically achieve better performances in sport because they benefit from higher levels of androgens than women and this is predominantly why, for reasons of fairness, competition in Athletics is divided into separate men's and women's classifications. By extension, since it is known today that there are rare cases of females with HA competing in women's competitions, in order to be able to guarantee the fairness of such competitions for all female competitors, the new Regulations stipulate

that no female with HA shall be eligible to compete in a women's competition if she has functional androgen levels (testosterone) that are in the male range.

Moreover, from the athlete's health perspective, there is a scientific consensus as regards the importance of determining the presence (and source) of high levels of androgens in females. The early diagnosis of HA is considered critical to an effective therapeutic strategy. (HA Regulations – Explanatory Notes, 2011, p. 1)

Fairness; health concerns; the notion of a scientific consensus: these are the justifications used by the IAAF in articulating the 2011 Regulations on Hyperandrogenism. They are also similar to the justifications used in various versions of sex verification testing, and they are the focus of the majority of the critiques of the IAAF's 2011 Regulations on Hyperandrogenism.

Long before Chand's ban from competition and subsequent appeal, to which I will return shortly, the Hyperandrogenism Regulations were drawing critiques from experts. Notably, in "Out of Bounds? A Critique of the New Policies on Hyperandrogenism in Elite Female Athletes" Karkazis, Jordan-Young, Davis, and Camporesi raise a number of questions about both the ethics and scope of the Hyperandrogenism Regulations, which had only recently been released at the time of their article's publication in 2012. Karkazis, et al, ask: Does testosterone give an athlete a competitive advantage in a way that is standard and predictable, as these regulations suggest? If it does, is such an advantage unfair? Will these new regulations actually protect athletes from the sort of public speculation that Caster Semenya experienced? Do these regulations succeed in creating a "fair" playing field for all female athletes while also ensuring fairness for individual athletes? What are the broader social implications of these regulations' seemingly overwhelming concern regarding "overly masculine" women competing in women's sports? How might these regulations reinforce dominant understandings of sex and gender, and what are the implications

of such enforcement? (Karkazis, et al., 2012, p. 4). While these are not the research questions of this project, they do intersect with this project's research questions in a number of ways. More specifically though, the questions raised by Karkazis, et al. are important because they endure throughout the debate on the ethics of the IAAF's 2011 Hyperandrogenism Regulations.

Since their adoption in 2011, reports have circulated about the material effects the Hyperandrogenism Regulations have had on athletes who are diagnosed with hyperandrogenism as a result of the policies, and the treatments such athletes have sought in order to regain eligibility for competition. Notably, in a recent article in *The New Yorker* profiling Chand's situation, author Alex Hutchinson cites a report describing the material implications of the HA Regulations. Hutchinson's summation of the report is worth reviewing in detail for three reasons: (1) the number of experts contributing to this discourse on the regulations; (2) the material impact the regulations had on this group of women; and (3) the ways in which the critiques and concerns voiced by Karkazis, et al. seem to have come to fruition. Hutchinson writes,

A 2013 report in the *Journal of Clinical Endocrinology & Metabolism* further suggests that the rule can have effects beyond the regulation of hormone levels. The report describes four unnamed elite athletes, all from rural areas in developing countries, who were referred to a hospital in France after testing showed unusually high testosterone levels. Each of the women ended up having surgery to remove internal testes, and each went on estrogen-replacement therapy. (They were allowed to resume competing one year later.) But the doctors also recommended clitoral-reduction surgery and 'feminizing vaginoplasty.' All four athletes agreed. 'When I read the paper, I was absolutely shocked,' Payoshni Mitra, an activist on gender issues who is with Chand in Switzerland,

told the Indian newspaper *Mint*. ‘It seemed like appearance was more important than anything else. Does this woman look like a woman?’. (Hutchinson, 2015)

These revelations about the implications of the Hyperandrogenism Regulations are alarming, to say the least, and belie the claims that the organization makes that it is primarily concerned with the health of athletes. In their introduction to *Technical Communication Quarterly*’s 2000 special issue on medical rhetoric, guest editors Barbara Hefferon and Stuart C. Brown explain, “Language events within the medical professions are often literally life and death rhetorical situations that create an even greater need to bring the power of in situ language study to bear” (p. 246). It is this theme of the material impact of language that runs through scholarship of the rhetoric of health and medicine, and what makes a study focusing on the Hyperandrogenism Regulations and their suspension worth pursuing. Although the Hyperandrogenism Regulations did not result in the literal deaths of the four unnamed elite athletes, it did, as Hefferon and Brown argue, have life-altering impact. In the case of the Hyperandrogenism Regulations, the language used to communicate the significance and implications of hyperandrogenism in female athletes could result in a female athlete giving up her professional livelihood, at best, and at worst, could result in her losing the body with which she was born. For years after the adoption of the Hyperandrogenism Regulations, however, female athletes banned from competition based on these policies did one of two things: either they accepted their ban from international competition or they pursued the surgical or hormonal treatment plans required by the regulations in order to regain eligibility. In late 2014, Dutee Chand was the first to respond to her ban based on the Hyperandrogenism Regulations by fighting it.



### **Situating Dutee Chand and her Appeal Case in Technical Communication**

Born in 1996 in Odisha, India, Dutee Chand shot to fame in her home country in 2012 when she became a national champion in the under-18 category in the 100 meters sprint event (IAAF, “Athlete Profile: Dutee Chand”). Later in 2012, Chand became the first Indian to reach the final of a global athletics 100 meters race, in the 2013 World Youth Championships. Although she did not win first place in her event, Chand was viewed as “the next big thing in Indian athletics” (Z News, “Teenage athlete Dutee determined to make mark at world stage,” 2013). In 2014, after winning two gold medals for India during the 16th Asian Junior Championship, Chand was preparing to represent her home country at the Glasgow 2014 Commonwealth Games, an important preliminary international athletic competition indicating potential for Olympic qualification. However, two days before she was supposed to travel from India to Glasgow, Chand was informed that she was ineligible for competition because recent tests concluded that she has “hyperandrogenism” (Macur, 2014). Chand was told that she needed to either take hormone-suppressing drugs or have surgery to correct her hormone imbalance. If she refused to pursue either of these options, she would remain ineligible for competition. Instead, Chand filed an official appeal of her ban with the Court of Arbitration for Sport (CAS).

Chand’s appeal marks the first and only time the Hyperandrogenism Regulations were openly challenged by an athlete banned by them since their adoption in 2011. Chand filed her petition against the IAAF on the basis that the Hyperandrogenism Regulations were discriminatory, that they violated her human rights, and that they were based on unsupported evidence. Her official appeal against the ban started March 23, 2015. The hearing lasted for three days, and four months later, on July 27, 2015, the official decision was released: the CAS decided in Chand’s favor and suspended the 2011 IAAF Hyperandrogenism Regulations for a

period of no longer than two years pending “further written evidence and expert reports ... concerning the Hyperandrogenism Regulations as set forth in this Interim Award and, in particular, the actual degree of athletic performance advantage sustained by hyperandrogenic female athletes as compared to non-hyperandrogenic female athletes by reason of their high levels of testosterone” (CAS, 2014/A/3759, p. 160). As regulatory documents focusing on the participation of athletes in elite competition based on their health, the Hyperandrogenism Regulations are a form of health communication that has an impact on a number of stakeholders, most obviously female athletes diagnosed with hyperandrogenism. In less obvious ways, however, these regulatory documents have a more far-reaching impact. When Semenya’s biological sex was questioned, the international media had a field day and people all over the world began having discussions about sex, gender, and the relationship between the two. This was a kairotic moment and scholars from a number of disciplines responded to it as such. A similar discourse has emerged from Chand’s moment in the spotlight, but it has extended to focus not just on the relationship between sex and gender but also on the regulatory documents and other texts that contribute to the knowledge making process of such concepts. Few scholars have yet had the opportunity to study such discourse because of how recently the IAAF’s 2011 Hyperandrogenism Regulations were suspended. In fact, as of late July 2015, the Hyperandrogenism Regulations’ documents are no longer available to the public. What is it about the current discourse on the IAAF’s 2011 Hyperandrogenism Regulations and the regulations themselves that has resulted in their suspension and Chand’s reinstatement?

Attention to social questions is not a new turn in either technical communication or health and medical rhetorics. In her 2009 “Mapping the Research Questions in Technical Communication” Carolyn Rude posits that there are four related areas of questions that suggest

the direction of the field of technical communication: questions regarding (1) disciplinarity; (2) pedagogy; (3) practice; and (4) social change (Rude, 2009, p. 176). Later, in describing her mapped area of research questions on social change in comparison to those in the “practice” area, Rude explains, “the inquiries share an interest in the ways in which texts and related communication practices mediate knowledge, values, and actions.... [and] a concern for ethics is strong, as researchers and practitioners advocate on behalf of citizens and users. The questions are similar; the sites of inquiry differ” (2009, p. 205). This study focuses on research questions that fit within Rude’s fourth mapped area: social change. Chand’s case and the suspension of the IAAF’s 2011 Hyperandrogenism Regulations provide an opportunity for researchers concerned with the ethics of health and medical rhetorics, the material and discursive impact(s) of technical communication, and recent theoretical approaches to sex and gender to study how texts at the intersection of these issues “function as agents of knowledge making, action, and change” (Rude, 2009, p. 176). Rude was not the first to notice that the field of technical communication was taking a turn towards social and cultural issues. In their 2006 introduction to a special issue of *Technical Communication Quarterly* on cultural studies and technical communication, guest editors Blake J. Scott and Bernadette Longo note the ways that scholars at the time were doing work that could be viewed as “provocative, productive extensions” of Nancy Roundy Blyler’s and Charlotte Thralls’ (1993) mapping of the social turn of the field over a decade earlier. This study extends the work of these scholars and more by attending to some of the most hotly debated social issues of our time, that is, the relationships among sex, gender, and elite athletics, and bringing this critical focus into the field of technical communication by analyzing the ways that technical communication texts simultaneously shape and are shaped by current discourse on these topics.

In this study I seek to answer the following research questions:

1. What health communication and rhetorical strategies are at work in how the IAAF's 2011 Hyperandrogenism Regulations communicate complex health-related information?
2. Who are the different stakeholders impacted by the IAAF's 2011 Hyperandrogenism Regulations? How are they positioned in the regulations themselves? In the CAS opinion?
3. How do different international experts and institutions affected by the IAAF's 2011 Hyperandrogenism Regulations construct their knowledge of and arguments about (for or against) the regulations? About the different stakeholders involved / affected?
4. How do different discourses in this case intersect and conflict in the knowledge-making process regarding hyperandrogenism, female athletes, and potentially intersex individuals?
5. How might technical communicators learn from the suspension the IAAF's 2011 Hyperandrogenism Regulations in order to more ethically and appropriately communicate health-related information to international audiences?
6. How might technical communicators and technical communication scholars, especially those interested in health communication and medical rhetorics, intervene in decision-making processes to encourage more democratic approaches to policy development and technical documentation development?

In Chapter 2 I provide a review of literature related to key areas of scholarship this project relies on. In Chapter 3 I discuss my methodological approach to analyzing the texts that are the focus of this project; namely, feminist critical discourse analysis. In Chapter 4 I discuss the findings of

my analysis of both the official documentation of the IAAF and the CAS. And in Chapter 5 I discuss the implications of this project for practitioners and scholars of technical communication.

In the following chapter I review literature related to three different areas of vital importance to this interdisciplinary project: (1) feminist science studies, intersex studies, and queer theory, and how we can use such theoretical approaches to sex and gender to complicate the assumptions at work in the 2011 IAAF Hyperandrogenism Regulations; (2) theories on discourse from technical communication scholars and scholars of rhetoric, and how we can understand the 2011 IAAF Hyperandrogenism Regulations as both shaping and shaped by the context in which they are produced; and (3) health and medical rhetorics, and both *how* this project can be situated within scholarship on health and medical rhetorics and *why* researchers in this field are uniquely qualified to offer important analysis of texts such as the 2011 IAAF Regulations on Hyperandrogenism and the CAS Award that resulted in their two-year suspension.

## CHAPTER 2: LITERATURE REVIEW AND THEORETICAL LENS

### Introduction

In what follows I review literature related to three different areas of vital importance to this interdisciplinary research project. First I discuss this study's theoretical lens by exploring literature drawn from feminist science studies, disability studies, and queer theory, with a focus on what it means to be intersex in a world dominated by sexual dimorphism, or an emphasis on a strict sex binary. A significant number of scholars from these fields draw on the work of cultural theorist Michel Foucault, and so in explicating this project's theoretical lens I also necessarily review some of Foucault's arguments about discourse and its relationship to the regulation of sex as well. I focus especially on Judith Butler's feminist interpretation of Foucault and her application of his work to the modern concept of sex differences. I emphasize how I use theories from feminist science studies, disability studies, queer theory, theories on intersex, and Foucault and Butler to complicate the assumptions at work in the Hyperandrogenism Regulations and in the history of sex verification testing policies that I traced in Chapter 1. Next, I explore theories on discourse from technical communication scholars and scholars of rhetoric, especially the role of ethics in teaching, researching, and crafting technical writing, and I emphasize how the IAAF Hyperandrogenism Regulations and the CAS Award can be understood as technical writing that has both shaped and been shaped by the contexts in which they have been produced. I emphasize the ways that the social turn in the field of technical communication makes technical communication an ideal space in which to analyze the texts that are the focus of this project by focusing on a rhetorical, humanistic approach to technical communication. Finally, I conclude

this chapter by establishing the history of rhetoric's connections to health and medicine and reviewing recent scholarship in health and medical rhetorics. I emphasize the value of analyzing regulatory documents related to health and medicine from a rhetorical, humanistic perspective. I focus in particular on the ways that a rhetorical approach to analyzing these types of regulatory documents can provide technical communication researchers with unique insight into the relationships among contemporary health and medical rhetorics, bodies, and power. In these ways, I argue that technical communication researchers are uniquely situated to offer insight into texts such as the 2011 IAAF Regulations on Hyperandrogenism and the 2015 CAS Award. By analyzing and better understanding the relationships among power, the 2011 IAAF Regulations on Hyperandrogenism and the 2015 CAS Award, and social conceptions of bodies, technical communication scholars who draw on the distinctly humanistic history of technical writing—especially those interested in health and medical rhetorics—have a unique opportunity to study and offer insight into texts that affect significant action in material ways, especially, in this case, on the bodies of female athletes who have been materially and significantly impacted by these texts.

### **Theoretical Approaches to Discourse, Bodies, and Power**

In Chapter 1 I noted that throughout the history of sex verification testing policies there has been a continual search for an objective scientific test that would clearly prove the dividing line between male athletes and female athletes in elite sports: at one point through observation of physical attributes, at another time through chromosomal testing, and more recently, through measurement of hormone levels. Literature from feminist science studies, intersex theory, queer theory, and disability studies can help elucidate the ways that supposedly objective scientific

research is in fact part of a larger discursive process that empowers some specific understandings of the body and disempowers others. These theoretical approaches all help to shape the lens that informs both my methodology and my analysis in this study. I focus the first section of this literature review therefore by drawing from these areas of scholarship. In so doing I emphasize how such approaches to sex and gender complicate many of the assumptions at work in the Hyperandrogenism Regulations and the history of sex verification testing policies in elite athletics. This theoretical lens—that is, that sex is not a binary system, that intersex is a legitimate embodiment that is medicalized today based on ideology that erases its existence, and that hyperandrogenism is medicalized unnecessarily because it is often associated with intersex individuals who do not fit into the binary system on which Hyperandrogenism Regulations are based—is a key aspect of my feminist critical discourse analysis (feminist CDA) methodological approach to text analysis for this project. I expand on my feminist CDA methodology in more detail in Chapter 3.

Michel Foucault's work is central to feminist science studies, intersex studies, queer theory, and disability studies, given his focus on the ways that discourse exerts power over bodies and sex. However, rather than rehearsing readings and interpretations of Foucault that have already been done (Bartholomae, 1985; Deleuze, 1988; Fraser, 1989; Hall, 2001; McKerrow, 1989; Rabinow, 1994), I will focus here on feminist interpretations of Foucault that are especially relevant to this study, notably those of Judith Butler. In her essay "Sexual Inversions," Butler focuses on Foucault's *History of Sexuality* to explore his claim that "there was a decisive historical break between a sociopolitical regime in which sex existed as attribute, an activity, a dimension of human life, and a more recent regime in which sex became established as an identity" (Butler, 1996, p. 59). Butler's essay explores the ways that the AIDS



epidemic challenges Foucault's claim that in the eighteenth century, power shifted from *juridical* power, which operated "negatively to impose limits, restrictions, and prohibitions" (Butler, 1996, p. 60), to *productive* power, which generated objects to control (Butler, 1996, p. 60). More specifically, productive power "exerts and articulates its control through the formation and proliferation of objects that concern the continuation of life" (Butler, 1996, p. 60). What is important about Butler's argument for the purposes of this study is her interpretation of this second type of power, productive power, and the impact this type of power has on the objects it regulates.

Even while Butler argues against Foucault's claims about the shift in power in the eighteenth century, her discussion of how sex figures into Foucault's argument is worth including here because of the way she articulates how power regulates things like sex, and what, exactly, is meant by the term "sex." For Foucault, the term "sex" is meant to refer simultaneously to the body's biological functions, the body's anatomical traits, and to "a kind of psychic core that gives clues to an essential, or final meaning, to identify" (Butler, 1996, p. 60). Butler explains that this multiplicity has helped to establish the myriad ways sex is regulated, mediated, and interpreted: "Not only is one one's sex, but one has sex, and in the having, is supposed to show the sex one 'is' even as the sex one 'is' is psychically deeper and more unfathomable than the 'I' who lives it can never know. Hence the 'sex' requires and secures a set of sciences that can mediate endlessly on that pervasive indecipherability" (1996, p. 60). The ways that Foucault and Butler read sex as simultaneously regulated and produced is of particular significance for this study. Foucault argues that sex is regulated under juridical power and produced under produced power. Foucault argues, in effect, that before the shift from juridical to productive power, sex did not exist because productive power is the thing that produced it. But

Butler argues that juridical power was *always* productive power, just operating silently. That is, for Butler, sex was always already simultaneously produced and regulated. Butler means that power is always “forming the very object that will be suitable for control and then, in an act that effectively disavows that production, claiming to discover that ‘sex’ outside of power. Hence the category of ‘sex’ will be precisely what power produces in order to have an object to control” (Butler, 1996 p. 64-65). In other words, sex always already existed, but it was not an object to control and regulate until power named it as such. So while sex was not regulated, it still very much existed in history. Butler explains this in more detail:

And here is the crucial point: it is not as if a regulatory regime first controls its object and then produces it or first produces it in order then to control it; there is no temporary lag between production and the regulation of sex; they occur at once, for *regulation is always generative*, producing the object it claims merely to discover or to find in the social field in which it operates. Concretely, this means that we are not, as it were, (merely) discriminated against on the basis of our sex. Power is more insidious than that: *either discrimination is built into the very formulation of our sex, or enfranchisement is precisely the formative and generative principle of someone else’s sex*. And this is why, for Foucault, sex can never be liberated from power: *the formation of sex is an enactment of power*. In a sense, power works on sex more deeply than we can know, not only as an external constraint or repression but as the formative principle of its intelligibility.

(Butler, 1996, p. 64, emphasis mine)

These concepts are significant for the purposes of this study because the focus of this study is on regulatory documents that purport that the thing they are regulating, that is, hormonal levels of female athletes, is worth regulating. Because these documents argue for the need to regulate

female athletes' hormone levels through technical, medical language, images, an emphasis on the health of the female athletes, a care for fairness, and a number of other strategies, the regulations themselves are in effect producing the difference they claim requires regulation. And because the significance of a difference in female athletes' hormone levels has been identified—and therefore, produced—the regulations appear to many viewers and users to indeed be needed for all the reasons they claim to be necessary. The suspension of the Hyperandrogenism Regulations thus *may* demonstrate a significant shift in the discourse regarding whether the testosterone levels of female athletes are in fact worth regulating or not: *because* the regulations were suspended, it appears that perhaps testosterone levels are not worth regulating after all. But without analyzing the CAS hearing transcript that resulted in their suspension, it is unclear *why* the Hyperandrogenism Regulations were suspended, and it is therefore difficult to know whether their suspension signals a shift or a continuance in the discourse that supported their creation. I analyze why the Hyperandrogenism Regulations were suspended, and the implications of this suspension for technical communication research, practice, and pedagogy, in Chapters 4 and 5. Butler's and Foucault's arguments about the relationship between regulations and the objects that are regulated are thus significant ones for framing my analysis. This is not the first time Butler has explored theories on sex, sexuality, discourse, and regulation and used the work of Foucault to come to a similar conclusion about the relationships among discourse, power, language, and sex, and some of her other scholarship is also of use to this project.

Butler begins "Bodies that Matter" (1993) by asking a series of questions about the relationship between sex and gender: "Is there a way to link the question of the materiality of the body to the performativity of gender? And how does the category of 'sex' figure within such a relationship?" (p. 1). She continues by making some important claims about sex, gender, and,

invoking Foucault, the ways that discourse impacts the normalization of ideas about sex and gender. Her explication of these relationships can illuminate the dynamic at work at the heart of the Hyperandrogenism Regulations: the dynamic between discourse and the normalization and regulation of sex. The Hyperandrogenism Regulations, as the title implies, regulate: they regulate bodies, they regulate sex differences, they regulate the types of bodies they say fall into each sex category, and most especially, they regulate those who do not fit into those categories as they have defined them. On the discursive construction of sex differences and the very category of “sex” as normative, and continuing to draw on Foucault, Butler writes,

Consider first that sexual difference is often invoked as an issue of material differences. Sexual difference, however, is never simply a function of material differences which are not in some way both marked and formed by discursive practice. *Further, to claim that sexual differences are indissociable from discursive demarcations is not the same as claiming that discourse causes sexual difference* [emphasis mine]. The category of ‘sex’ is, from the start, normative; it is what Foucault has called a ‘regulatory ideal.’ In this sense, then, ‘sex’ not only functions as the norm, but is part of a regulatory practice that produces the bodies it governs, that is, whose regulatory force is made clear as a kind of productive power, the power to produce – demarcate, circulate, differentiate – the bodies it controls. Thus, ‘sex’ is a regulatory ideal whose materialization is compelled, and this materialization takes place (or fails to take place) through certain highly regulated practices. In other words, ‘sex’ is an ideal construct which is forcibly materialized through time. (2003, p. 1)

Foucault’s notion of a “regulatory ideal” and Butler’s claim that the sexed body is such a regulatory ideal are important ones for this project. Butler’s argument is that the sex binary of

male and female, and the gender assignments of masculinity and femininity that are associated with each sex category, are regulatory ideals. Namely, they are “idealized discursive models that function to produce, or bring into being, the very sexed subjects that these categories supposedly only demarcate” (Ehlers, 2008, p. 335). Applying this concept to the Hyperandrogenism Regulations, it would appear that this set of regulations is the most recent discursive construction in this particular history to uphold sex as a “a regulatory ideal.” That is, sex as an idealized discursive model has materialized discursively over time, in part through the sex verification testing policies upheld by the IOC and the IAAF since the 1960s. In creating regulations to police bodies that do not conform to the definitions of two distinct sexes upheld by these regulations—a concept of sex that is strictly binary—the IOC and the IAAF have in effect produced the objects, or bodies, that they strive to control. This highly regulated practice, in the form of sex verification testing policies historically and more recently in the form of the Hyperandrogenism Regulations, has compelled the materialization of sex as Foucault’s “regulatory ideal.” To put it more plainly, if the IAAF did not attempt to regulate sex through supposedly objective scientific tests, forcing something that is non-binary into a binary system—a system which is itself a construct—there would not be anything to regulate. Butler’s Foucauldian theories about the discursive construction of sex thus help shape my feminist critical discourse analysis of the Hyperandrogenism Regulations and the CAS Award that resulted in their suspension. So, too, are critiques of the supposedly objective science that has helped to support the discursive construction of sexual dimorphism and both medicalize and erase intersex, notably those from the field of feminist science studies.

## **Critiques of Scientific and Medical Discourse from Feminist Science Studies**

The field of feminist science studies grew simultaneously from two areas: (1) feminist critiques *of* science, typically by feminists coming from outside scientific fields, and (2) women *in* science, and especially the work on equity by women in science (Hammonds & Subramaniam, 2003). Among other things, the field of feminist science studies critically works to explore and expose how scientific discourse materially and discursively constructs normalized bodies. I focus in this literature review on the aspects of feminist science studies that are most relevant for this study, feminist critiques of science. Hammonds and Subramaniam describe the feminist critique of science as offering a “perspective about the way in which certain aspects of the biological sciences’ study of nature were critically linked to the processes of naturalizing sex and producing something cultural called gender” (2003, p. 927), making feminist science studies scholarship an ideal and important addition to this literature review.

Authors offering critiques of science have articulated a number calls for more attention to scientific discourse in general but, notably, from feminist scholars in particular, arguing that feminist scholars have a uniquely valuable positionality from which to analyze scientific discourse. For example, in their essay, “The Mating Life of Geeks” (2015) Willey, Subramaniam, Hamilton, and Couperus write:

We urge feminists to pay attention to scientific studies that biologize the body, studies that locate complex sociopolitical developments as immutable bodily structures and processes. Women’s studies in particular, and feminism in general, needs feminist science studies not only to help us read science critically but also to help us understand what intersectionality is (Subramaniam 2009) and how the body becomes a key site where constructions of sex, gender, and race reside. Moreover, we begin from the

premise that categories of sex and gender are always already racialized and that the notion of a binary gender system is enabled and perpetuated by the myth of race neutrality (Markowitz 2001). (Willey, et al., p. 371-372)

While Willey, et al., focus primarily on scientific studies themselves as being worth feminist critique because of the way they biologize bodies, technical documents like the Hyperandrogenism Regulations and the CAS Award at the center of this study are often *based* on the kinds of scientific studies to which Willey, et al., are referencing. The Hyperandrogenism Regulations draw on at least three such scientific studies referenced directly in the regulations, and perhaps many more went into crafting these policies. Certainly a number of scientific studies are references in the expert witness testimony provided in the hearing for “2014/A/3759 Dutee Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF),” although in the context of the hearing these studies are used to defend or argue against the regulations rather than to help shape their development. Indeed, because of the role that scientific studies play in shaping policies like the Hyperandrogenism Regulations these kinds of technical documents may have a more direct, material impact on individual bodies than scientific studies might. While such studies do influence the creation of these kinds of regulations these studies are typically published in scholarly journals or conference proceedings for a small, academic elite audience. For these reasons, this study both extends and responds to Willey, et al.’s call to read science critically and better understand how and why “the body becomes a key site where constructions of sex, gender, and race reside” (Willey, et al., p. 372).

In articulating their call to feminists to attend to scientific discourse and the way it shapes our sociopolitical understandings of bodies and embodiment, Willey, et al, reference two key researchers in the field of feminist science studies: Banu Subramaniam and Sally Markowitz.

Willey, et al., reference Subramaniam's claim that feminist science studies is uniquely qualified to approach "the resurgence of biology and genetics as arbiters of health and wellness" by applying strategies of intersectional analysis to supposedly stable categories of social difference (2009, p. 968). They also reference "the myth of race neutrality" with regards to a binary gender system, a nod to Markowitz' "Pelvic Politics" (2001). Markowitz reconsiders the intersection between gender and sex / race ideologies and theorizes the ways that Western conceptualizations of femininity are applied to non-Western bodies, what she calls "racialized sexual dimorphism" (2001, p. 405). This concept is particularly important for this study. By "racialized sexual dimorphism" Markowitz means that ideology has not only supported the concept of sexual dimorphism and the concept of race itself, but that ideology from the eighteenth century on has subtly claimed that the "more advanced" the race the greater the sex/gender difference (Markowitz, 2001, p. 390-391). Markowitz argues that categories of and arguments about sex/gender difference have been "saturated with racial meaning for centuries" (2001, p. 389). She points to the eighteenth century emergence of modern conceptions of race and gender as the beginning of this ideology, and traces this ideology as it developed through the nineteenth century. In particular, she points to the ways that prominent scientists and theorists such as evolutionary biologist Charles Darwin, German race theorist Karl Vogt, and sexologist Richard von Krafft-Ebing supported the notion of racialized sexual dimorphism in their work. Markowitz explains how such scientists and theorists understood the relationship between and among sexes, genders, and races as follows:

If the display of either a pronounced male or female character is the ideal to which each human is expected to conform, then [they believed] it stands to reason that the men and women of the most 'advanced' race(s) will meet this ideal best. That is to say just as



personhood in our social world is so thoroughly gendered that one must register unambiguously as either a man or a woman (if preferably the former) in order to count as fully human, so too must a race display a pronounced sex/gender dimorphism in order to qualify as ‘advanced’ (2001, p. 391).

Markowitz’ theory that ideology has not only supported the concepts of race and sexual dimorphism but has also supported a racialized sexual dimorphism is significant for this study because of the intersections of race, sex, and gender that play out in the material implications of the Hyperandrogenism Regulations, as well as the debates about these concepts among expert witnesses during the CAS hearing that resulted in the regulations’ suspension.

Before the 2011 IAAF Regulations on Hyperandrogenism were in place, cases that potentially warranted investigation were typically pursued after complaints were lodged against specific female athletes because they either outperformed their female competitors by more than expected or were thought not to “look enough like a woman.” Both of these are subjective judgments based on problematic notions of female athleticism and female appearance. Critics have speculated that the Regulations on Hyperandrogenism were developed to avoid the public media storm Semenya experienced when she was being investigated as a result of such complaints (Karkazis, et al., 2012). This is a speculation all but confirmed through expert witness testimony during the CAS hearing on Chand’s appeal, and I discuss this further in Chapter 4. Before their suspension the Hyperandrogenism Regulations still maintained that investigations could be pursued if complaints about an athlete were lodged in an official capacity. Indeed, Chand’s investigation was initiated because “several participants at the National Inter State Athletics Championships had expressed concerns to the AFI [Athletic Federation of India] about the Athlete’s appearance and questioned whether she should be permitted to compete in female

athletics events” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 4). How might a female athlete be evaluated as physically not looking “enough like a woman,” and how might differing cultural definitions of femininity across the globe play into such evaluations? Perhaps Markowitz’ theory of racialized sexual dimorphism could shed some light on this kind of evaluation. While an analysis of the specific complaints lodged against female athletes to instigate an investigation under the purview of the Hyperandrogenism Regulations is beyond the scope of this project, Markowitz’ theory is an important addition to my analysis of the regulations and the CAS Award. I expand on this in more detail in the discussion of my analysis in Chapter 4.

Another significant contribution to the field of feminist science studies is that of Ann Fausto-Sterling’s *Sexing the Body* (2000). Fausto-Sterling explores how our understanding of sex is discursively and materially shaped by the culture in which scientific knowledge is produced. She explicates the ways that theoretical assumptions about sex and gender impact the very language that members of scientific communities have used to discuss and draw conclusions from research on chromosomes and sexual dimorphism, and uses as an example the story of Maria Martinez-Patiño, who played an important part in the history of sex verification testing policies that I recounted in Chapter 1. Martinez-Patiño was the Spanish hurdler whose case may have been the key to transforming the way the IOC and the IAAF approached sex verification testing during the 1980s and 1990s by complicating the notion that chromosomal testing was an objective method for determining an athlete’s sex. Using Martinez-Patiño’s case as a starting point, Fausto-Sterling analyzes “how scientists, medical professionals, and the wider public have made sense of (or ought to make sense of) bodies that present themselves as neither entirely male nor entirely female” (2000, p. 3). She concludes that labeling a person a woman or a man is not a

scientific decision, but rather a social one. More specifically, Fausto-Sterling contends that “our beliefs about gender affect what kind of knowledge scientists pursue about sex in the first place” (2000, p. 3), or, put another way, “the science you do depends on the model of the body you start with” (2000, p. 63). This can have particularly violent impact on those whose bodies do not conform to traditional understandings of how bodies can / should appear, physically or hormonally. Fausto-Sterling’s claim that “the science you do depends on the model of the body you start with” plays an important role in my feminist critical discourse analysis of the Hyperandrogenism Regulations and the CAS Award that resulted in their suspension. By analyzing the use of scientific evidence to support claims about why the regulations are necessary, we can draw conclusions about the model of the body on which the regulations were based. In Chapter 5 I explicate the pedagogical, material, and theoretical implications and the importance of critiquing the discursive model of the body from which health and medical rhetorics begin specifically for the field of technical communication.

Many scholars argue that perspectives on and beliefs about sex and gender have had a significant impact on how specific scientific research has been pursued and the language that is used to discuss this research, its conclusions, and their implications. One example of this is Emily Martin’s article, “The egg and the sperm: How science has constructed a romance based on stereotypical male-female roles” (1991). In researching “the possibility that culture shapes how biological scientists describe what they discover about the natural world” Martin concludes that the ways that both popular media and scientific accounts portray the egg and the sperm rely “on stereotypes central to our cultural definitions of male and female” (1991, p. 177). Exploring both historical and contemporary scientific texts communicating information about human reproductive processes, Martin demonstrates that ways that these texts are saturated by gendered

language and imagery repeatedly painting the picture of, in its extreme, “the egg as damsel in distress” and “the sperm as heroic warrior” (1991, p. 183). Martin does not conclude her analysis on a hopeful note. She speculates as to the future implications such language might have on the concept of personhood in our culture: “court-ordered restrictions on a pregnant woman’s activities in order to protect her fetus, fetal surgery, amniocentesis, and rescinding of abortion rights, to name but a few examples” (1991, p. 186-187). Today her concerns might seem prescient, considering recent political debates on many of these very topics. She calls on feminists and feminist scholars, then, to work to avoid such a future by “waking up” “to sleeping metaphors... hidden within the scientific content of texts – and all the more powerful for it... Becoming aware of their implications... will rob them of their powers to naturalize our social conventions about gender” (Martin, 1991, p. 187). This project responds to such a call. I employ feminist critical discourse analysis strategies to analyze the language used in both the Hyperandrogenism Regulations on Hyperandrogenism and their associated texts plus, importantly, the language used in the CAS Award that resulted in their suspension. While I am looking for the kind of gendered language and imagery Martin has described in each of these two sites, my analysis of the CAS Award draws in particular on Martin’s argument, as this document includes statements and texts from members of scientific communities and documents that refer to scientific research on gender and sex. More than two decades after the publication of Martin’s article, researchers have continued to find these gendered tropes in the language used to research and discuss the science of sex differences.

In “Sexing The X” (2012) Sara Richardson traces “the origins of [the] long-standing and infrequently questioned association of the X [chromosome] with femaleness and ...the influence of this assumption on historical and contemporary genetic theories of sex and gender difference”

(p. 909). The gendered tropes Richardson discovers in scientific theories of sex and gender difference that have focused on the X- and Y-chromosomes are similar to the ones Martin found in scientific research on the egg and the sperm over two decades earlier. Before turning to Richardson's findings, it is helpful here to review some basic information about X- and Y-chromosomes and their role in sex differences. As part of introducing the problematic gendered tropes she identifies, Richardson explains the breakdown of sex chromosomes in humans succinctly:

Humans possess twenty-two pairs of autosomal chromosomes and one pair of sex chromosomes—X and Y for males, X and X for females. Today it is well established that the Y carries a critical genetic switch for male sex determination. The X, however, has no parallel relationship to femaleness. Female sexual development is directed by hormones acting in concert with genes carried by many chromosomes and is not localized to the X. Indeed, the X is arguably more important to male biology, given the large number of X-linked diseases to which men are uniquely exposed. Despite this, researchers attribute feminine behavior to the X itself and assume that female genes and traits are located on it. Researchers look to the X to explain sex differences and female quirks and weaknesses and have argued that men are superior because they possess one fewer X than females.

(2012, p. 909)

Richardson explores three common gendered tropes found in both popular and scientific writing on sex chromosomes: (1) “the portrayal of the X and Y as a heterosexual couple with traditionally gendered opposite or complementary roles and behaviors” (2012, p. 911); (2) sex chromosome biology conceptualized as a war of the sexes (2012, p. 911); and (3) the promotion of “the X and Y as symbols of maleness and femaleness with which individuals are expected to

identify and in which they might take pride” (2012, p. 912). Richardson’s findings are significant for this project because the history of sex verification testing policies includes attention to the X- and Y-chromosomes. Recall that in the late 1960s the standard for sex verification testing for elite international athletes was based on chromosomal testing. Chromosomal testing, or Barr body testing, was criticized for a number of reasons, but one was that the Barr body test was based in part on the assumption that the X-chromosome was wholly responsible for female sex development while the Y-chromosome was “inert” (Heggie, 2014, p. 343). This was discovered to be an incorrect assumption. As Richardson states, “Female sexual development is directed by hormones acting in concert with genes carried by many chromosomes and *is not localized to the X*” (emphasis mine) (2012, p. 909). Foucault and Butler argue that the discourse we use simultaneously produces the very thing it seeks to study or regulate. In this case, when we begin with sexual dimorphism as a concept, we produce it and simultaneously see/k it everywhere. Martin demonstrates the ways that sexual dimorphism has been produced and regulated through discourse on the egg and the sperm, while Richardson demonstrates the ways that sexual dimorphism has been produced and regulated through discourse on the X- and Y-chromosomes. Attempting to move away from the assumption of sexual dimorphism, researchers from fields such as women’s and gender studies, queer studies, and disabilities studies have been theorizing embodiments beyond those that would fit into a strict binary. Importantly for this project, such scholars have been exploring the ways that discourse can at times both help to sustain the cultural belief in this binary and also actively work against it, creating spaces and opportunities for change. A key component of this work is an exploration of what it means to be intersex.

### **Critical Approaches to Discourse, Ideology, and Intersex**

In what follows, I draw from a number of different fields to articulate a useful theoretical perspective on intersexuality and its relationship to discourse and ideology for the purposes of this study. However, let me be clear: the purpose of exploring intersex-focused literature is not to claim that Dutee Chand, whose case initiated the suspension of the Hyperandrogenism Regulations, is in fact intersex. The purpose of this particular portion of this literature review is to articulate a theoretical perspective that allows for the possibility that the Hyperandrogenism Regulations disproportionately target individuals who do not uphold a strict sex binary, which is itself an inaccurate reflection of the reality of human bodies. Exploring literature on intersexuality elucidates embodiment possibilities that exist beyond such a binary, possibilities for which the Hyperandrogenism Regulations do not allow.

Critical approaches to intersex have come from a variety of different fields and perspectives, including from the field of disability studies (DS). DS scholar Lennard J. Davis writes in “The End of Identity Politics: On Disability as an Unstable Category” (2013) that categories that used to be thought of as “fixed,” such as sex and gender, are more recently being enacted in different ways. He notes, “The neat binaries of male and female are being complicated by volition, surgery, and the use of pharmaceuticals” (Davis, 2013, p. 267). This exigency has led DS scholars to critically engage with intersex theories in important ways. In theorizing the work that a “feminist disability studies” perspective might be able to do for intersex theories, for example, Kim Q. Hall draws on the case of Caster Semenya. As I detailed in Chapter 1, Semenya was the South African runner who, in 2008 and 2009, drew international public speculation as to her “true sex.” Hall reasons, “a feminist disability studies critique of questions concerning Semenya’s ‘true’ sex exposes the role of assumptions of gendered bodily norms in the

oppression of gender-variant and intersexed people” (2011, p. 6). Rosemarie Garland-Thomson, another noted DS scholar, also argues that a feminist disability studies perspective could shed light on what she referred to as “the pervasive will to normalize the nonstandard body” (2011, p. 26). Key to this project is an example Garland-Thomson uses: “the surgical reassignment of gender for the intersexed, people with ambiguous genitalia and gender characteristics” (2011, p. 26). Garland-Thomson continues, “In truth, these procedures do not benefit the affected individuals, but rather they expunge the kinds of corporeal human variations that contradict the ideologies the dominant order depends upon to anchor truths that it insists are unequivocally encoded in bodies” (2011, p. 26). What Garland-Thomson describes here are the material implications of a regulatory ideal that is supported through ideology and discourse. This kind of violence is not theoretical; it is material. For example, in Chapter 1 I referred to a 2013 report published in the *Journal of Clinical Endocrinology & Metabolism* which described four unnamed female athletes who, in addition to having the required surgery to remove internal testes and the required estrogen-replacement therapy in order to regain eligibility stipulated by the Hyperandrogenism Regulations, also agreed to clitoral-reduction surgery and “feminizing vaginoplasty” recommended by doctors (Hutchinson, 2015). When we begin with a model of sexual dimorphism in which people with ambiguous genitalia or gender characteristics cannot exist, we end with unnecessary surgical procedures to support that model.

One of the most important discussions of the practice of surgical reassignment for intersex infants is Suzanne Kessler’s 1990 essay, “The Medical Construction of Gender: Case Management of Intersexed Infants,” which “focalized a practice that was, up until the early 1990s, rarely discussed outside of specialized medical circles” (Rubin, 2012, p. 884). Based on her analysis of medical literature and interviews with medical experts in the field of pediatric



intersexuality, Kessler concludes that although science had progressed far enough to allow physicians to determine the chromosomal and hormonal makeups of infants born with ambiguous genitalia, it is instead often cultural factors that shape the medical decisions made regarding such infants. She explains, “physicians who handle the cases of intersexed infants consider several factors beside biological ones in determining, assigning, and announcing the gender of a particular infant. Indeed, biological factors are often preempted in their deliberations by such cultural factors as the ‘correct’ length of the penis and capacity of the vagina” (Kessler, 1990, p. 3-4). The decisions made based on these cultural factors and assumptions about gender and sex have significant, material, life-long impact on the infants. Management of the cases of intersex infants draws on the theory of gender developed by John Money, J.G. Hampson, and J.L. Hampson (1955), and later, Money and Anke A. Earhardt (1972), which “argues that gender identity is changeable until approximately eighteen months of age” (Kessler, 1990, p. 6). Kessler explains the way this theory plays out for intersex infants and their families:

The theory rests on satisfying several conditions: the experts must insure that the parents have no doubt about whether their child is male or female; the genitals must be made to match the assigned gender as soon as possible; gender-appropriate hormones must be administered at puberty; and intersexed children must be kept informed about their situation with age-appropriate explanations. If these conditions are met, the theory proposes, the intersexed child will develop a gender identity in accordance with the gender assignment (regard-less of the chromosomal gender) and will not question her or his assignment and request reassignment at a later age. (1990, p. 7)

This recalls Butler’s and Foucault’s explication of the material impact regulatory ideals can have when ideology is supported by discourse, as well as Fausto-Sterling’s claim that “the science you

do depends on the model of the body you start with.” Procedures developed for the management<sup>6</sup> of intersex infants rely on a model of sexual dimorphism that does not exist, and when confronted with bodies that do not fit this model, the bodies are surgically and hormonally “fixed” to fit such a model. The scientific studies and technical documentation that support such procedures are the various types of discourse that sustain such ideology, including, potentially, the 2011 IAAF Regulations on Hyperandrogenism.

Money’s theories on gender and sex have been critiqued and explored in various ways since their publication, but of particular use to this project is David Rubin’s 2012 close-reading of Money’s work. In “‘An Unnamed Blank That Craved a Name’: A Genealogy of Intersex as Gender,” Rubin begins by positing three key questions that could also be asked in the context of this study:

What is the relation between intersex and dominant, residual, and emergent configurations of sex and gender? How might thinking critically about the norms, processes, and structures that regulate embodiment enable a critical rethinking of intersex, and vice versa? How do contestations over intersex converge and diverge with debates about the politics of difference and struggles for sexual and gender justice in a multicultural, transnational world? (2012, p. 883).

Recalling Kessler’s use of the term “gender” in her 1990 article, “The Medical Construction of Gender: Case Management of Intersexed Infants,” Rubin notes that after the publication of Kessler’s 1990 article there was a significant shift in the language used by scholarship exploring theories of intersex from the term “gender” to the term “sex.” This shift in both terminology and scholarly attention left the relationship between intersex and gender largely unexamined (Rubin,

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<sup>6</sup> The use of the term “management” regarding the cases of intersex infants is problematic and warrants its own rhetorical analysis. However, this is the term used by Kessler and so I am using it in keeping with her usage.

2012, p. 885). Through a close reading of Money's conceptions of gender, Rubin argues, "intersexuality played a crucial role in the invention of gender as a category in mid-twentieth-century biomedical and, subsequently, feminist discourses and... Money used the concept of gender to cover over and displace the biological instability of the body he discovered through his research on intersex" (2012, p. 887). While Money's theories on sex and gender are not the focus of this project, the relationships among ideology and the medical and social discourse that supports those theories are. Similarly, the language used in the history of sex verification testing and, as I discuss in more detail in Chapter 4, the language used in the CAS Award that resulted in the suspension of the Hyperandrogenism Regulations frequently alternates between the usage of "sex" and "gender." At times "sex" and "gender" are referred to as distinct concepts, but at other times they appear to be used as terms that are interchangeable, although in fact sex and gender refer to two different things. This confusion over terminology may indicate one of the challenges of creating regulatory policy related to such concepts as the policing of sex and gender, especially on an international scale, which necessarily may require the use of multiple languages and translations. This may also indicate a space in which technical communicators with experience or expertise in intercultural communication could intervene in powerful, productive ways. I discuss this in more detail in Chapter 5 when I explore the implications of my analysis for the field of technical communication.

While scholarly and theoretical approaches to intersex embodiments are valuable, the voices and perspectives of intersexed people are equally if not more important to include in this discussion. In "Affronting Reason" from the edited collection *The Politics of Women's Bodies* (2010) Cheryl Chase, the founder of the Intersex Society of North America, attempts to come to terms with her own experience of the medicalization of intersexuality in the United States. Chase

argues that current medical “treatments” of intersexed people reinforce and reflect cultural stereotypes about sex and gender more than they actually help intersex-born children. In seeking information about herself and others like her, Chase encountered a disconnect between scholars who argued that sex and gender are socially constructed and the medical community’s explanation of the necessity of surgical and hormonal means of what Chase has called “the erasure of evidence” from intersexed infant’s bodies. “Medical literature speaks with one voice on the necessity of this practice,” Chase explains, “even as it concedes that surgical intervention may damage sexual function. Silence has been considered evidence of patient satisfaction” (Weitz, 2010, p. 71). This tension between scholars’ exploration of theoretical approaches to sex and gender and the ways that such concepts are framed in scientific and medical studies and discourse communities is a key component of the suspension of the Hyperandrogenism Regulations, and I discuss it in more detail in Chapter 4. In her introduction to Chase’s essay, editor Rose Weitz notes that according to a review conducted in 2000, intersexuality occurs in one to two of every 100 births. However, Weitz explains, “intersexuality has been rendered nearly invisible by surgical interventions on infants and hormonal treatments later in life that wedge intersex individuals more neatly into the binary sex categories—male and female—that our culture teaches us to expect” (2010, p. 67). Discourse has helped to contribute to this erasure by creating or contributing to the creation of policies, procedures, and regulations that not only support sexual dimorphism but that also support—and indeed insist on—the medicalization of bodies that do not fit into such a binary system.

Chase and Weitz both note that intersexuality is increasingly referred to as “Disorders of Sexual Development,” or DSD (the language of which is obviously problematic based on literature reviewed earlier in this chapter). A similar term appears in the Hyperandrogenism

Regulations. In Chapter 5 of the regulations, titled “Medical assessment of cases,” the document lays out three levels of medical assessment by which cases may be investigated. In subsection “Level 3 - Full Examination and Diagnosis,” paragraph 5.29 includes the following statement: “In cases of Disorders of Sex Development, the diagnosis shall further be made in accordance with the recommendations for diagnostic evaluation set out in the Consensus Statement on Management of Intersex Disorders at Appendix 4 to these Regulations.” Appendix 4 of the Hyperandrogenism Regulations provides readers with a link to an article titled “Consensus statement on management of intersex disorders” published in the *Journal of Pediatric Urology* (2006). The article begins with a section titled “Management of intersex disorders” in which the authors explain the exigency for the article:

The birth of an intersex child prompts a long term [sic] management strategy that involves a myriad of professionals working with the family. It is estimated that genital anomalies occur in 1 in 4500 births. There has been progress in diagnosis, surgical techniques, understanding psychosocial issues, and recognising and accepting the place of patient advocacy. The Lawson Wilkins Pediatric Endocrine Society (LWPES) and the European Society for Paediatric Endocrinology (ESPE) considered it timely to review the management of intersex disorders from a broad perspective, to review data on longer term [sic] outcome, and to formulate proposals for future studies.... This paper constitutes its final form (Hughes, Houk, Ahmed & Lee, 2006, p. 554).

While further analysis of Hughes’, et al., article is beyond the scope of this study, this brief glimpse demonstrates the need for future research into the contemporary expert-authored scientific research that has been used to support or work against dominant ideology about sexual dimorphism, particularly in the context of international regulations that have a global impact. It

is worth including the passage from Hughes, et al., here to demonstrate the significant differences in the language used to discuss intersex people in varying texts from varying fields, a difference Katrina A. Karkazis notes as well.

In her introduction to her 2008 book, *Fixing sex: intersex, medical authority, and lived experience*, which relies on interviews with intersex adults, parents of intersex children, and physicians, Katrina A. Karkazis offers a slightly different perspective on the relationship between the medical community and intersex individuals, specifically the language used in different discourse communities. Karkazis is a bioethicist who has researched and published on the medical management of intersex individuals and hyperandrogenic athletes, and who also acted as an expert witness on behalf of Dutee Chand during Chand's CAS hearing. Sitting at an award ceremony in 2000 honoring Cheryl Chase's work on improving intersex medical care, Karkazis reflected on the language that Surian Kahn, then director of the International Gay and Lesbian Human Rights Commission, used in introducing Chase and her work. Karkazis notes,

Although I am deeply sympathetic to intersex adults' criticisms of their medical care, Khan's comments paint a disturbing image of half-crazed doctors running down hospital corridors wielding knives—one that clashes with my knowledge of clinicians working in the field of intersexuality, whose intentions are more benevolent. I wonder what the clinical specialist in the audience makes of the claim that he and his colleagues are mutilating children. I furtively glance over to gauge his response; his face is expressionless, unreadable. It is hard not to get caught up in the heartfelt emotion of the moment and to be excited by the radical rethinking of intersexuality implied by the director's critique: Why are gender-atypical bodies construed as a medical problem? Should the medical profession have the right to make treatment decisions at all for people

born with intersex conditions? But it is equally hard to believe that the issue is as simple as doctors torturing children. (2008, p. 2)

Karkazis' reflection is a valuable one, and it demonstrates three things: (1) how complex the relationship between the medical community and those scholars critiquing science and medicine can be; (2) the differences in the language used to discuss intersex individuals in each discourse community; and (3) the necessity of avoiding oversimplifying intersex embodiments and the treatment of intersex individuals in various contexts. Texts used to support the notion of sexual dimorphism and the need to medically "correct" intersexed people are largely coming from medical discourse and the hard sciences, while theories working against the notion of sexual dimorphism are largely coming from the social sciences and the humanities. A bridge between these fields, and one that excels at avoiding unnecessarily oversimplifying language, can be found in the field of technical communication, and more specifically, that of technical communication focused on health and medical rhetorics. Technical communication scholars working in health and medical rhetorics are uniquely situated to offer critiques of the discourse used in health- and medicine-related regulatory documents such as the 2011 IAAF Regulations on Hyperandrogenism because their work bridges both a knowledge and understanding of technical, scientific, and medical discourse and a rhetorical, humanistic perspective on discourse.

### **Technical Communication as Humanistic Discourse**

Before shifting to a review of relevant technical communication literature focusing on health and medical rhetorics, it is important to note that the field of technical communication has not always championed a humanistic approach to teaching and researching technical writing. Today, however, it is this underlying humanistic, rhetorical base that makes scholars in technical

communication so effectively positioned to do the kind of research this study and the social issues at its center call for. But it is important to reflect on both how this shift came about, and the significance of this shift for the field and studies such as this one. A good way to briefly cover the shift in technical communication scholarship from instrumentalist to humanist is through the published exchanges between Carolyn Miller, Patrick Moore, and Robert Johnson. At the heart of this shift in the field and the scholarly debate that heralded it are questions related to the ethical responsibilities and practical roles of technical communicators and scholars of technical communication—questions that are of the utmost importance for a technical communication research project such as this one, focused as it is on the ethical questions of a policy regulating sex differences. I discuss the ethical implications of the results of this study for the field of technical communication in Chapter 5.

In 1979 *College English* published Carolyn Miller's "A Humanistic Rationale for Technical Writing." Recalling an English department committee meeting at which the discussion of how to satisfy humanities requirements arose, Miller posits a larger question for the field: "[are] we willing to argue, indeed, *could* we argue that technical writing has humanistic value?" (1979, p. 610). This question had and continues to have significant implications for the field, and, as I will explore in a moment, for this study in particular. Miller argues that an understanding of technical writing as a "skills" course ("with little or no humanistic value") is the result of two things: (1) a positivist understanding of science and (2) a corresponding understanding of technical and scientific rhetoric's relationship to science (1979, p. 610). Miller explains,

In this [positivist] view, human knowledge, of which we may take science to be a model, is a matter of getting closer to the material things of reality and farther away from the



confusing and untrustworthy imperfections of words and minds. Technical and scientific rhetoric becomes the skill of subduing language so that it most accurately and directly transmits reality. It aims at being an efficient way of coercing minds to submit to reality. (1979, p. 610)

After she traces the conflicts that effective technical writing pedagogical strategies typically have with this positivist perspective on science, Miller introduces a different perspective on science, one based on developments in sociology, cultural anthropology, and cognitive psychology. Miller summarizes this new perspective as follows:

Reality cannot be separated from our knowledge of it; knowledge cannot be separated from the knower; the knower cannot be separated from a community. Facts do not exist independently, waiting to be found and collected and systematized; facts are human constructions which presuppose theories. We bring to the world a set of innate and learned concepts which help us select, organize, and understand what we encounter. *Science, then, is not concerned directly with material things, but with these human constructions, with symbols and arguments* (emphasis mine). (1979, p. 615-616)

Miller's explication of this new definition of science seems to implicitly recall Foucault's and Butler's arguments about the relationship among power, ideology, discourse, language, and the material implications of their interactions. To teach and to research technical writing then, from this distinctively humanistic perspective and drawing on Foucault and Butler, is not to simply relay "facts" "objectively," but to analyze and have a significant role in both understanding and shaping the ways that technical language shapes our perceptions of the world around us, as well as how the world around us and our knowledge of it operate.

Miller's argument was a revolutionary one. While some scholars in the field agreed with her (Rutter, 1991; Dobrin, 1985), others disagreed with her call to move away from a positivist understanding of science and the subsequent role rhetoric and technical writing play in such a view, arguing that the move towards categorizing technical writing as creative, rhetorical, or literary was also the wrong direction for the field. One of these scholars was Patrick Moore. In 1996 the *Journal of Technical and Business Communication* published Moore's "Instrumental Discourse is as Humanistic as Rhetoric," which opens with the line, "Some technical communication teachers seem anxious about the ethical implications of their subject" (p. 100). Moore articulates his frustration with the shifts in the field he perceived since the publication of Miller's article in 1979. He believes the field moved too far towards the humanistic perspective, and had subsequently overemphasized the rhetorical, literary, and creative aspects of technical writing (1996, p. 101). In response to this overemphasis, he calls for a middle ground between positivism and with it, the "windowpane theory of language" (Miller, 1979), as well as the idea that technical communication has similar attributes as literary or creative writing. Moore articulates this proposed middle ground as consisting of three key points: "(1) a definition of technical communication as both rhetorical *and* instrumental discourse; (2) the awareness that standardization plays an important and socially constructive part in the language of instrumental discourse; and (3) the awareness that standardization and technical communication can be just as humane as rhetoric and literature" (1996, p. 102). Moore claims that technical communication pedagogy that is overly creative, overly rhetorical, and overly literary fails to effectively prepare students for technical writing industry jobs, an important goal of technical writing pedagogy and the broader field of technical communication. Key to the three points above, to Moore's overall argument, to the field's broad debate between humanistic and instrumental technical writing, and

especially to this study, is Moore's definition of "instrumental language" and "instrumental uses of language." Drawing on Toulmin, Rieke, and Janik (1984), as well as Beale (1987), Moore explains instrumental uses of language thusly:

...in contrast to rhetorical uses of language, instrumental uses of language are 'those utterances that are supposed to achieve their purpose directly, as they stand, without the need to produce any additional "reasons" or "supporting arguments"' (5). One common instrumental use is instruction. A person wanting to install a computer program needs no persuading to do it. The person needs the information about *how* to do it. Walter Beale says that the main purpose of instrumental discourse 'is the governance, guidance, control, or execution of human activities.' Beale cites, 'contracts, constitutions, laws, technical reports, and manuals of operation' (94). According to Beale's definition, texts such as policy manuals, birth certificates, invoices, registration forms, and the like would be considered instrumental because they try, in one way or another, to limit the ways people interpret the texts and conduct themselves with others, with organizations, and with their environments. (1996, p. 103)

This definition of instrumental technical writing is invaluable to this project for a number of reasons. Moore seems to be arguing that limiting the ways people interpret texts and conduct themselves with others is wholeheartedly a positive endeavor. But a few of the examples he and the authors he cite have provided are more problematic than he seems to realize. Even more importantly, these examples can be directly connected to this study: (1) The Hyperandrogenism Regulations, dictating which female athletes may participate in elite competition and which require surgery or hormone therapy to do so, would be considered instrumental technical writing because it is a policy manual; and (2) the birth certificates of intersexed people, forcing them into

a binary system and erasing or medicalizing their embodiment, would also be considered instrumental technical writing. Each of these texts is indeed a strategy for the governance, guidance, control, or execution of human activities, and in these cases, of human bodies. But by drawing on the theoretical literature I've explored earlier in this chapter, it becomes clear just how dangerous limiting the ways people interpret texts can be. By extension, it becomes clear just how dangerous instrumental-focused technical communication, without reflection, critical thinking, rhetoric, creativity, and analysis, can be.

Miller, along with Melinda Kreth and Janice (Ginny) Redish, responded to Moore in 1996 in "Comments on 'An Instrumental Discourse Is as Humanistic as Rhetoric'," published in the *Journal of Business and Technical Communication*. Kreth, in her refutation of each of Moore's points, seemed to have identified this danger, although not in such explicit terms. She writes,

Of course, reading a document like a software user's manual as *in fact* referring to some objective reality (e.g., the ENTER key on the keyboard) is not only acceptable but necessary. In some cases, however, the tendency to read instrumental documents (e.g., policies and statutes) as *in fact* referring to an objective reality accounts for why some people accept as absolutely 'real,' 'true,' and 'good' what are actually the socially constructed versions of reality that such documents project.... Even when instrumental discourse appears useful and humane (and I agree it sometimes does), we should encourage our students to question it: Whose interests does such discourse serve? For what purpose? Who decides and how? Who might be harmed by such discourse? And so on. (Kreth, Miller, & Redish, 1996, p. 479 - 480)

Kreth acknowledges that despite these concerns, it is still important to teach instrumental discourse. While it is necessary to teach students to question such norms, it is also necessary, Kreth emphasizes, to discuss the potential risks of doing so, “like getting fired,” she put bluntly (Kreth, et al, 1996, p. 480). Miller, on the other hand, states that Moore had completely miscategorized her original argument. Miller views Moore as calling for a democratization of the study of discourse by teaching and analyzing instrumental uses of language, and in so doing, highlighting “the humanism embedded in the standardized language and procedures of technological artifacts and language” (Moore, 1996, p. 115). “I had thought that a program of this sort,” Miller reflects, “...was what I was arguing for in my 1979 essay” (Kreth, et al., 1996, p. 480). Miller concludes,

Yes, instrumental discourse does useful work and improves our health and safety. But what else does it do? In the course of doing good does it do any damage? It seems a bit naïve at the end of the twentieth century to hope that anything could have unalloyed benefit, and it seems shortsighted to turn away from a full understanding of the complex variety of effects that science, technology, and their associated discourses have on us.

(Kreth, et al., 1996, p. 485)

Miller’s comment seems prescient today, particularly within the context of this study. It is also representative of a significant shift in the field of technical communication regarding both the role of technical writing teachers and the role of technical writing itself. In this shift from instrumental to humanistic discourse, the field moved from being merely supplemental to science, technology, and their associated discourses, to claiming an independent identity and purpose, and with it, potential influence on other disciplines.

In 1998 *Technical Communication Quarterly* published Robert R. Johnson's "Complicating Technology: Interdisciplinary Method, the Burden of Comprehension, and the Ethical Space of the Technical Communicator." Johnson articulates a strategy for technical communicators to become more influential in technology planning and decision making rather than simply focusing on "after-the-fact communication to assess the damage and, at best, cut the losses" of disasters such as Bhopal, Chernobyl, or the *Challenger* (p. 76). In making this argument, Johnson distances himself from the idea of technical communication as merely focused on instrumental discourse by using as an example the relationship between technical writing and technology. Rather than considering technology as a controlling phenomenon with a life of its own, and thus taking technology at its face value, Johnson writes that technical communication "should be concerned with a broader band of activity than just the explanation of, and eventual dissemination of, technology" (1998, p. 76). He is blunt about the ways that an instrumental approach to technical communication would hinder this mission and the field's future, writing,

Instead of expanding the scope of the technical communicator, these arguments for an instrumental approach to technical communication illuminate vividly the profession's entrapment within, and comfort with, the role of the technical communicator as mere scribe (Moore; Hagge). To define narrowly the theoretical disposition of the profession as 'instrumental' is to become defensively monodisciplinary. In so doing, we, unwittingly or not, pigeonhole ourselves as 'nonrhetorical,' 'anti-humanistic,' or 'pro-instrumental,' and thus risk becoming subservient to disciplines that occupy the other side, usually the power-side, of the binaries: disciplines that are unlikely to relinquish even the smallest

vestige of influence. To become comfortable with such a narrow-gauge view of our profession is to become too comfortable. (Johnson, 1998, p. 76)

Johnson argues that technical communicators have an advantage in complicating how we understand technology by having access to and an understanding of many of the users of technology. But even more important than that, he argues that we in technical communication have an ethical responsibility to our audiences to complicate the binary of “good technology / bad technology” (Johnson, 1998, p. 77). Grabill and Simmons make a similar argument with a focus on risk communication in their articulation of a “critical rhetoric” for risk communication (1998). Drawing on Foucault, they argue that risk is socially constructed and because of this, the process of assessing risk is not a linear, sequential one. But, they claim, technical communicators are well equipped to deal with such complexity *if* their roles are seen as research-driven and analytical (Grabill & Simmons, 1998, p. 430). This shift from an instrumental to a humanistic approach in the field thus significantly changed the way we understand the purposes of three distinct but interrelated things: (1) technical writing; (2) the technical communicator; and (3) the field of technical communication.

Since the turn in the field explicated above, many scholars of technical communication have drawn on this humanistic approach to discourse and both established and explored the ways that technical documents serve as normalizing texts in various forms. They have also argued for the ways that technical communicators are uniquely qualified and situated to engage with such normalizing texts in critical and valuable ways. One of the most thorough accounts of this is Bernadette Longo’s *Spurious Coin: A History of Science, Management, and Technical Writing* (2003). Longo begins her book by stating, “Good technical writing is so clear that it is invisible” (2003, p. ix). She explains further, “... technical writing is the mechanism that controls systems

of management and discipline, thereby organizing the operations of modern institutions and the people within them. The invisibility of technical writing attests to its efficiency as a control mechanism because it works to shape our actions without displaying its methods for ready analysis” (2003, p. ix). This echoes Moore’s definition of instrumental discourse, but also Miller’s claim regarding the importance of analyzing such “invisible” discourse. Longo extends this definition one step further, writing, “Technical writing controls how technical knowledge is made.... It is a mundane discourse practice working to enable some types of knowledge and practice, while disabling other possible knowledges and practices. Technical writing works to (de)stabilize knowledge and practices within institutional and societal systems. It is shaped by these systems, while simultaneously shaping them” (2003, p. x). Similarly, in his article, “Disability Studies, Cultural Analysis, and the Critical Practice of Technical Communication Pedagogy” (2006), Jason Palmeri uses the work of a number of disability studies theorists to extend critiques of what he calls “the normalizing practices of technical communication” (p. 50). In calling for an integration of disability studies critiques into technical communication pedagogy, Palmeri makes an important point that can be extended to this study: “Almost all technical communication practices are embedded in the construction of normalcy in one way or another” (2009, p. 63). It is Palmeri’s notion of the ways that technical communication and technical communication scholars can work to “disrupt normalcy” that is of particular use for this study. Palmeri’s piece is part of a special issue of *Technical Communication Quarterly* on the cultural turn at work in technical communication at the time, a continuation of the turn of the late 1990s I reviewed above. Scott and Longo conclude their introduction to the 2009 issue by reflecting that the articles in it have done two important things which they hope to see receive more attention from scholars in the field: first, they ask us to consider how we might rethink



dominant technical communication practices; and second, they ask us to consider how “we can effectively resist the disempowering aspects of these practices” (p. 6). These are also the goals of this study, focusing on both of these calls simultaneously by turning a critical eye towards the technical communication practices and the health and medical rhetorics that have constructed a dominant narrative regarding sex differences, and the discourses that supported, resisted, and critiqued such normalizing practices, ultimately resulting the suspension of the 2011 IAAF Regulations on Hyperandrogenism.

Like Palmeri, other technical communication scholars have played with the concept of dis/rupture to articulate critiques of technical communication practices and call for more work with similar critical approaches. Of particular interest to this study is technical communication research that focuses on critically analyzing policy as normalizing technical communication. In 2004 Carolyn Rude argued that while the field had contextualized corporate and academic discourse well, it had not yet explored the ways that policy-related discourse “defines social needs and promotes social change... a long-term project that may span years” (p. 272). Focusing on efforts by the Union of Concerned Scientists to encourage policy makers to convert to renewable sources of energy, Rude calls for technical communication teachers to “[look] beyond the moment of the text” (2004, p. 272). We must also, she said, teach strategies “to accommodate persuasion over time: delivering a message repeatedly and in different media, actively seeking out audiences, and promoting action in response to the message. The publication is not an end in itself but a means to an end of change in policy and behavior” (Rude, 2004, p. 272). Similarly, Williams (2009) explains why public policy writing can be considered a technical communication genre, and why it should be both taught and analyzed in technical communication courses. Drawing on DeGregori (1985) and Rose (1993) and comparing their

descriptions of technology and public policy, respectively, Williams finds that “the invention processes and by-products of public policy and technology are often indistinguishable” (2009, p. 450). The definition Williams arrives at is that “public policy is created to solve problems; it is transferable, produces winners and losers, and can be created to improve on previous policies that respond to old problems or to handle new and challenging ones through trial and error” (2009, p. 450). The Hyperandrogenism Regulations can thus be considered public policy as a genre of technical communication for the following reasons: they were created to solve the (supposed) problem of some female athletes having an advantage over others because of heightened levels of naturally-occurring testosterone; they produce winners and losers, in that some female athletes are allowed to compete and others are not; and they were created to improve on previous policies that responded to old (supposed) problems regarding “gender fraud.”

Other technical communication scholars also explore aspects of public policy as technical communication. Kristen Moore (2013), for example, suggests that storytelling based pedagogical strategies can be used to help students learn about the sometimes hidden relationships inherent to successfully policy work, which can in turn teach students about “the vital discursive and conceptual skills valued by technical fields” (p. 63). Moore’s argument is grounded in attention to relational work, what she describes as “work that draws attention to the complex relationships among people, ideas, places, events, institutions, and things,” (p. 63), or, put another way, the complex relationships among ideology, the discourse and institutions that support ideology, and the material implications ideology can have as a result of such support. Moore explains,

Relational work is important for technical and professional writers, particularly those who enter the public sphere. Relational work requires an ability to interact with people in

a respectful and productive way; it requires an ability to see the relationships among institutions, people, events, projects, and things; it requires an ability to respond to the potential for relationships among these same items. We need to develop strategies for effectively doing and teaching relational work, and this approach toward teaching technical writing suggests that storytelling can help students learn relational work. (2013, p. 75)

I return to Moore's call for attention to relational work and the ways that it can help students learn effective rhetorical and relational skills in technical writing classes in Chapter 5, when I discuss the ways storytelling has factored into the technical communication case study I developed based on this research project and Dutee Chand's story, and taught in sections of a technical writing for health sciences class.

Knievel's "Rupturing Context, Resituating Genre: A Study of Use-of-Force Policy in the Wake of a Controversial Shooting" (2008), is especially useful for this project. Knievel theorizes the role of what he calls "ruptures," which he describes as "focusing events" that provide exigence for critically analyzing policy. Drawing on Bazerman (2002), Knievel focuses on the ways that internal institutional genres such as policy "serve a normalizing function as they enact through discourse the ideology of the community" (p. 334). Knievel concludes, "Internal policies and genres can function quietly and without incident for extended periods of time before a focusing event can lead to consequential dislocation of an activity system in order to conduct work on it and elevate in importance different purposes that have been neglected or subsumed by others in the interest of mediating the work of the local system" (2008, p. 354). With reference to the Hyperandrogenism Regulations, as internal policy they were indeed functioning fairly quietly since their publication in 2011; however, that is no longer the case. The focusing event that lead

to this “consequential dislocation,” this sudden rupture, this disastrous event in which external critique is focused on internal documents, is Chand’s appeal. As a result of this appeal, the focus of the CAS turned to policies, and ultimately they were suspended because of this attention.

Knieval expands on his definition of rupture, writing,

In effect, rupture can reveal the ways in which internal processes and the genres that mediate those processes bear on the public interest, as it did, for instance, in the Challenger explosion where NASA’s protocols became available for public inspection and analysis in ways they would not ordinarily be. Oftentimes this happens within the framework of the legal system and hearings; the rupture constituted by the Enron case, for instance, forced the excavation of the company’s internal accounting practices, giving public observers access to the genres that at once enabled Enron’s ethic and demonstrated that ethic’s incompatibility with the public will for corporate behavior and treatment of American workers. In such moments, these internal genres engage more directly with the larger complex of cultural values, anxieties, and tolerances that, however invisible, is always present as part of the rhetorical context. (2008, p. 355)

Drawing on Kneivel’s definition of rupture and applying it to the context of this study, the rupture constituted by Chand’s appeal forced both the public’s focused attention on the Hyperandrogenism Regulations and the CAS’ focused attention on the ethics of the policy, which ultimately resulted in the regulations’ suspension. Because of this rupture, the larger complex of cultural values, anxieties, and in/tolerances are becoming more visible within this rhetorical context, notably those related to categories of sex difference and the ways such regulations have attempted to uphold that binary system.

While the Hyperandrogenism Regulations are indeed policy as a technical communication genre, and there is value in both studying them and in teaching about them, they are a policy of a specific kind: they are policy focused on health and medicine, and, importantly, on sex and gender. A review of relevant scholarship from the field of health and medical rhetorics is thus the final section of this literature review, with a particular focus on work that explores how health and medical rhetorics function to normalize certain expectations or beliefs about sex and gender. I also especially focus in this final section of my literature review on work that draws on the theoretical assumptions about the relationship between discourse, power, and bodies that I explicated earlier in this chapter.

### **Historical and Contemporary Attention to Health and Medical Rhetorics**

The field of “health and medical rhetorics” is vibrant and growing, emerging initially out of the field of rhetoric of science but with a focused analysis specifically on health- and medicine- related scientific rhetorics (Meloncon & Frost, 2015). Scholars in this field are continuously articulating disciplinary boundaries and research questions for the work they are doing, and identifying new and old spaces in which to apply their methodologies, as is evidenced by the number of calls for presentations and proposals circulating at the time of this study’s conclusion. Most recently, a call to contribute articles for a collection titled *The Rhetoric of Health and Medicine as/is: Theories and Concepts for an Emerging Field* circulated on relevant field listservs in April 2016, which aims to be the “foundational book articulating the concepts, theoretical approaches and methodologies for study that drive our endeavors” (Ryan, 2016, April 18). This call indicates both that the field is indeed still emerging but also that it is quickly establishing itself as one that is growing quickly and in important ways. In what follows I review

relevant research from the field of health and medical rhetorics to demonstrate how technical communication researchers are positioned well to analyze health communication and medical rhetorics similar to the ones on which this project focuses, and how scholars have done similar work already. Importantly, many of these researches draw on the Foucauldian theoretical approaches to discourse and ideology I explored earlier in this chapter. Before turning to contemporary scholarship in health communication and medical rhetorics and emphasizing the ways that technical communication can provide important critical attention to health communication and medical rhetorics, I want to briefly review the ways that the fields of rhetoric and technical communication have always paid attention to health, medicine, bodies, and embodiment from their beginnings in ancient Greece and Rome. Although the field of health and medical rhetorics is an emerging one, it can trace its roots to the very origins of rhetoric and oratory. This historical precedent sets the stage for contemporary technical communication scholars to continue to pay attention to sites of health- and medical-focused rhetorical inquiry today.

Plato's *Gorgias* dialogue might be the most memorable of the ancient Greek uses of health and medicine to articulate principles of oratory and rhetoric. In this dialogue Gorgias famously tells Socrates a story of going with his brother or with other doctors "to call on some sick person who refuses to take his medicine or allow the doctor to perform surgery or cauterization on him. And when the doctor failed to persuade him, I succeeded, by means of no other craft than oratory" (*Gorgias*, 456b). Gorgias continues in this vein, exalting the craft of oratory further: "And I maintain too that if an orator and a doctor came to any city anywhere you like and had to compete in speaking in the assembly or some other gathering over which of them should be appointed doctor, the doctor wouldn't make any showing at all, but the one who had

the ability to speak would be appointed, if he so wished” (*Gorgias* 456b-c). Gorgias uses this example to make the claim that oratory is a skill or a craft—this articulation a small part of what Jarratt called “Plato’s attempt to diminish the sophists’ practice merely to a technical process” (1998, p. 95). While the Sophists’ practice and the Greek’s use of medicine and health-related metaphors are not the focus of this project, it is worth noting a few other instances in which medical or health related language was used in establishing the groundwork of the fields of rhetoric and technical communication that we know today. This groundwork effectively established the beginnings of the contemporary field of health and medical rhetorics, which I will explore on momentarily.

The work of Plato includes a number of discussions of or minor references to terms and concepts related to health, medicine, and more broadly, bodies, including one in *Timeaus* that provides some insight into the long history of fascination with and concern over human reproductive processes. Plato’s *Timaeus* dialogue helps to establish the fact that speculation over and concern for human sex differences has a very long history, and the Hyperandrogenism Regulations are the most recent example of this history of medicalization. Cooper and Hutchinson, editors of *Plato: The Complete Works*, provide some background on the character of Timaeus, an apparent dramatic invention of Plato’s who articulates “the foundation of the sciences of astronomy, physics, chemistry, and physiology” (1997, p. 1224). Cooper and Hutchinson warn readers that we should exercise caution in inferring too literally from this dialogue Plato’s commitment to Timaeus’ beliefs on these various topics. However, they also explain that the *Timaeus* dialogue was a central text of Platonism and the Middle Ages and the focus of many debates (Cooper & Hutchinson, 1997, p. 1224-1225), gaining further attention long after Plato lived and died. Regardless of how widespread the beliefs about female and male

bodies articulated in *Timaeus* actually were, it is still valuable to note how ancient the contemporary concern for sex difference truly is.

After discussing the male anatomy and explaining how the male “seed” has a soul, Timaeus explains that the reason “male genitals are unruly and self-willed, like an animal that will not be subject to reason and, driven crazy by its desires, seeks to overpower everything else” (*Timaeus*, 91b.) is because of the seed’s “love of procreation” (*Timaeus*, 91b.) and subsequent need to enact this love. This is not, however, behavior isolated to men. In fact, “The very same causes operate in women,” Timaeus continues (*Timaeus*, 91c.). He explains:

A woman’s womb or uterus, as it is called, is a living thing within her with a desire for childbearing. Now when this remains unfruitful for an unseasonably long period of time, it is extremely frustrated and travels everywhere up and down her body. It blocks up her respiratory passages, and by not allowing her to breathe it throws her into extreme emergencies, and visits all sorts of other illnesses upon her until finally the woman’s desire and the man’s love bring them together and, like plucking the fruit from a tree, they sow the seed into the ploughed field of her womb, living things too small to be visible and still without form. And when they have again given them distinct form, they nourish these things so that they can mature inside the womb. Afterwards, they bring them to birth, introducing them into the light of day. That is how women and females in general came to be. (*Timaeus* 91c-d.)

The human body fascinated the ancient Greeks. While in the above section Timaeus focuses primarily on how and why the human body experienced reproduction, other ancient Greeks turned their attention to more than simply the functionality of the human body, but to its beauty, power, and potential. Rhetoric and medicine are not the only fields that cite ancient Greece at



their origins. As Debra Hawhee (2004) emphasizes, the history of rhetoric is very much intertwined with the history of athletics. And while this project's explicit focus is on health communication strategies and medical rhetorics, in this case health and medicine are inseparable from the athletic context in which Chand's case developed and from which emerged the history of sex verification testing and the Hyperandrogenism Regulations.

In *Bodily Arts: Rhetoric and Athletics in Ancient Greece* (2004), Hawhee notes that rhetorical studies published during the late 1990s returned to a fascination with bodies, recalling the attention paid to bodies by classical rhetoricians like Plato above. In providing readers with a review of the ways that researchers in rhetoric have focused on bodies, Hawhee recalls Patterson's and Corning's "Researching the Body: An Annotated Bibliography for Rhetoric" (1997), Selzer's and Crowley's *Rhetorical Bodies* (1999), and Porter's *Constructions of the Classical Body* (1999), among others, as rhetorical studies that asked the question, "how are bodies rhetorical?" Hawhee's study, however, asks a different question: "what can body studies do for a consideration of rhetoric?" (2004, p. 10). Following "rhetoric's movement from cultural values to training practices and back again" (Hawhee 2004, p. 11) Hawhee argues that there are four concepts which have bound rhetoric and athletics together throughout history: "styles of intelligence (*metis*), imminent, embodied time (*kairos*), the production of one's nature (*phusiopoiesis*), and the space of the gymnasium, which enabled the arts' convergence in the first place" (2004, p. 11). Hawhee argues that understanding rhetoric's historical connections to athletics and to bodies can help contemporary researchers understand the ways that rhetoric and athletics "mutually shaped and struggled with each other – conceptually, practically, and culturally" (Hawhee, 2004, p. 14). This shared history makes rhetoric—and by extension, technical communication, and especially the field of health and medical rhetorics, which each

draw on this rich rhetorical history and perspective in important ways—an ideal positional space from which to approach an analysis of the regulatory language used in discourse focused on bodies, such as that in the Hyperandrogenism Regulations and the CAS Award. Contemporary scholars focusing on health and medical rhetorics have continued this tradition of exploring the relationships between bodies, language, and ideology, often by analyzing health and medical focused policy.

While policy may indeed be a form of instrumental discourse as Moore argues, it is because policy is instrumental that makes its material implications worth analyzing in detail. The contemporary work of scholars in the field of health and medical rhetorics focusing on highly regulated aspects of health and medicine is especially useful for this study. This scholarship covers a wide array of topics. Scholars in this area have studied topics as disparate as how policy has shaped the diagnosis of black lung disease in miners (Smith, 1981) and the ways metaphors in biomedical language have shaped topics of discussion in health policy debates (Segal, 1997), for example. In “The Genre of the Clinical Study Report in Drug Development” in Barbara Hefferon and Stuart C. Brown’s edited collection, *Rhetoric of healthcare: Essays toward a new disciplinary inquiry* (2008), Philip Bernick, Stephen A. Bernhardt, and Gregory Cuppan trace the rhetorical process of moving through an incredibly strict regulatory space: that of clinical drug testing and gaining FDA approval through the development of the Clinical Study Report (CSR). Cuppon and Bernhardt continue similar work in “Missed Opportunities in the Review and Revision of Clinical Study Reports,” furthering the field’s understanding of the rhetorical processes involved in crafting complex regulatory documents (2012). In “Talking Off-Label: The Role of Stasis in Transforming the Discursive Formation of Pain Science” (2011), Scott S. Graham and Carl G. Herndl use ethnographic data to describe the “disciplinary inculcation and

practitioners' experience in the highly regulated practice of pain management" (p. 149). Using a combination of Foucauldian analysis and classical *stasis* theory, Graham and Herndl argue that the "drug label is the epitome of Foucault's discursive regulation. It regulates not only the prescription of drugs, but as our participant's comments imply, even what can be said in formal presentations about prescription drugs and medical treatment" (p. 146). Similarly, as I will discuss in Chapters 4 and 5, Foucault's discursive regulation plays a substantive role in not only the Hyperandrogenism Regulations themselves, but also in the language of the CAS Award that resulted in their two-year suspension. All of these articles on the discursive practices of health and medical rhetorics have paved the way for this study, and they provide examples of how and why scholars from technical communication are particularly suited for studying health and medical related regulatory practices.

Studies exploring the implications of how health- and medical-focused policies normalize certain expectations and beliefs about sex and / or gender are especially important for this research. For example, Fullagar analyzes Australian public health policy focused on encouraging Australians to exercise more and explores the ways that "women have been constituted as an inactive population through the contemporary rationalities of active living policies" (2003, p. 50). With a similar focus on the way certain policies regulate women's bodies in specific ways, Carabine focuses on how unmarried women were constituted by welfare policies in the 1830s and 1990s to show "that welfare policies can be understood as performing a regulatory role in relation to sexuality" (2001, p. 291). Also focusing on social policies, in "The influence of gender equality policies on gender inequalities in health in Europe" (2014) Palència, Malmusi, De Moortel, Artazcoz, Backhans, Vanroelen, and Borrell explore whether the relationship between "the orientation of public gender equality policies and gender inequalities in health in

European countries” (p. 25). Of particular interests to this project is Jones’ “Gender Boxing: The IOC’s Policy on Female Hyperandrogenism and Attempt to Draw Bright Lines between Sexes While the World outside Athletics Embraces Gender Fluidity” (2015), which focuses on a similar but different research site as this one, namely, the International Olympic Committee’s policy on Hyperandrogenism and the legal implications of it and other gender-focused athletic policies in high school- and college-level sports. All four of these pieces provide important scaffolding to support this study’s aims of analyzing the ways that policy and issues of sex and / or gender intersect. That is, these studies support research into the ways that the Hyperandrogenism Regulations can be understood as policy performing a regulatory role not only in terms of which female athletes are eligible to participate, but indeed, in terms of which female athletes should be considered truly female and which should not, thereby policing and upholding standards related to not just eligibility but also to sexual dimorphism.

What seems to be lacking in both the field of technical communication and more specifically in technical communication scholarship focused on health and medical rhetorics, as it exists thus far, is critical attention towards the way(s) that technical communication works to normalize cultural beliefs about sex and gender. Frost noted this in her recent “Apparent Feminism as a Methodology for Technical Communication and Rhetoric” (2016). After reviewing the special issues in the 1990s that attended to gender- and sex-focused inquiry in technical communication, a few of which I review below, Frost concludes, “These special journal issues provide the most systematic, discipline- sponsored engagements with feminism by technical communicators, and their relative absence in the past decade and a half—as though feminisms in technical communication were a completed project—is worrisome” (2016, p. 6). Indeed, the studies on sex- and gender-focused policy I reviewed above are not from the field of

technical communication. Instead they are from journals such as *Critical Public Health*, *Social & Legal Studies*, *Social Science & Medicine*, and the *Tennessee Journal of Race, Gender, & Social Justice*, respectively. As Frost notes, a number of articles published in the 1990s provided reviews of scholarship on sex and gender in technical communication or investigated issues related to sex and gender (Thompson, 1999; Durack, 1997; Allen, 1994; Gurak & Bayer, 1994; Allen, 1991). Isabelle Thompson's "Sex Difference in Technical Communication: A Perspective from Social Role Theory" (2004) explains the exigency for her project by writing briefly about the way technical communication approached sex and gender up to that point. She explains,

Since Mary Lay's award-winning article 'Interpersonal Conflict in Collaborative Writing: What We Can Learn From Gender Studies' was published in 1989 [1], more than 50 articles about women and feminism in technical communication had appeared in our journals by 2002. Of these, more than 20 considered sex differences (see [2, 3]). The writers of these articles were concerned about how sex differences might affect women's opportunities in the workplace. Yet, after 14 years of research, very few studies in technical communication have found the sex differences predicted by the researchers. (Thompson, 2004, p. 217)

Thompson's research focuses on the way technical communication has explored the relationships among sex and gender roles, with specific focus on how such sex differences and associated gender roles manifest themselves in workplace situations. She concludes, "To conduct useful research about sex differences, we need to account for the possibility of social change while focusing on the limits imposed by our androcentric society on human performance" (Thompson, 2004, p. 228). Rarely do contemporary technical communication scholars or scholars in health and medical rhetorics explore the ways that such practices work to reify key assumptions about

the very concepts of sex and gender differences themselves; that is, the assumption that sex and gender differences are strictly binaries. This study seeks to fill that gap.

## **Conclusion**

In this chapter I reviewed relevant literature related to key areas of importance to this study. First I explicated this project's theoretical lens by drawing on literature from feminist science studies, disability studies, and queer theory, and I focused especially on studies that explored what it means to be intersex in a world dominated by sexual dimorphism. I also reviewed some of Michel Foucault's arguments about discourse and its relationship to the regulation of sex through an explication of Judith Butler's feminist interpretation of Foucault. I emphasized how theories from feminist science studies, disability studies, queer theory, theories on intersex, and Foucault and Butler help to complicate the assumptions at work in the Hyperandrogenism Regulations and, as I discuss further in Chapter 4, in the CAS Award. Next I explored theories on discourse from technical communication scholars and focused on the ways that the social turn in the field of technical communication makes technical communication an ideal space in which to analyze the texts that are the focus of this project by focusing on a rhetorical, humanistic approach to technical communication. Finally, I established our field's historical connections to health and medicine and I reviewed recent scholarship in health and medical rhetorics, identifying a gap in the scholarship that the results of this study will fill. Next, in Chapter 3, I draw on the theoretical lens explicated here and on the importance of a humanistic approach to technical communication for this study to explicate the feminist critical discourse analysis ("feminist CDA") approach I used for both theming the data and for analyzing my findings.

## **CHAPTER 3: METHODOLOGY**

### **Introduction**

This chapter presents four distinct but interrelated aspects of this study's methodological approach to analyzing texts related to the suspension of the IAAF 2011 Hyperandrogenism Regulations within their contexts, including: (1) Critical discourse analysis (CDA) as a rich, interdisciplinary methodological approach to text analysis well suited to a study of this nature and well established in the fields of rhetoric and technical communication; (2) feminist critical discourse analysis (feminist CDA) as a version and extension of CDA, which explicitly adopts the feminist theoretical lenses through which I analyze texts, making it a more appropriate methodology than the original version of CDA; (3) the use of a computer-assisted qualitative data analysis software, *NVivo*, to aid in but not constitute my analysis; and finally, (4) a number of methods I have used for identifying themes in the data as strategies for analyzing the texts and drawing conclusions about their significance in contemporary discourses on gender and sex in international athletics and in and medical rhetorics.

### **Critical Discourse Analysis (CDA)**

Critical Discourse Analysis (CDA) is still a fairly recent methodological approach to text analysis in the field of Rhetoric & Composition, but it has been used in other fields for the past two decades (Huckin, Andrus & Clary-Lemon, 2012, p. 107) and is gaining in popularity in our field. While I will return to the details of what CDA involves shortly, briefly, CDA is an interdisciplinary methodology that understands society and culture to be discursive and

ideological, and holds that one can analyze ideology through discourse. Importantly, CDA assumes that power works through discourse in ways that have material and theoretical impact.

In 2012, Huckin, et al., reviewed the ways that researchers in the field of rhetoric and composition have been incorporating this interdisciplinary methodological approach into our research and scholarship, and they found a number of overlaps between CDA and rhetoric and composition studies. Arguing that the principles of CDA are essentially rhetorical in nature, Huckin, et al., explain,

Rhetoric and composition has always been concerned with the power of spoken and written discourse, in particular the ways in which language can be used to persuade audiences about important public issues.... CDA aligns itself with this tradition in attending to purpose, situation, genre, diction, style, and other rhetorical variables, but also supplements it in a number of ways. (Huckin, et al, 2012, p. 109)

They continue, citing rhetoric and composition's interdisciplinary tradition of borrowing methodological strategies from fields as diverse as cultural studies, sociolinguistics, communication, and even computer technology: "CDA adds to this interdisciplinarity, providing a repertoire of precise, context-sensitive tools that can assist researchers, instructors, and students in interrogating power and ideology as they are indexed and produced in specific instances of public discourse" (Huckin, et al, 2012, p. 110). Because issues of power, ideology, and the ways that language can be used to persuade audiences to understand bodies in specific ways are at the center of this study's research questions, CDA is an appropriate methodological starting point for this study.

The two names most associated with CDA are those of Norman Fairclough and Ruth Wodak, who, along with a number of their co-authors, many contemporary researchers cite as



the originators of this methodological approach to text analysis. In the second edition of his collection of essays, *Critical Discourse Analysis: The Critical Study of Language* (2010), Fairclough explains the original objective of his work on and with CDA as “to develop ways of analysing language which address its involvement in the workings of contemporary capitalist societies” (p. 1). From its inception, then, CDA has been overtly political in nature. Fairclough continues, “I am working within a tradition of critical social research which is focused on better understanding of how and why contemporary capitalism prevents or limits, as well as in certain respects facilitating, human well-being and flourishing. Such understanding may, in favourable circumstances, contribute to overcoming or at least mitigating these obstacles and limits” (2010, p. 2). Put another way, Fairclough’s stated goals in developing CDA were to better understand how and in what ways power works through discourse and, more specifically, how power works through discourse in ways that result in material and theoretical implications for the lives of people in contemporary societies.

Writing about the history of CDA in *Methods for Critical Discourse* (2001), Wodak and Myer describe the origins of CDA as rooted in a number of interdisciplinary fields interested in the relationships among and between power, language, and the material world. These include Rhetoric, Text Linguistics, Anthropology, Philosophy, Socio-Psychology, Cognitive Science, Literary Studies and Sociolinguistics, Applied Linguistics and Pragmatics (Wodak & Meyer, 2001, p. 12). In the early 1990s Wodak, along with Fairclough, Teun van Dijk, Gunther Kress, and Theo van Leeuwen, spent two days together discussing each of their different and distinct approaches to CDA, identifying similarities and differences and articulating a definition of both discourse and of CDA for other researchers interested in pursuing similar work (Wodak & Meyer, 2001, p. 14). Wodak & Meyer define CDA thusly:

In general, CDA as a school or paradigm is characterized by a number of principles: for example, all approaches are problem-oriented, and thus necessarily interdisciplinary and eclectic... Moreover, CDA is characterized by the common interests in demystifying ideologies and power through the systematic and retroductable<sup>7</sup> investigation of semiotic data (written, spoken or visual). CDA researchers also attempt to make their own positions and interests explicit while retaining their respective scientific methodologies and while remaining self-reflexive of their own research process. (2001, p. 14)

The two-day meeting in the early 1990s resulted in several books and the launch of Van Dijk's journal *Discourse and Society*. This cemented CDA as not only a methodology but also as a field of research, what Wodak & Meyer refer to as "a research programme" (2001, p. 15). Wodak & Meyer emphasize that CDA is a methodology that can be used by researchers from any number of fields in any number of ways. They stress, "CDA has never been and has never attempted to be or to provide one single or specific theory... Quite the contrary, studies in CDA are multifarious, derived from quite different theoretical backgrounds, oriented towards different data and methodologies" (2001, p. 16). Because CDA is so flexible and can be applied in so many different ways and in so many different fields, for this study it is important to understand how researchers in the fields of rhetoric and composition, professional and technical communication, and health and medical rhetorics have used CDA to analyze power and language in a variety of texts and within a variety of contexts, and, more specifically, why CDA is particularly useful for researchers from these fields.

To return to uses of CDA in rhetoric and composition research, Huckin, et al., citing and expanding on Fairclough and Wodak, explain that CDA is based on a number of specific

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<sup>7</sup> According to Wodak, the term "'retroductable' (or *nachvoll- ziehbar*) means that such analyses should be transparent so that any reader can trace and understand the detailed in-depth textual analysis" (Kendall, 2007, n.p.)

principles of use to scholars in rhetoric and composition. While Fairclough lists three principles, Huckin, et al., go further. For Huckin, et al., the following eight principles and assumptions can be understood to be associated with CDA: (1) CDA addresses social problems; (2) power relations are understood to be discursive; (3) society and culture are understood to be constituted by discourse; (4) discourse is understood to do ideological work; (5) discourse is historical; (6) the link between text and society is mediated; (7) discourse analysis is interpretative and explanatory; and (8) discourse is a form of social action (Huckin, et al., 2012, p. 108). Huckin, et al., continue, articulating in eight concrete points the ways that CDA attends to aspects of critical inquiry of value specifically to scholars who do work in rhetoric and composition and, by extension, work in technical communication and health and medical rhetorics: (1) analysis is systematically grounded in both quantitative and qualitative attention to linguistic details; (2) CDA “routinely engages texts that reflect inequality or other abuses of power”; (3) because of this focus on inequality or abuse of power, CDA is always critical and explanatory; (4) CDA draws on a wide repertoire of textlinguistic tools as well as (5) a wide variety of scholarly disciplines, concepts, and research methods; (6) CDA “typically makes use of multiple texts and even large corpora of texts”; (7) CDA “takes into account textual silences, implicatures, ambiguities, and other covert but powerful aspects of discourse; and finally, (8) “in the interest of reaching a broad lay audience, CDA tries to minimize the use of academic jargon” (Huckin, et al, 2012, p. 108-109). Even before Huckin, et al., called for more scholars to utilize this rich interdisciplinary method for textual analysis in 2012, a number of other researchers in rhetoric and composition had begun employing CDA as a methodology to help them shed light on the ways that language is imbued with power, and the material and theoretical implications such power-laden discourse can have. Of particular interest to this project are the applications of CDA

to analyzing discourse produced by institutions, of which the IAAF is one such organization, and discourse related to health and medical rhetorics, of which both of this study's sites of text analysis consist.

Researchers have found CDA to be a useful methodology in analyzing corporate public discourse produced by institutions in a variety of contexts. For example, in "Global Warming Wars: Rhetorical and Discourse Analytic Approaches to ExxonMobil's Corporate Public Discourse" (2002), Livesey compares discourse analysis strategies and rhetorical analysis strategies to explicate the differences and similarities between the two. Focusing on environmental rhetoric and Exxon Mobil's business communication strategies, Livesey finds that discourse analysis from a Foucauldian perspective illuminated distinctively different points of analysis than rhetorical analysis from a Burkian perspective. In fact, Livesey emphasizes that he gained further clarity into "the circular link between knowledge and power" (2002, p. 141) from the Foucauldian discourse analysis than the Burkian analysis. More recently, Dunn & Eble (2015) use CDA in their research on crisis communication produced in the wake of the January 2003 dust explosion and fire at the West Pharmaceutical Services plant in Kinston, North Carolina. Arguing for the addition of CDA to standard crisis communication theory to create a new methodological approach more focused on community inclusion, Dunn & Eble explain of CDA, "Critical discourse theories... consider the notion of power, and recognize that language, as Norman Fairclough (2001a) suggests, is integral to maintaining a dominant position in a community" (2015, p. 717). Other researchers have used CDA to analyze business communication related to public statements made on corporate social responsibility (Rajandran & Taib, 2014) and contested executive pay schemes (Joutsenvirta, 2013), as well as producer perspectives on advertising (Lick, 2015). This is all to say that CDA can be applied to a wide

variety of texts, and many researchers have used this methodological approach to analyze texts and discourse produced not by individuals but by institutions and corporate organizations, which would include the IAAF and the CAS, for example.

Researchers studying health and medical rhetorics have also found CDA to be a useful methodology for exploring the relationship between power and language as they relate to communication about bodies in general, and health and medicine more specifically, and have used CDA to explore a wide variety of texts and sites. Newspaper reports and other printed media are often a site of research for scholarship of this kind (Makamani, 2014; Silva & Rasera, 2014; Ahmadian & Farahani, 2014, Annandale & Hammarström, 2011; Joye, 2010) as are different forms of digital discourse, such as blogs (Simunaniemi, Sandberg, Andersson & Nydahl, 2013), websites (Gabel, Reid, Pearson, Ruiz & Hume-Dawson, 2016; Zhang, 2014), and video (Otañez & Glantz, 2009), for example. Beyond the kind of media-centric public discourse that initially comes to mind when one thinks of CDA, research on the relationships among language, health, medicine, and bodies using CDA has also focused on other forms of discourse that operate in subtler ways, such as accreditation standards (Whitehead, Kuper, Freeman, Grundland & Webster, 2014), course curricula (Graham & Dornan, 2013), and even exercise DVDs (Cardinal, Rogers, Kuo, Locklear, Comfort & Cardinal, 2015). Each of these projects demonstrates the myriad ways that language focusing on health, medicine, and bodies in a variety of discursive contexts is subtly imbued with power, and the ways that such language does work with material and theoretical implications.

One key aspect of CDA is its political nature (Fairclough, 2010), and many researchers who choose to use CDA do so because they want a methodology that identifies and draws out the ways that texts are not neutral or objective. Researchers in the field of disability studies, for

example, have found CDA to be useful in pursuing both text analysis and simultaneously an overtly political research agenda focused on disability as a social construct and the implications of such social construction. For example, Cowley (2012) uses CDA to analyze narratives focusing on the authors' personal experiences of disability, and argues that particular genres of writing can be interpreted as overtly political based on the author's goals and the language used in such narratives. Price's 2009 article, "Access Imagined," is a particularly good example of a researcher deliberately emphasizing the overtly political aspect of CDA. Price uses CDA to analyze policy documents related to accessibility at academic conferences. In so doing, Price argues that CDA as what she calls a "theory/method" is particularly well suited for use by disability studies (DS) scholars because of three "investments" that DS and CDA share: (1) an "investment in recognizing social relations in terms of power and difference" and, because of this, a deliberate intertwining of theory with activism; (2) "attention to relationships between the micro level of language and the macro level of power relations"; and finally (3) "an investment in multi-modality" (2009, n.p.). Price also uses CDA as her methodology in *Mad At School*, arguing for greater accessibility in higher education contexts (2011). While this study is not DS focused research, these three points are important to this project as well. Research focusing on health and medical rhetorics often also holds these shared investments, focusing on power and difference in social relations and language, on activism, and on the relationship between language and power at both the micro and macro levels, all with attention to multi-modality; this study certainly does. While Price has found ways to combine CDA with her explicit social action agenda beyond simply exploring the relationship between power and language, other researchers and theorists have taken this political aspect of CDA one step further and, in focusing on the ways that language and power constitute ideas about gender, specifically, have incorporated this

political bent into the methodology itself. The result is a new methodology that includes everything researchers have come to expect from CDA, but with an explicitly political focus on identifying and analyzing issues related to a feminist research agenda.

### **Feminist Critical Discourse Analysis (Feminist CDA)**

Researchers such as Price do an excellent job of combining activist goals with CDA methods as they have traditionally existed and applying these combined strategies to their sites of analysis. But other researchers have more explicitly combined feminist theoretical traditions with CDA methodology by positioning feminist theory not as an addition to the methodology but as an intrinsic part of the methodology itself, resulting in what has been referred to as “feminist critical discourse analysis” (“feminist CDA”<sup>8</sup>). Feminist CDA is particularly useful for this study because the principles of feminist CDA seamlessly combine the goals of this project with both the theoretical lens and the CDA methods I use to analyze the texts that are my focus. In sum, feminist CDA does in one move what I would have had to do in two.

In her introduction to a recent collection of essays, *Feminist Critical Discourse Analysis* (2005) editor Michelle M. Lazar describes a number of principles as key to feminist CDA theory and practice. In what follows, I will discuss each of these principles and connect them more explicitly to the goals and research questions of this project, as well as the theoretical lens I explicated in detail in Chapter 2. Lazar explains that feminist CDA includes: (1) feminist analytical resistance or activism; (2) the assumption that “gender” is an ideological structure; (3) a recognition of the complexity of gender and power relations; (4) attention to the role of

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<sup>8</sup> I choose to use the term “feminist CDA” rather than either “Feminist CDA” or “FCDA” to be consistent with Lazar’s usage of the term “feminist CDA” in her edited collection, the first of its kind focused on this methodology. Additionally, I use “feminist CDA” to assist in building a body of work that consistently uses the same or similar language and terminology related to this methodological approach.

discourse in the (de)construction of gender; and (5) critical reflexivity as praxis (Lazar, 2010; Lazar, 2007). Put simply, the aim of feminist CDA is “to show... the complex, subtle, and sometimes not so subtle, ways in which frequently taken-for-granted gendered assumptions and hegemonic power relations are discursively produced, sustained, negotiated, and challenged in different contexts and communities (Lazar, 2007, p. 142). This explanation recalls CDA’s focus on exploring and analyzing the ways that power relations are “discursively produced, sustained, negotiated, and challenged” in a variety of texts and contexts, but feminist CDA includes an explicit focus on gendered—and by extension, sexed—assumptions within such discourse. I began this chapter by explicating CDA, its history, and a variety of its applications because feminist CDA is not simply a version of CDA—it *is* CDA, but with an explicitly feminist research agenda. Thus an explication of feminist CDA requires first an explication of CDA. In what follows I want to emphasize why I have chosen to use feminist CDA for this research rather than simply using CDA and drawing on a feminist theoretical foundation regarding assumptions about sex and gender. A brief discussion of each of Lazar’s principles of feminist CDA demonstrates both the value of and the importance of an explicitly feminist CDA for this particular study.

Lazar explains the first principle of feminist CDA, “feminist analytical resistance” (2007) or “feminist analytical activism” (2010), as extending CDA’s open commitment to achieving a just social order through an analysis of discourse (2010, p. 145). In feminist CDA, the focus is not just on critiquing discourse to achieve a just social order, as it is with CDA, but more specifically on critiquing discourses that sustain a patriarchal social order. In this way, feminist CDA is as much about theoretical assumptions that guide the analysis and the methods used to analyze discourse as it is about the basic selection of research sites. Lazar explains, “In CDA, where there is an understanding of social practices as reflected in as well as constituted by



discourse (Fairclough, 1992), a feminist perspective reminds that many social practices, far from being neutral, are in fact gendered in this way” (2010, p. 145). In Chapter 1 I established that the history of sex verification testing policies, a history that includes the Hyperandrogenism Regulations as the most recent version of such policies, is indeed a history of gendered discourse. Sex verification testing policies as discourse themselves in addition to the discourses that have supported them have historically targeted women and not men, have maintained the false binary of a strict division between men and women, and have routinely erased and / or medicalized female bodies that do not fit into such a strict binary. Lazar calls the work of analyzing how discourse sustains oppressive social structures and relations “analytical activism” (2010, p. 145), or the act of “mobilizing theory in order to create critical awareness and develop feminist strategies for resistance and change” (2010, p. 145). Similar to CDA’s focus on avoiding exclusively academic language, so that the implications of CDA research might be put into practice beyond academia, the academic activism of feminist CDA calls for and assumes that researchers not only theorize and analyze gendered discourses but also raise critical awareness of and work to change such practices through research and teaching (Lazar, 2010, p. 145). In this vein, the last chapter of this project is focused on the implications of my analysis for research, practice, and teaching in the field of technical communication. Notably, I focus on the ways that Dutee Chand’s story as the focus of a technical communication case study can help to teach students about the ethical implications of health communication and medical rhetorics in regulatory form, thereby working to change the ways such policies are written going forward.

The second and third principles of feminist CDA, “gender as ideological structure” and the “complexity of gender and power relations” go hand in hand with their focus on the material implications of ideology. Although, Lazar explains, the definition of ideology originated in

Marxist theorizations of class relations, that definition has widened to include other concepts, including gender (2010, p. 146). Lazar succinctly captures years of feminist theorizing when she describes the prevailing conception of gender from a feminist perspective as

...an ideological structure that divides people into two classes, men and women, based on a hierarchical relation of domination and subordination, respectively. Based upon sexual difference, the gender structure imposes a social dichotomy of labour and human traits on women and men, the substance of which varies according to time and place. Feminists have criticized the easy mapping of physiological sex onto social gender as well as the naturalness of 'sex' itself, showing that this too is socially constructed (Butler, 1993).  
(2005a, p. 7)

These assumptions about the social construction of sex and gender, as well as the ways that ideology supports such assumptions, as I detailed in Chapter 2, are an integral part of this study's research questions and the approach I have taken to analyzing the selected texts. Lazar adds that gender ideology often does not appear as domination at all. Instead, it is hegemonic: appearing to most people in a given community as consensual and widely accepted (Lazar, 2010, p. 147). This is a key concept to keep in mind when considering the fact that the Hyperandrogenism Regulations were, before their suspension, largely accepted by the international athletic community as the best policy for accomplishing the goal of maintaining fairness in competition among female athletes. Indeed, these regulations were approved by an international committee before their official adoption in 2011. This, then, leads to the third principle of feminist CDA: the "complexity of gender and power relations." Lazar argues that feminist CDA must include two important insights regarding the complexity of gender and power relations. These are (1) the recognition of difference among women (and men) and (2) the recognition of "the pervasiveness

of subtle, discursive workings of modern power in many societies today” (Lazar, 2010, p. 148). A major advance in contemporary feminist theory, Lazar notes, has been the acknowledgement that the category of “woman” is not universal, and that the intersection of gender with other systems of power such as race / ethnicity, social class, sexual orientation, age, dis/ability, culture, and geography “means that gender oppression is neither materially experienced nor discursively enacted in the same way for women everywhere” (2010, p. 149). Research using feminist CDA approaches must then be comparative rather than universalizing. Similarly, the feminist CDA researcher must be attentive to the ways that discourse can both unite groups of women but also divide them, and how the interests and oppression of women differ in different contexts.

The fourth principle of feminist CDA focuses on the role of discourse in both the construction and deconstruction of gender. Taking the same position on discourse as CDA, feminist CDA draws on poststructuralist conceptions of discourse as “socially constitutive signifying practices”: “The relationship between discourse and the social is a dialectical one, in which discourse constitutes (and is constituted by) social situations, institutions, and structures (Fairclough, 1992)” (Lazar, 2010, p. 149). Feminist CDA is interested in how gendered relations of power and gender ideology are contested, negotiated and (re)produced in the social, with a focus on what Lazar describes as “gender relationality” either implicitly or explicitly (Lazar, 2010, p. 150). For Lazar, feminist CDA’s focus on gender relationality must entail analytical focus on two kinds of relationships: (1) “discursive co-constructions of ways of doing and being a woman and a man in particular communities of practice” and (2) “the dynamics between different forms of masculinity (Connell, 1995; Lazar 2005b) specifically in terms of how these participate within hierarchies of oppression that affect women. Similarly, there needs to be a critical awareness of relations among (groups of) women” (Lazar, 2010, p. 150). The methods

used in feminist CDA can and should be interdisciplinary—indeed, Lazar has called feminist CDA “postdisciplinary”—the scope is catholic, and the levels and foci of analysis wide-ranging ((2010, p. 151). The reason for this multiplicity of approaches to feminist CDA is the same as it is for CDA: studies focusing on power, ideology, and discourse, no matter the focus, are necessarily complex and multifaceted. The difference between feminist CDA and CDA in this sense is a comprehensive, explicit focus on gender in investigating relationships between and among power, ideology, and discourse. Again, it is because of this explicit focus on gender that feminist CDA is the methodology best suited for this particular research into the suspension of the 2011 IAAF Regulations on Hyperandrogenism.

The final tenet of feminist CDA is what Lazar describes as “critical reflexivity as praxis.” Lazar explains critical reflexivity as praxis as important to feminist CDA in two ways: institutionally and individually. Because feminist CDA is interested in not simply analyzing discourse but applying the results of such analysis in order to accomplish broad changes, feminist CDA is interested in what Lazar calls “the reflexivity of institutions” (Lazar, 2010, p. 152). She provides two explanations of what she means by this. The first demonstrates the ways that institutional reflexivity can engender progressive institutional practices. In this example, Lazar describes the ways that awareness of feminist concerns for inclusivity and opportunity for participation have resulted in some positive changes in some organizations; for instance, many university linguistic curricula now include attention to gender and language as a requirement. Secondly, however, institutional reflexivity can in some cases result in feminist values being used towards non-feminist ends. Lazar cites the example of advertising, but she also notes that this kind of “recuperative reflexivity” is often “used for persuasive effect by governments and other institutions, which may be obliged to acknowledge the existence of progressive

(feminist/anti-racist/anti-homophobic) discourses for pragmatic reasons or from a desire to project an enlightened self-image, yet may only superficially attend to them” (2010, p. 152-153). Feminist CDA is thus interested in the ways that analysis of institutionally produced discourse might be used to create change within those very same institutions. For my study, that means an interest in the ways that the results of this research might be used by the IAAF in either crafting new policies or in doing away with regulations on hyperandrogenism entirely. The second aspect of critical reflexivity as praxis focuses on individual feminists. Of particular importance to Lazar is that feminist researchers should be critically reflexive not just of their theorizing of discourse and social structures, but also of their own academic practices. Lazar called on feminist researchers to avoid promoting aspects of dominant liberal ideology that contribute to the perpetuation of hierarchical differential and exclusionary treatment of some women, such as defining “equality” as “same as men” or assuming the sameness of all women (2010, p. 154). Lazar also calls on feminist researchers to be increasingly reflexive on representing and including diversity in the field, in terms of both research foci and researchers’ positionality (2010, p. 155). Reflexivity as praxis has been a key component of how and why I selected this topic for my analysis, the ways I have approached the various elements of the project, and my understanding of the implications and significance of my research findings for both my academic field of health and medical rhetorics but also for the status of female athletes and for women across the globe.

In sum, while CDA would be an appropriate methodology for this research, feminist CDA is a more appropriate choice based on the following ways that tenets of this project map onto Lazar’s five tenets of feminist CDA. First, the discourses selected for this research analysis are part of a history of gendered discourses that sustain a patriarchal social order, and, as part of

an explicitly “academic activist” stance, the pedagogical implications of my research are a major part of this study. Second, the theoretical lens that shapes my analysis includes the assumptions that gender and sex are ideological structures but, third, the complexity of power relations, sex, and gender differ for different women in different ways in different contexts. Fourth, as a researcher, I understand discourse to play a role in both constructing and in deconstructing gender roles and patriarchal social structures, and I bring this viewpoint to both the selection of the research topic and the analytical approaches I have taken to studying the selected texts. Finally, throughout the research process I have practiced critical reflexivity in terms of the project’s research focus, theoretical foundation, research questions, methodology, implications, and my own positionality as a feminist researcher.

Researchers have found feminist CDA to be useful in analyzing a rich variety of texts and discourses from a distinctively feminist theoretical foundation. Lazar’s collection provides a number of examples: Contributing researchers use feminist CDA to explore and analyze power and gender in the language used in workplaces (Holmes, 2005; Rojo & Esteban, 2005; Wodak, 2005), classrooms (Remlinger, 2005), advertising campaigns (Lazar, 2005b; Talbot, 2005;), an adult literacy program (Magalhães, 2005), and different types of printed media (Barát, 2005; Gouveia, 2005). More recent research projects demonstrate the global applicability of feminist CDA and provide support for Lazar’s claim that feminist CDA research is undertaken “by a diversity of feminist women in a wide range of geographical locations” (2007, p. 143). For example, in “Are STEM Syllabi Gendered? A Feminist Critical Discourse Analysis” (2016), Parson used feminist CDA to “to understand how linguistic features such as stance and interdiscursivity are used in the syllabus and how language and discourses used in the syllabus replicate the masculine nature of STEM education” (p. 102). Other researchers use feminist CDA

methods to analyze a diverse range of corpuses from across the globe, including herbalist pamphlets in post-apartheid Johannesburg (Edwards & Milani, 2014), migration narratives of dual career Zimbabwean migrants (Makoni, 2013), Hindi film songs (Rizwan, 2011), and the representation of feminism in Estonian print media (Marling, 2010). In using feminist CDA as a methodological approach to textual analysis, this project does so with the assistance of a computer assisted qualitative data analysis software (CAQDAS) tool. Before turning to the methods I use to analyze the data—four different strategies for theming the data—it is important first to explicate my choice to use a CAQDAS rather than pen and paper, along with both the benefits and limitations of using such a tool, and the experiences other researchers have had in using a CAQDAS for qualitative data analysis.

### **Benefits and Limitations of a CAQDAS: *NVivo10 for Mac***

Computer-assisted qualitative analysis software, or CAQDAS, is not a new method but it is one that has been sorely underutilized in the fields of rhetoric, composition, and professional and technical communication. Although qualitative analysis studies have been adapting computer programs such as Microsoft Word and Microsoft Excel to make them more suitable for assisting with coding and organizing data for quite some time, a CAQDAS offers a more advanced functionality that is specifically designed for assisting with qualitative analysis, which is not the original function of, for example, Word or Excel. Hoover and Koerber describe a CAQDAS as a software program that is “designed to serve as aids for analyzing data, such as textual documents, transcripts, photographs, audio, and video through both a ‘code and retrieve’ system and advanced search functions. Code and retrieve allows the researcher to manually code snippets of the data according to their common themes. That coding can then be retrieved and

viewed separately from the original data” (2012, p. 69). In their recent tutorial, “Using NVivo to Answer the Challenges of Qualitative Research in Professional Communication: Benefits and Best Practices” (2012), Hoover and Koerber cite as the impetus for their article a lack of evolution regarding how researchers in professional communication have utilized computers to facilitate storing, managing, and analyzing qualitative data, although the field has moved to embrace the use of computers in almost every other aspect of teaching, writing, and research. They explain that CAQDAS programs such as *NVivo* offer researchers “three different, yet interrelated, ways” to “solve the kinds of problems that qualitative researchers in professional communication typically encounter: increasing efficiency of data analysis, facilitating multiplicity in research methodologies, and enabling transparency of the process as a whole” (2012, p. 69). Prior to Hoover & Koerber’s 2012 article, Friedman, Tanway, Yoho, and Richter used *NVivo7* to conduct thematic analysis of interviews as part of their study, “Disaster Preparedness Information Needs of Individuals Attending an Adult Literacy Center: An Exploratory Study” (2010). Similarly, Evans used *NVivo9* as part of his study, “Perspectives on the Use of English as a Business Lingua Franca in Hong Kong” (2013). Evans used *NVivo9* to complement his own “manual” analysis of his data, which, he argued, “facilitated the quantification and cross-referencing of the participants’ responses in each category / subcategory” (p. 234). When researchers from professional and technical communication utilize a CAQDAS such as *NVivo*, rarely, if ever, do they use the software’s automatic coding functions unless it is for word counting functionality, which is much more efficient in a CAQDAS than done manually. Rather, in general the CAQDAS serves as the digital space that facilitates other methods of analysis. In this study, I used *NVivo10 for Mac* as a digital space which meets the three interrelated needs Hoover and Koerber cite in their article: using *NVivo10 for Mac* for this



project (1) increased the efficiency of my qualitative data analysis; (2) facilitated multiplicity in research methods; and (3) enabled transparency of the process as a whole, which I detail later in this chapter (see “Methodology in Practice: Two Sites” on beginning p. 104).

A number of resources have been available to me as I have learned more about coding qualitative data and using a specific CAQDAS, *NVivo10 for Mac*, to facilitate my analysis, which I discuss in the following section. Krippendorff’s *Content Analysis: An Introduction to Its Methodology (Third Edition)* (2012) has expanded coverage of computer aided content analysis, with an entire chapter devote to “Computer Aids” and specific attention to *NVivo* as one option for qualitative data analysis. Saldaña’s *The Coding Manual for Qualitative Researchers (Second Edition)* (2012) serves as a useful introduction for beginners new to coding qualitative data, and, again, has specific sections devoted to CAQDAS. Finally, Hoover & Koerber specifically mention Bazeley’s *Qualitative Data Analysis with NVivo (Second Edition)* (2013) as their recommended text for support in using *NVivo* specifically within professional communication qualitative research. Bazeley, like many of the other researchers cited in this section, noted a number of advantages to using a CAQDAS to facilitate qualitative data analysis, the use of which she describes as intended “to increase the effectiveness and efficiency of such learning” (2013, p. 2). However, for the purpose of maintaining the transparency of both my methodological approach and this project as a whole, it is important that I note a few of the limitations of using *NVivo10 for Mac* as a part of this project’s research methods, both from my own perspective as a researcher and from the perspectives of others who have used CAQDAS and *NVivo* specifically.

From my perspective, there are three limitations to using a CAQDAS such as *NVivo10 for Mac* to facilitate qualitative data analysis: (1) consistency across operating systems; (2)

learning curve; and (3) cost. First, there are different versions of *NVivo* for different operating systems that, because of their slightly different capabilities, updates, design, and features, make research using the software less consistent than it could be. To be clear, the different versions are largely the same, but they are different enough to require different training manuals and tutorials depending on which operating system a user has or which version of the software a user has. For example, while I am using *NVivo10 for Mac*, other researchers noted here have used *NVivo7* (Friedman, Tanway, Yoho, and Richter, 2010) and *NVivo9* (Evans, 2013). Coding qualitative data using colored pens largely does not change as a process depending on what type of paper or what type of pens a researcher uses; that is, the system of tools available is consistent, and it is up to the researcher to decide how to use those tools. With a CAQDAS such as *NVivo*, packages available to the researcher are slightly different depending on the operating system (OS) the researcher will be using, and while they have largely the same capabilities they are not identical. *NVivo* offers *NVivo for Windows* and *NVivo for Mac*. For this project I exclusively used *NVivo for Mac* so I cannot comment on the differences between the two packages other than the fact that *NVivo for Windows* is the most recent version of *NVivo*, *NVivo11*, whereas *NVivo for Mac* is the previous version of *NVivo*, *NVivo10*. This can make it more challenging to have conversations about this study's research methodology and results with other researchers using shared language even when those researchers also use *NVivo*. Because there are a number of versions of *NVivo* which may be used, even if two researchers are using the same OS, the research language of *NVivo* may not be as consistently and widely shared as one might assume.

The second limitation of using a CAQDAS such as *NVivo* is the learning curve associated with the tool. While it is a relatively user-friendly software that offers a number of free tutorials and introductions, including in video format, it still requires some time to learn the design,

functionality, and especially the research language associated with *NVivo*'s functionality. For example, when initially seeking to identify themes in the data, it took me some time to adjust to the ways that *NVivo* uses the term "nodes" rather than "themes." This kind of minor shift in terminology is a good example of the ways that it is relatively easy to learn the particularities of *NVivo* but is still just different enough to require a certain amount of time and focus by the researcher beyond that required by the process of coding and analyzing the data. Indeed, it is in some ways because of this learning curve that Hoover and Koerber identify one pitfall of using the *NVivo* software for qualitative analysis is that it can be challenging for collaborative projects (2011, p. 77). Ideally these limitations have been corrected in the updated versions that have been released since Hoover and Koerber's tutorial, but for this study that kind of collaboration was not necessary.

Lastly, one of the most obvious limitations of using a CAQDAS, and specifically of using *NVivo*, is cost. Coding qualitative data using colored pens and paper is a relatively low-cost endeavor. In addition to owning or having access to a computer, *NVivo* usage requires the user to purchase a license, of which there are a number of options, and then download the software and install it on the computer or computers the researcher will be using for data analysis. For this project I purchased a 12-month Student License of *NVivo for Mac* at "Education Pricing" in 2015 for \$90.00, plus an online introductory course at a student price for \$50.00, for a total of \$140.00. At the conclusion of this study, current Education Pricing for a 12-month Student License of *NVivo for Mac* is listed as purchasable for \$103.00. In comparison to the Student License, a 12-month Full License for *NVivo for Mac* is currently sold at Education Pricing for \$570.00. At Standard Pricing, a 12-month license for *NVivo for Mac* is currently sold for \$1,140.00 ("Ready to buy NVivo?"). In addition, 24-month and 36-month pricing options are

also available, which lower the overall cost per 12-month license but do result in a higher up-front cost. Overall, this pricing is cost-prohibitive for most graduate students and many post-graduate academics to use *NVivo* for data analysis. I was lucky to have been awarded a Dissertation Completion Fellowship through the Office of Graduate Studies at the University of South Florida which provided both time and funding to complete my research, and which helped to offset the cost of purchasing a 12-month student license. However, this option is not necessarily a possibility for all researchers, and those considering using *NVivo* for data analysis should be aware of the financial cost of doing so. Overall though, for my own personal purposes of increasing my skills with new qualitative analysis software and for the purposes of completing this dissertation research effectively, using multiple methods, and doing so in a transparent manner, I felt that the positive takeaways that other researchers have noted that *NVivo* provided outweighed the limitations stated above.

### **Theming the Data: Four Methods**

In this project, the methods I have used for analyzing the data using a feminist CDA methodological standpoint include four different strategies or methods for theming the data, each of which I will discuss later in this section, and the results of which I discuss in detail in Chapters 4 and 5. Identifying themes in the data can be done in a number of ways, as explained by Ryan & Bernard in “Techniques to Identify Themes” (2003). CDA and especially feminist CDA both call for methodological transparency and a detailed explication of not only the analysis of the data but also the methods used to arrive at that analysis as an important part of that transparency. Thus what follows includes a brief explanation of both how and why I arrived at the data theming methods that I did. Ryan & Bernard provide a number of different strategies for

identifying themes in data, and advise readers to keep in mind the type of data, the expertise level of the researcher, and the labor required in deciding which of these strategies to pursue. Based on these guidelines and on the results of initial word-counting queries I ran in *NVivo10 for Mac* on the two central documents of my analysis (for more details on these queries and their results see “Methodology in Practice: Two Sites” beginning on p. 104 of this chapter), I decided on four methods for identifying themes, including searching the data for: (1) repetition; (2) linguistic connectors; (3) missing data; and (4) theory-related material.

While their focus is on strategies for identifying themes, I want to note that Ryan and Bernard also emphasize a key aspect of feminist CDA in their suggestions for identifying themes in data: the importance of accessible language. CDA and feminist CDA call for the minimizing of academic jargon for a greater likelihood of reaching a lay audience and thereby enacting broader change than might be possible through simply reaching an academic audience (Huckin, et al, 2012, p. 108-109). Ryan and Bernard note the importance of using accessible language to describe the process of identifying themes in data so that researchers across disciplines have a shared language through which they can communicate about both their research strategies and their findings (2003, p. 85-86). This is also an important aspect of maintaining the transparency of research processes and projects, especially from a feminist perspective on research. They explicate the reason for using the term “themes” rather than any other way of identifying the conceptual linking of expressions to which they are referring: “In everyday language, we talk about themes that appear in texts, paintings, and movies and refer to particular instances as expressions of anger and evil. In selecting one set of terms over others, we surely ignore subtle differences, but the basic ideas are just as useful under many glosses” (Ryan & Bernard, 2003, p. 87). Throughout this project, I refer to conceptual linking of expressions as “themes,” and at

times, when discussing my practices of identifying themes within the *NVivo* software space, I will refer to “nodes” as locations within the software used for clustering themes.

Ryan and Bernard explain that the process of identifying themes is twofold. First, themes come from both an investigator’s a priori approach to the study, or the theoretical understanding of the phenomena being studied that the investigator brings to the research (2003, p. 88). In this case, the theoretical understanding of the phenomena being studied that I bring to this case draws on the feminist theoretical lens I discussed in Chapter 2. That is, sex and gender are discursively constructed, power is enacted through discourse to maintain such constructions of sex and gender—and at times, to work against such constructions—and by analyzing the ways that sex and gender are discursively constructed researchers can actively work against the ways that power and language operate discursively to maintain a patriarchal systems and social structures. Second, Ryan and Bernard explain that themes also come from an inductive approach to the data (2003, p. 88). They note, “Looking for themes in written material typically involves pawing through texts and marking them up with different colored pens” (2003, p. 88) but, as previously noted, for this study I have chosen instead to use a computer-assisted qualitative data analysis software, *NVivo*, rather than different colored pens. Still, even without using physical pens to mark up documents as I read through physical texts, I have gone through a similar inductive approach and “pawing” process in looking for the themes in the written material that makes up my data, albeit digitally.

### **Methodology in Practice: Two Sites**

In what follows I explicate in more detail the methods I used to approach analysis of each text site, the Hyperandrogenism Regulations (including their appendices and notes) and the CAS

interim arbitral award delivered in response to Chand's hearing, CAS "2014/A/3759 Dutee Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF)" ("CAS Award"). While they are both forms of discourse, they are very different documents and have required slightly different approaches to analysis, which I discuss in more detail in Chapters 4 and 5. The process by which I have analyzed the two sites at the center of this research has been a discursive one in which I have read the texts, worked to identify themes, critically reflected on my own positionality, research practices, and the emerging findings, and begun the process again by re-reading the texts and focusing on a different strategy for identifying themes. Once done searching for themes, I used them to draw conclusions about each of the text sites and the implications of those conclusions, which I discuss in detail in Chapters 4 and 5, respectively. Interpreting qualitative data is a subjective process, but below I have attempted to be as transparent about this process as possible, as called for by feminist CDA. In Chapters 4 and 5 I expand on the findings that have emerged from my analysis, but in what follows I focus more on *how* I analyzed the data rather than *what* I have concluded from analyzing the data.

The first step in my methodological approach was to read each of the texts and their associated documents without any agenda in mind. For the Hyperandrogenism Regulations this meant reading the regulations themselves in addition to their associated appendices and notes. For the CAS Award, this meant reading the transcript in its entirety as a written document that recounts selections of a three-day hearing held at the Court of Arbitration for Sport. This document includes excerpts from the Hyperandrogenism Regulations, their appendices and explanatory notes, the World Anti-Doping Code, letters sent to Dutee Chand, and summaries of both Chand's submissions and the IAAF's submissions to the court. It is a complex document

through which readers get one version of the full CAS case, “2014/A/3759 Dutee Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF),” the version presented by the CAS Panel. Nevertheless, this is the only public record available of that hearing. I read each of these documents initially in a simple PDF viewer on my laptop, not in *NVivo*, and while I occasionally typed notes into the margins of the Hyperandrogenism Regulations, these notes were “reader response” notes, including comments on the content of the texts, or questions I asked myself while reading, rather than formal coding to identify themes. The initial reading of the documents helped me to form my research questions, consider the theoretical lens(es) I could draw on in approaching and analyzing the texts, and begin to decide the methodology and methods that would be suited to the process of answering my research questions.

Next I reviewed tutorial videos and introductory training manuals for learning to use *NVivo10 for Mac*. I uploaded the texts into *NVivo10 for Mac* and specifically into the “Internals” folder to keep my documents organized during the coding and analysis phase of the research. The areas of *NVivo10 for Mac* that I have used throughout this research project have primarily pertained to keeping the project organized rather than using the tool itself as a method of analysis, with the exception of word counting techniques and coding queries, which I explain in a moment and in more detail in Chapter 4. These organizational tools have included the Nodes folder, where I’ve kept the themes, codes, and concepts related to the theoretical framework I’ve used to guide my analysis, the Collections folder, where I’ve grouped IAAF documents as a set together to keep them separate from the CAS hearing document, and the Annotations folder, where my notes, comments, reminders, and annotations about specific content can be found. At this point I prepared to begin theming the data within *NVivo10 for Mac*.



Ryan and Bernard recommend word counting techniques easily facilitated by CAQDAS programs such as *NVivo for Mac* as fast and efficient strategies to use early on in the research process to begin looking for themes. In getting to know *NVivo for Mac* and considering which strategies for identifying themes might be the most generative, I began with one of Ryan and Bernard's word counting methods, using the *NVivo10 for Mac* capabilities of scanning documents and counting words to create a word list (2003, p. 97). Ryan & Bernard warn that these word counting strategies have limitations, especially because they take words out of context, but they also explain that if researchers keep these limitations in mind these kinds of methods can still be useful for data condensation (2003, p. 97) and for beginning to search for and identify themes. Limiting my search to the Hyperandrogenism Regulations excluding the appendices and notes, I created the following query: I asked *NVivo for Mac* to find the 100 most frequent words in the document, exact matches only, with a minimum length of three letters. *NVivo for Mac* provided the results of this query in two formats, a summary and a word cloud. The resulting word cloud can be seen in Figure 1 below.

The larger the size of the word in the cloud, the more frequently it appears in the text. For example, the word "athlete" appears 121 times, the word "medical" appears 99 times, and the word "IAAF" appears 69 times, which makes sense considering these are IAAF medical guidelines pertaining to athletes. The word "hyperandrogenism" appears 16 times, the word "women" appears 11 times, the word "female" appears nine times, and the word "male" appears seven times.

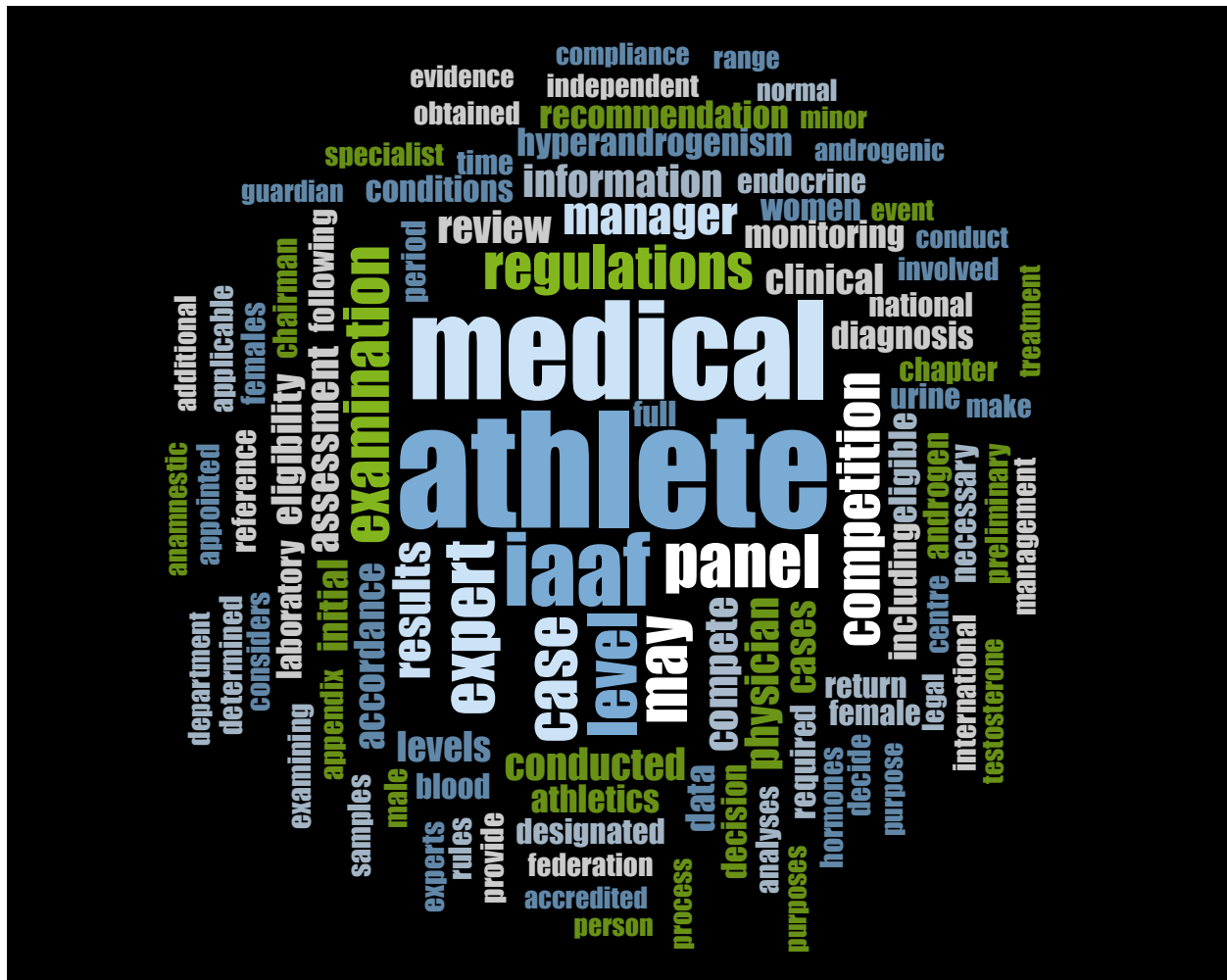


Figure 1: Word Cloud of 100 Most Frequent Words in HA Regulations

The full list of the most frequent 100 words made up of three or more letters in the Hyperandrogenism Regulations can be found in Appendix A. In attempting to repeat this process with the CAS Award I realized that the PDF file of the CAS Award document was an image-based PDF, while the rest of the sources I'd compiled were text-based PDFs. Image-based PDFs do not allow for the same line-by-line coding capabilities in *NVivo10 for Mac* as text-based PDFs. So before moving forward with analyzing the CAS Award I first used Adobe Acrobat Professional to convert the CAS Award from an image-based PDF to a text-based PDF. After this was completed, I uploaded the new text-based PDF document into my Internals folder in



as described by Ryan & Bernard, which were justified based on the results of the word-clouds and lists: (1) repetition; (2) linguistic connectors; (3) missing data; and (4) theory-related material.

The first method I used to identify themes in the data was repetition. Ryan & Bernard call the process of searching for repetition in data “one of the easiest ways to identify themes” (2003, p. 89). They continue, explaining, “Some of the most obvious themes in a corpus of data are those ‘topics that occur and reoccur’ (Bogdan and Taylor 1975:83) or are ‘recurring regularities’ (Guba 1978:53)” (Ryan & Bernard, 2003, p. 89). Running the word counting queries I did helped me to get a sense for the 100 most frequent words in each document but these words were taken out of context, which is why repetition was an important strategy to use in searching for themes. While word counting is helpful as an early research strategy and as an introduction to a condensed form of the data, I tried not to let my knowledge of the word lists resulting from my queries influence my attention to repetition as I read through each text. Again, because the words are taken out of context, a simple list is not the most effective method of analysis. *NVivo10 for Mac* allows for the researcher to actively engage with memo writing while reading and coding the data, so I frequently wrote notes in memo format as I read through each text, asking questions of the data, commenting on the content, and working through my thought process of deciding how many mentions of a certain idea, phrase, or focus point constituted enough repetition to be called a theme. The second method I used was searching for linguistic connectors. The initial word lists were immensely helpful in providing me with the support I needed to make the choice of searching for linguistic connectors as a way of identifying themes because I saw a number of such words appear in the word list results. These included words such as “following,” “therefore,” and “since,” for example. Again, in searching for these phrases in

the data it was important to review the context within which the words were situated in order to identify themes drawn from such words and phrases.

The third strategy I used was searching for instances of missing data, which is what Ryan & Bernard call a “scrutiny-based approach [which] works in reverse from typical theme-identification techniques” (2003, p. 92). Searching for instances of missing data can be challenging, and describing a strategy for doing so is equally challenging, but the resulting analysis, especially for a study like this one focusing on the implications of discourse on issues of sex and gender, can be significant. Ryan & Bernard provide a helpful example of both how to look for missing data and also why such a strategy for identifying themes can be problematic. They explain,

For instance, women who have strong religious convictions may fail to mention abortion during discussions of birth control. In power-laden interviews, silence may be tied to implicit or explicit domination (Gal 1991). In a study of birth planning in China, Greenhalgh (1994) reported that she could not ask direct questions about resistance to government policy but that respondents ‘made strategic use of silence to protest aspects of the policy they did not like’ (p. 9). Obviously, themes that are discovered in this manner need to be carefully scrutinized to ensure that investigators are not finding only what they are looking for. (2003, p. 92)

This project does not rely on interviews like the example Ryan & Bernard use above, but the CAS Award does provide excerpts from oral statements presented during the hearing. Even these, however, are potentially problematic texts in which to search for missing data since the CAS Award is admittedly a selected representation of the entire hearing. Nevertheless, there are areas of the CAS Award that provide opportunities to examine the ideology that supports the

discourse produced by the IAAF and the CAS. For example, in the CAS Award Section 35 stated, “At the outset, it is important to record that the Panel is not called upon to answer this case in a vacuum. There are a number of matters that are accepted by the parties as part of the background and framework of the Hyperandrogenism Regulations” (CAS 2014/A/3759 Dutee Chand v. AFI & IAAF, 2014, p.11) Among a number of other stated assumptions regarding the background and framework of the regulations is the following statement: “The division according to the sex of the athlete is therefore appropriate and is for the benefit of female athletes and their ability to engage in meaningful competition by competing on a level playing field” (CAS 2014/A/3759 Dutee Chand v. AFI & IAAF, 2014, p.11). This is one particular section that I coded as “Missing Data” because there is no explanation of what “meaningful competition” is, and the unstated assumption here seems to be that if female athletes were to compete against male athletes (a) they would never win and therefore (b) the competition would not be meaningful. I discuss these kinds of assumptions and their implications in more detail in Chapters 4 and 5.

Finally, throughout my search for themes in the data I looked to identify text that represented theory related material. Since I use a feminist CDA for analyzing these texts, searching for theory related material is a significant aspect of analyzing the data. Ryan and Bernard explain why searching for theory related material can be useful for investigators:

Spradley (1979:199–201) suggested searching interviews for evidence of social conflict, cultural contradictions, informal methods of social control, things that people do in managing impersonal social relationships, methods by which people acquire and maintain achieved and ascribed status, and information about how people solve problems. Bogdan and Biklen (1982:156–62) suggested examining the setting and context, the perspectives

of the informants, and informants' ways of thinking about people, objects, processes, activities, events, and relationships. Strauss and Corbin (1990:158–75) urged investigators to be more sensitive to conditions, actions/interactions, and consequences of a phenomenon and to order these conditions and consequences into theories. (2003, p. 93-94).

Both CDA and feminist CDA emphasize the importance of considering discourse in context, and Ryan and Bernard echo this emphasis above. When analyzing discourse we cannot separate the written and spoken text from the context(s) in which it was produced. I discuss this in more detail in Chapters 4 and 5. Ryan & Bernard caution, however, that too much prior theorizing on the part of the investigator “can inhibit the forming of fresh ideas and the making of surprising connections” (2003, p. 94). I have tried to remain open-minded while reading and coding the data, noting things that catch my attention and raising questions even when I am not sure whether they are worth pursuing. In these ways, I have attempted not only to maintain the transparency of the research methods and the methodological theorizing I have brought to this project, but also to avoid the trap of finding only what I am searching for. Ryan and Bernard state, “there is no substitute for following hunches and intuitions in looking for themes to code in texts (Dey 1993)” (2003, p. 94) and that is what I have attempted to do throughout this research process. In the next two chapters, I discuss in detail the results of my methodology, the themes I have identified, and the significance of these themes in analyzing both the 2011 IAAF Regulations on Hyperandrogenism and the CAS Award that resulted in their suspension.

## CHAPTER 4: THEMATIC FINDINGS AND ANALYSIS

### Introduction and Review of Methodology

In this chapter I analyze the data that I coded and the themes that emerged from that coding. I do so from a technical communication perspective on health and medical rhetoric, one that also draws on a distinctly feminist theoretical stance. Using a feminist CDA methodological approach, I coded data from the two text sites that are the focus of this research: (1) the 2011 IAAF Regulations on Hyperandrogenism, their appendices and their explanatory notes (“Hyperandrogenism Regulations”), and (2) the transcript of Chand’s hearing of her appeal against the IAAF which resulted in the Regulations’ two year suspension, titled, CAS Award, “2014/A/3759 Dutee Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF)” (“CAS Award”). In this introduction to the chapter I briefly review my methodology, and I describe how I developed the *NVivo10 for Mac* nodes<sup>9</sup> at which I coded my data. I then describe how I used those nodes and the data coded at each to identify major themes in each text site. In the second and third sections of this chapter, I provide a brief overview of each of my two text sites, the primary nodes at which I coded data from each text site, and the themes that emerged from this coding. In the fourth and final section of this chapter, I analyze these themes across all the documents from a technical communication perspective and by drawing on the theoretical concepts I explored in Chapter 2, a perspective I describe as a feminist technical communication perspective on health and medical rhetorics. In

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<sup>9</sup> As a reminder, *NVivo* uses the term “nodes” rather than “themes” within its software design. For clarity’s sake, when discussing the methodological work done within *NVivo* software, I primarily refer to *nodes*, but when discussing the conclusions I have drawn from the text coded at each node, I use the term *theme*.



this final section I analyze six key themes in that data that provide insight into the Hyperandrogenism Regulations, the CAS hearing on their legitimacy, and their ultimate suspension:

1. Slippage among sexual dimorphism, concern for health, and fairness
2. Slippage among physical appearance, athleticism, and gender normativity
3. The role and definition of expertise
4. The role and definition of effective evidence
5. The value of stakeholder perspectives
6. The challenges of intercultural communication in enacting international policy

These themes provide insight into both how the Hyperandrogenism Regulations worked and failed, and the nuances of the CAS hearing at which they were suspended.

Based on my analysis, I argue two things. First, I argue that the Hyperandrogenism Regulations and the CAS Award are an example of a closed, circular system in which Foucault's regulatory ideal shapes the development of health policy, which then enforces the existence of that regulatory ideal, which then reinforces the need for a policy to regulate it. This closed system was ruptured by Chand's appeal, which brought the regulations public attention and resulted in the CAS hearing. At the CAS hearing, the regulations were suspended because they did not provide effective evidence to support the need for their own existence as health policy, the details of which I discuss later in this chapter. That is, the regulations were suspended because they did not effectively produce the regulatory ideal that they were crafted to regulate. However, because of the circular system in which the regulations exist(ed), their suspension is an opportunity for the IAAF to provide such evidence, thereby returning to their role of ultimately upholding the existence of the regulatory ideal the regulations produced in the first place. In

order to change such a closed system, critical voices must both be allowed within the system and taken seriously. My analysis shows that dissenting voices throughout the CAS hearing are dismissed, ignored, or critiqued as illegitimate. The question, then, is how to achieve change in closed system such as this one.

In my second argument, I argue that the above themes can be reframed as a heuristic through which technical communicators might insert themselves into such a typically closed, circular system and potentially enact change. I argue that by better understanding the slippages between and among concepts and terms, the ways evidence and expertise are constructed and valued, the roles of stakeholders, and the particular challenges of enacting this health policy in international contexts, technical communicators might not only enter into this particular discourse community to potentially enact change, but might also use this heuristic to enter into other typically closed systems like specialized health and medical policy contexts to enact change in those spaces as well. I discuss the implications of this heuristic for technical communication research, practice, and pedagogy in Chapter 5.

In Chapter 3 I described my methodology for theming the data and using the themes I identified to analyze the selected texts and the contexts that shaped them. Before continuing, I will briefly review my research methodology here. After using an initial word counting strategy to narrow my analytical focus, I used four feminist CDA methods to search for themes in the texts, looking to identify and code at *NVivo10 for Mac* nodes instances of (1) repetition, (2) linguistic connectors, (3) missing data, and (4) theory-related material. In looking for instances of repetition, I identified ideas, terms, phrases, and topics that occurred and reoccurred with regularity, coding them with a general term to describe the category into which they fell and, after coding all the data, exploring which nodes I had coded with the most frequency. In looking

for instances of linguistic connectors, for example, I looked for words such as “because,” “following,” “therefore,” and “since,” in order to identify ideas and phrases that were explicitly connected to one another in the texts. In seeking to identify instances of missing data, I looked for moments of unstated assumptions, references to unclear or unstated information, or moments where the text seemed to imply that something was universally understood as fact without explicitly stating it as such. Finally, in looking for instances that included theory-related material, I kept in mind the following brief version of the theoretical lens I explicated in detail in Chapter 2: sex and gender are discursively constructed; neither sex nor gender are binary systems; intersex is a legitimate embodiment that is medicalized today based on ideology that erases its existence; and hyperandrogenism is medicalized unnecessarily because it is often associated with intersex individuals who do not fit into the binary system on which the 2011 IAAF Regulations on Hyperandrogenism are based.

In coding my data, I relied on the above four methods to help me develop nodes as I thoroughly read through each document. As a result of this I developed and coded data at nodes for “missing data,” “linguistic connectors,” and “theory-related” content, but I also developed nodes for repeated words, ideas, or phrases such as “science,” “public discourse,” “medicine,” “intercultural communication,” and others (see Table 1 below). Other times, I used the content of the texts themselves to help guide my development of nodes at which to code the data. For example, I knew that Chand’s appeal was based on the following argument about the Hyperandrogenism Regulations: that the regulations discriminated unlawfully against female athletes and against athletes who have a specific natural physical characteristic (higher levels of testosterone), that they were based on flawed or faulty evidence and assumptions about the relationship between testosterone and athletic performance, that they are disproportionate to any

legitimate objective, and that they are an unauthorized form of doping control. Based on the fact that these issues were the main ones debated throughout the hearing, I developed the following nodes at which to code data, in order to track how and where such issues were referenced or used: “athleticism;” “discrimination;” “disproportionate;” “doping control;” “female;” “flawed or faulty evidence;” “legality;” “natural;” and “testosterone.” Similarly, at the beginning of the CAS Award the authors of the document acknowledged, “The case raises complex legal, scientific, factual and ethical issues” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 2). Therefore, in addition to the node for “legality,” I also created nodes for “complexity,” “science,” “facts,” and “ethics” to better understand how these ideas were used and referenced throughout the documents. A full list of the nodes I created and at which I coded my data, in alphabetical order, can be found below in Table 1.

Not every document included content that could be coded at every node. Indeed, some nodes only ended up having one or two coded instances, including “philosophy” and “disability,” while at other nodes, such as “expertise,” “IAAF and Representatives,” and “testosterone” I coded content over 200 times for each node. I did not, however, limit my analysis to only drawing out themes from the nodes at which I coded the most content. In developing themes from the nodes at which I coded my data, I used a recursive strategy that involved four steps: (1) reviewing the full list of nodes; (2) reviewing the content of an individual node; (3) analyzing the significance of the content within the context of the document and multiple documents, and in conjunction with similar nodes; and (4) developing a broader theme from that content.

Table 1: Full List of Coding Nodes (Alphabetical)

<b>Coding Nodes (Alphabetical)</b>		
Athletic Federation of India (AFI)	Flawed or Faulty Evidence	Philosophy
Athleticism	Gender	Physical Appearance
Caster Semenya	Health	Pre Hyperandrogenism Regulations
Complexity	Hyperandrogenism	Procedure
Consensus	IAAF and Representatives	Psychology
Dis/ability	Intercultural Communication	Public Discourse
Discrimination	Intersex or “Disorder of Sexual Development” (DSD)	Redacted
Disproportionate	International Olympic Committee (IOC)	Sports Authority of India (SAI) or the SAI’s Standard Operating Procedure (SOP)
Doping Control	Lean Body Mass (LBM)	Science
Dutee Chand and Representatives	Legality	Sex
Essence	Linguistic Connector	Sexual Dimorphism
Ethics	Medicine	Stakeholder
Expertise	Missing Data	Testosterone
Facts	Natural	Theory Related
Fairness	Personal Experience	Transgender
Female	Physical Appearance	

I repeated this process multiple times, developing a list of themes that helps to provide insight into the 2011 IAAF Regulations on Hyperandrogenism themselves as a technical document that communicates complex health information and the suspension of these regulations based on the CAS hearing. First, I reviewed the full list of nodes at which I coded content, focusing on which nodes had the most content coded at them (See Table 2 below).

Table 2: Full List of Coding Nodes (By Total Number of References Coded)

<b>Coding Nodes (By Total Number of References Coded)</b>		
Expertise (262)	Science (77)	Facts (22)
IAAF and Representatives (241)	Theory Related (77)	Psychology (21)
Testosterone (221)	Doping Control (73)	Procedure (20)
Medicine (197)	Physical Appearance (61)	International Olympic Committee (IOC) (19)
Flawed or Faulty Evidence (170)	Athletic Federation of India (AFI) (58)	Lean Body Mass (LBM) (17)
Sexual Dimorphism (165)	Health (55)	Stakeholder (11)
Dutee Chand and Representatives (163)	Intersex or “Disorder of Sexual Development” (DSD) (54)	Sports Authority of India (SAI) or the SAI’s Standard Operating Procedure (SOP) (10)
Hyperandrogenism (158)	Linguistic Connector (43)	Transgender (10)
Athleticism (157)	Legality (40)	Caster Semenya (7)
Female (121)	Discrimination (39)	Redacted (6)
Ethics (94)	Complexity (33)	Intercultural Communication (4)
Missing Data (92)	Pre Hyperandrogenism Regulations (33)	Essence (3)
Sex (87)	Disproportionate (30)	Dis/ability (1)
Natural (85)	Personal Experience (29)	Philosophy (1)
Gender (84)	Public Discourse (28)	
Fairness (78)	Consensus (24)	

After reviewing the content coded at one node, I returned to the list and reviewed the content coded at another node, and repeated this process until I had reviewed the content coded at each node within each text site individually and across both text sites. I applied this process to both the full list of nodes and to the nodes specific to my strategies for theming the data (i.e., “linguistic connector,” “missing data,” and “theory-related”). Finally, I drew on both the

technical communication scholarship and the theoretical foundation explicated in Chapter 2 to analyze the significance of the coded content within the texts. I developed themes based on my analysis of the role such concepts played in either / both the 2011 IAAF Regulations on Hyperandrogenism themselves and in their suspension in order to answer the following research questions:

1. What health communication and rhetorical strategies are at work in how the IAAF's 2011 Hyperandrogenism Regulations communicate complex health-related information?
2. Who are the different stakeholders impacted by the IAAF's 2011 Hyperandrogenism Regulations? How are they positioned in the regulations themselves? In the CAS opinion?
3. How do different international experts and institutions affected by the IAAF's 2011 Hyperandrogenism Regulations construct their knowledge of and arguments about (for or against) the regulations? About the different stakeholders involved / affected?
4. How do different discourses in this case intersect and conflict in the knowledge-making process regarding hyperandrogenism, female athletes, and potentially intersex individuals?
5. How might technical communicators learn from the suspension the IAAF's 2011 Hyperandrogenism Regulations in order to more ethically, appropriately, and effectively communicate health-related information to users, specifically to international audiences?
6. How might technical communicators and technical communication scholars, especially those interested in health and medical rhetorics, intervene in decision-making processes

to encourage more democratic approaches to policy development and to health and medical technical documentation development?

I answer the first four of the above research questions in the fourth section of this current chapter. I also briefly answer the last two of the above research questions in the fourth section of this current chapter, and in Chapter 5, I explain further the implications of those answers for the broader field of technical communication focused on health and medical rhetorics.

I paid particular attention to those nodes that would be of use in answering my research questions regarding how and why this technical document was suspended, and the role this technical document played in the discursive constructions of sex and gender, regardless of the number of times I coded content at those nodes. The aim of feminist CDA is “to show... the complex, subtle, and sometimes not so subtle, ways in which frequently taken-for-granted gendered assumptions and hegemonic power relations are discursively produced, sustained, negotiated, and challenged in different contexts and communities (Lazar, 2007, p. 142). This means analyzing not just the significance of the nodes at which I coded over 200 instances of text, but also the ones at which I coded fewer instances of text but which could still be significant. For example, I coded content at the node “Caster Semenya” seven times in the CAS Award document, which at first glance may seem insignificant when compared to the 161-page length of the full CAS hearing transcript. However, considering the fact that Caster Semenya is not the focus of this hearing and her case made headlines years before the 2011 IAAF Regulations even existed, these seven instances seemed worth exploring. Similarly, although “procedure” and “stakeholder” and “intercultural communication” were only coded twenty, eleven, and four times, respectively, because of the importance of these terms and concepts to both technical communication scholarship and to answering my research questions, I paid close



attention to the significance of these terms in my analysis. I analyze the significance of these references and the themes that emerged from my coding in the fourth and final section of this chapter. In what follows, however, I first explicate in more detail each of the two text sites I coded, their content, the results of my coding of each, and the specific themes that emerged from my analysis of that coding.

### **Brief Description of Hyperandrogenism Regulations' Content, Nodes, and Themes**

The 2011 IAAF Regulations on Hyperandrogenism were officially adopted in April of 2011 and “entered into force” in May of 2011. The purpose of the regulations was to provide “a framework for the determination of the eligibility of females with Hyperandrogenism to participate in International Competitions (as defined in IAAF Rules) in the female category” (HA Regulations, 2011, p. 1.1). The regulations are meant to be policy and procedure regarding the testing, diagnosis, and treatment of female athletes suspected of having or confirmed to have hyperandrogenism, as well as their eligibility to participate in international Athletics<sup>10</sup> competitions that fall within the scope of the IAAF. A general breakdown of the chapters, the appendices, and the explanatory notes of the 2011 IAAF Hyperandrogenism Regulations and the functions of each section can be found in Table 3 below.

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<sup>10</sup> The capitalized term “Athletics” as it is used in the context of the IAAF organization’s name, press releases, regulations, and other officially-sanctioned documentation produced by or referring to the organization (such as the CAS Award) can be understood to cover all track and field events, road running, cross country running, and race walking. Similarly, my usage here of the capitalized term “Athletics” refers to track and field events. On the other hand, my usage of the lower-case term “athletics” refers to competitive sports, generally.

Table 3: The 2011 IAAF Regulations on Hyperandrogenism, Appendices, and Notes

<b>The 2011 IAAF Regulations on Hyperandrogenism, Appendices, and Notes</b>		
<b>Chapter / Section</b>	<b>Title / Description</b>	<b>Function</b>
Preface	Introduction to the 2011 IAAF Hyperandrogenism Regulations	Provides justification for the need of the regulations, and an explanation for the underlying principles of the regulations: early prevention of health problems, confidentiality of cases, anonymity of athletes, a respect for fairness, and “a respect for the very essence of the male and female classifications in Athletics” (HA Regulations, 2011, p. 2).
Chapter 1	“Scope of Regulations”	<p>States that the regulations apply to “all athletes competing, or seeking to compete, in International Competitions and are recommended as a guide to National Federations in Athletics for the management of any cases that might arise at the national level” (HA Regulations, 2011, p. 2).</p> <p>Notes that these regulations “replace the IAAF’s previous Gender Verification Policy and the IAAF has now abandoned all reference to the terminology ‘gender verification’ and ‘gender policy’ in its Rules” (HA Regulations, 2011, p. 2).</p>
Chapter 2	“The initial notification/investigation of cases under the Regulations”	<p>Provides information on when athletes already diagnosed with hyperandrogenism are required to notify the IAAF of their diagnosis.</p> <p>States how cases of athletes suspected of having hyperandrogenism may be initiated, including: the athlete, her doctor, or her representative approach the IAAF or National Federation regarding a HA associated medical condition; the results of a routine pre-participation or other medical examination; the results of a routine doping control procedure; or information received by the IAAF Medical Delegate or other responsible medical official at a competition (HA Regulations, 2011, p. 3).</p>
Chapter 3	“Confidential management of cases”	Describes the confidential management of cases at all levels of investigations, including the IAAF Medical Manager, members of the IAAF Medical Department, the Expert Medical Panel.

Table 3: (Continued)

<b>Chapter / Section</b>	<b>Title / Description</b>	<b>Function</b>
Chapter 4	“The Expert Medical Panel”	Describes the pool of independent medical experts who review cases under the HA Regulations, and their functions.
Chapter 5	“Medical Assessment of cases”	Describes the three levels of medical assessment that the Expert Medical Panel pursues in investigating a case. Level 1 is an Initial Clinical Examination; Level 2 is a Preliminary Endocrine Assessment; and Level 3 is a Full Examination and Diagnosis.
Chapter 6	“Recommendation of Expert Medical Panel on Athlete’s Eligibility”	Discusses regulations and procedures regarding the Expert Medical Panel’s final review of the athlete’s case and her eligibility
Chapter 7	“IAAF decision on Eligibility”	Describes the procedure once the Expert Medical Panel makes a recommendation as to the athlete’s eligibility: the athlete must meet specified conditions and allow for “Return to Competition Monitoring” (HA Regulations, 2011, p. 13).
Chapter 8	“Entry into force”	Includes the dates of the HA Regulations’ official adoption (April, 2011) and of their formal entry into force (May, 2011).
Appendix 1	“List of Independent Medical Experts”	This list includes medical experts from mostly Western areas of the world (USA, SWE, BRA, JAP, CHN, AUS, FRA, UK, NED, RSA), and includes Prof. Peter Lee (USA) (Pediatrics/endocrinology) and Prof. Ieuan Hughes (UK) (Pediatrics/endocrinology), coauthors on the 2006 “Consensus Statement on Management of Intersex Disorders” linked to in Appendix 4.
Appendix 2	“Medical Guidelines for the Conduct of Level 1 and Level 2 examinations”	Written to assist physicians in the screening, evaluation and specialist referral of “virilised female athletes.” Includes guidelines and graphics (see Appendix C) for physicians to use in evaluating potential cases of hyperandrogenism in female athletes, which seem to suggest Western notions of femininity as “normal” and others as “viralised.”
Appendix 3	“List of IAAF-approved specialist reference centres”	These centers are in limited locations (SWE, FRA, USA, AUS, JAP, BRA). Prof. Peter A Lee, also on the “List of Independent Medical Experts” and co-author of the “Consensus Statement on Management of Intersex Disorders” is the expert for the USA center.

Table 3: (Continued)

Chapter / Section	Title / Description	Function
Appendix 4	“Consensus Statement on Management of Intersex Disorders”	Includes only a link to a 2006 article, “Consensus statement on management of intersex disorders” authored by I. A. Hughes, C. Houk, S. F. Ahmed, P. A. Lee, and the LWPES (Lawson Wilkins Pediatric Endocrine Society) / ESPE (European Society for Paediatric Endocrinology) Consensus Group.
Appendix 5	“List of examples of medical conditions resulting in hyperandrogenism”	Provides a ten-item “non-exhaustive list of examples of medical conditions resulting in hyperandrogenism,” including Androgen insensitivity syndrome (AIS), “Ovotesticular DSD (previously called ‘true hermaphroditism’),” and Polycystic ovary syndrome (PCOS), among others.
Explanatory Notes	“HA Regulations Explanatory Notes”	A “Question & Answer” style document. The authors anticipate typical questions that users of the regulations might have about the regulations’ scope, need, and practices, and provide clear answers to those questions.

In reading through all of the above documents associated with the Hyperandrogenism Regulations, I coded data at the nodes in the shaded cells below (see Table 4 below).

Based on my analysis of the material coded at each of the above nodes in shaded cells, I identified the following themes in the 2011 IAAF Regulations on Hyperandrogenism:

1. Slippage<sup>11</sup> among sexual dimorphism, concern for health, and fairness
2. Slippage among physical appearance, athleticism, and gender normativity
3. The role and definition of expertise

In the next section of this chapter I describe the second document I analyzed, the transcript of the Court of Arbitration for Sport (CAS) hearing on Chand’s appeal of her ban, “2014/A/3759 Dutee

<sup>11</sup> I use the term “slippage” as a shortened version of “slippage of meaning.” Schalk (2013) described “slippage of meaning” as when wholly distinct terms with different definitions, meanings, and implications are presented “as interchangeable, disregarding the denotative and connotative differences between these terms” (n.p.).

Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF)” (“CAS Award”). I also list the nodes at which I coded data from the CAS Award and the themes that emerged from my analysis of that coded data. In the fourth section of this chapter, I analyze in depth the themes that emerged from each of these two text sites from a feminist technical communication perspective on health and medical rhetoric, an analytical perspective I also discuss in the fourth section of this chapter.

Table 4: Coding Nodes for 2011 IAAF Regulations on Hyperandrogenism (Alphabetical)

<b>Coding Nodes for 2011 IAAF Regulations on Hyperandrogenism (Alphabetical)</b>		
Athletic Federation of India (AFI)	Flawed or Faulty Evidence	Philosophy
Athleticism	Gender	Physical Appearance
Caster Semenya	Health	Pre Hyperandrogenism Regulations
Complexity	Hyperandrogenism	Procedure
Consensus	IAAF and Representatives	Psychology
Dis/ability	Intercultural Communication	Public Discourse
Discrimination	Intersex or “Disorder of Sexual Development” (DSD)	Redacted
Disproportionate	International Olympic Committee (IOC)	Sports Authority of India (SAI) or the SAI’s Standard Operating Procedure (SOP)
Doping Control	Lean Body Mass (LBM)	Science
Dutee Chand and Representatives	Legality	Sex
Essence	Linguistic Connector	Sexual Dimorphism
Ethics	Medicine	Stakeholder
Expertise	Missing Data	Testosterone
Facts	Natural	Theory Related
Fairness	Personal Experience	Transgender
Female	Physical Appearance	

### **Brief Description of CAS Award Content, Nodes, and Themes**

The CAS Award is a 161-page document that provides the reader with a comprehensive but ultimately incomplete transcript of the three-day hearing of Chand's case against the AFI and the IAAF before a CAS Panel. At the outset the Panel<sup>12</sup> acknowledges that the transcript at hand is a summary of the respective parties' submissions. So although the document does give us insight into how and why the 2011 IAAF Regulations on Hyperandrogenism were suspended, it is insight that has been filtered through the interpretive lens of the Panel itself. Nevertheless, it is the most complete portrait available of the hearing that resulted from Chand's appeal of her ban, and it provides insight into both how and why the 2011 IAAF Regulations on Hyperandrogenism were suspended and Chand's eligibility was reinstated. While my analysis and my research interests in this CAS Award go beyond the stated nature of the case—that is, the stated issues the Panel was charged with passing judgment on—it is still valuable to understand what Chand was alleging in appealing her ban before continuing on to an overview of the Award. In the section “Overview of the Case,” the Panel stated,

This case concerns a challenge to the validity of the IAAF Regulations Governing Eligibility of Females with Hyperandrogenism to Compete in Women's Competition (the ‘Hyperandrogenism Regulations’). The Hyperandrogenism Regulations place restrictions on the eligibility of female athletes with high levels of naturally occurring testosterone to participate in competitive athletics. In particular, the Athlete challenges the Hyperandrogenism Regulations on the basis that: (a) they discriminate unlawfully against female athletes and against athletes who possess a particular natural physical

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<sup>12</sup> The CAS Panel hearing Chand's case adopts the stance as also the authors of the CAS Award, “2014/A/3759 Dutee Chand v Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF),” whether this is truly accurate or not. I therefore alternatively refer to either “the authors of the CAS Award transcript” or “the Panel,” but for the purposes of this study they should be understood to be one and the same.

characteristic; (b) they are based on flawed factual assumptions about the relationship between testosterone and athletic performance; (c) they are disproportionate to any legitimate objective; and (d) they are an unauthorised form of doping control. The IAAF rejects each of those arguments. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 2)

As I noted earlier, these allegations were a significant starting point as I coded the data and used my coding to identify themes. They provided me with a basic understanding of the debated issues at the center of the case and they serve as the guiding organization of the CAS Award document's structure. My research interests, however, went beyond these allegations. In addition to coding the data and searching for themes I was also concerned with the subtle and complex ways that the different aspects of this document, and thus this hearing, discursively constructed specific ideas about sex and gender. The Panel acknowledges this complexity as well:

The case raises complex legal, scientific, factual and ethical issues. The parties' submissions draw upon a diverse range of expert scientific evidence, factual accounts of the evolution of the Hyperandrogenism Regulations and the experiences of female athletes who were subjected to their 'gender testing' and 'sex verification' predecessors, and philosophical arguments about the meaning of fairness in sport. The length of this Award is a reflection of the complexity of those issues, and the exceptional care and detail in which the parties' representatives presented them to the Panel. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 2-3)

The statement above hints at some of the underlying issues I was interested in analyzing, including the use and definition of the term "expertise," the use and definition of the term "fairness," the acknowledgement of the history of sex verification testing policies, the various

stakeholders involved in this case and also involved in that history of sex verification testing, and ultimately, the ruling of the Panel on all of the aforementioned issues at stake.

The CAS Award is divided into ten sections. It concludes with a one-page summation of the official ruling of the Panel, which provides the final decision of the court and information for each of the associated parties regarding how to proceed. A general overview of each section of the CAS Award transcript and its function within the larger scope of the document can be found below in Table 5:

Table 5: CAS 2014/A/3759 Dutee Chand v AFI & IAAF

<b>CAS 2014/A/3759 Dutee Chand v AFI &amp; IAAF</b>		
<b>Section</b>	<b>Title / Description</b>	<b>Function</b>
I <sup>13</sup>	“Parties”	Provides an overview of each the parties involved with the case: Dutee Chand; the Athletic Federation of India (AFI); and the IAAF. The Panel describes Chand as “a 19 year-old female athlete of Indian nationality,” the first of many instances implicitly emphasizing that Chand’s sex is not the focus of this hearing or the reason for her ban.
II	“Overview of the Case”	Provides a brief overview of the four issues on the basis of which Chand has challenged the 2011 IAAF Hyperandrogenism Regulations. Also acknowledges the complexity of the case in terms of legal, scientific, factual and ethical issues.

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<sup>13</sup> While in my overview of the 2011 IAAF Regulations I used arithmetic numerals to label chapters and appendices, here I use Roman numerals instead, in keeping with the respective numerical styles used in each document.



Table 5: (Continued)

Section	Title / Description	Function
III	“Factual Background”	<p>Provides “a summary of the relevant facts and allegations based on the parties' written submissions, pleadings and evidence adduced at the CAS hearing on 23 - 26 March 2015” (CAS 2014/A/3759 Dutee Chand v AFI &amp; IAAF, 2015, p. 3.6). This section consists of three subsections.</p> <p>Subsection A, “Background Facts” describes the medical examinations, letters, and events resulting in Chand’s ineligibility. Subsection B, “The Issues,” describes issues at stake in the hearing, and theoretical assumptions about sex, gender, and fairness under which the Panel is operating. Subsection C “The relevant regulations,” summarizes and provides excerpts from the regulations relevant to the hearing, including the 2011 IAAF Hyperandrogenism Regulations, the Olympic Charter, the IAAF Constitution, IAAF Competition Rules 2014-2015, and the World Anti-Doping Code.</p>
IV	“Proceedings Before the Court of Arbitration for Sport”	<p>Provides a timeline of Chand officially filing her appeal of her ban with the CAS on September 26, 2014, and the subsequent filings of each party up until the dates of the hearing, March 23-26, 2015. It also includes the names of the counsels representing the IAAF and Chand (AFI did not appear at the hearing or file any written submissions in response to the Chand’s appeal) and a full list of witnesses in their order of appearance.</p>
V	“Submission of the Parties”	<p>Provides summaries and excerpts of witness testimonies submitted on behalf of each party, and related to each of the issues on which the Panel is charged with ruling.</p> <p>This section is broken up into a number of subsections:</p> <ul style="list-style-type: none"> <li>• “The relief sought;”</li> <li>• “Preliminary issue: The burden and standard of proof;”</li> <li>• “Issue 1: Discrimination;”</li> <li>• “Issue 2: The scientific basis of the Hyperandrogenism Regulations;”</li> <li>• “Issue 3: Proportionality;”</li> <li>• “Issue 4: Impermissible Doping Sanction;” and</li> <li>• “Issue 5: The circumstances of the athlete’s suspension;” and</li> </ul> <p>Most of these subsections include summaries of Chand’s and the IAAF’s submissions gathered from expert testimonies, which are also summarized and excerpted within each subsection.</p>

Table 5: (Continued)

<b>Section</b>	<b>Title / Description</b>	<b>Function</b>
VI	“Admissibility”	Acknowledges that Chand’s case is admissible for arbitration based on the IAAF Competition Rules for 2014-2015.
VII	“Jurisdiction”	Reviews the jurisdiction of the CAS based on Chand’s standing as an international athlete, the scope of the 2011 IAAF Regulations on Hyperandrogenism, and Chand’s right of appeal with regards to IAAF policy.
VIII	“Applicable Law”	Reviews applicable laws, stating “in deciding this appeal, the Panel will apply the IAAF’s Constitution and Rules and, subsidiarily, Monegasque law” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 124.440).
IX	“Merits”	Discusses in detail which parties bear the burden of proof for each of the debated issues. Declares for each of the issues whether the party bearing the burden of proof has established such proof to the satisfaction of the Panel.
X	“Costs”	N/A
XI	“On These Grounds”	Short (one page) summation of the Panel’s official ruling on CAS 2014/A/3759 Dutee Chand v AFI & IAAF.

My reading of the 161-page CAS Award resulted in data coded at all of the nodes listed below in Table 6. What I have highlighted in Table 6 below, however, shows the nodes at which I coded data from the CAS Award but at which I did not code data from the 2011 IAAF Regulations on Hyperandrogenism. The nodes at which I coded data from the CAS Award but not data from the Hyperandrogenism Regulations demonstrate the difference in scope and purpose of the two text sites. The difference in coding nodes also demonstrates the increased complexity with which the content of the regulations and their implications are explored and critiqued during the CAS hearing.

Table 6: Coding Nodes for CAS Award Only (Alphabetical)

<b>Coding Nodes for CAS Award Only (Alphabetical)</b>		
Athletic Federation of India (AFI)	Flawed or Faulty Evidence	Philosophy
Athleticism	Gender	Physical Appearance
Caster Semenya	Health	Pre Hyperandrogenism Regulations
Complexity	Hyperandrogenism	Procedure
Consensus	IAAF and Representatives	Psychology
Dis/ability	Intercultural Communication	Public Discourse
Discrimination	Intersex or “Disorder of Sexual Development” (DSD)	Redacted
Disproportionate	International Olympic Committee (IOC)	Sports Authority of India (SAI) or the SAI’s Standard Operating Procedure (SOP)
Doping Control	Lean Body Mass (LBM)	Science
Dutee Chand and Representatives	Legality	Sex
Essence	Linguistic Connector	Sexual Dimorphism
Ethics	Medicine	Stakeholder
Expertise	Missing Data	Testosterone
Facts	Natural	Theory Related
Fairness	Personal Experience	Transgender
Female	Physical Appearance	

Essentially, the CAS Award document provides insight into the perspectives of a few groups of stakeholders who are affected by the Hyperandrogenism Regulations, perspectives that focus on those very regulations themselves. Based on my analysis of the material coded at each of the above nodes, shaded and unshaded, I identified the following themes in the CAS Award document.

1. Slippage among sexual dimorphism, concern for health, and fairness
2. Slippage among physical appearance, athleticism, and gender normativity
3. The role and definition of expertise

4. The role and definition of effective evidence
5. The value of stakeholder perspectives
6. The challenges of intercultural communication in enacting international policy

In my analysis of these themes in the next section of this chapter, I explore them across both text sites, the Hyperandrogenism Regulations and the CAS Award that suspended those regulations. All of these themes provide important insight into how and why the CAS Panel ruled as it did, and the significance of such a ruling for a feminist technical communication approach to health and medical rhetorics.

Tables 4 and 6 above demonstrate the nodes at which I coded material from the 2011 IAAF Regulations on Hyperandrogenism and the CAS Award separately. While there is significantly overlap in content between the two text sites, it is worth noting at this point at which nodes I coded material from both text sites, and, therefore, the nodes at which there was no overlap between the two. Table 7 below includes cells shaded to show at which nodes I coded content from both sites.

The shaded cells in Table 7 demonstrate two things. First this overlap demonstrates the key shared ideas, concepts, phrases, and terms between the Hyperandrogenism Regulations and the CAS Award, and, likewise, those that are not shared and that appear only in either the Hyperandrogenism Regulations or in the CAS Award transcript. This shared knowledge, terminology, and emphases then demonstrate, secondly, the many ways that the authors of the CAS Award (the CAS Panel) and the authors of the Hyperandrogenism Regulations are part of the same discourse community and, likewise, the knowledge, terminology, and emphases that are not a part of that discourse community. The significance of what/who is included and what/who is excluded in this discourse will become a key part of the fourth section of this chapter in which

I analyze these two text sites from a feminist technical communication perspective on health and medical rhetorics, and focus on the significance of such inclusions and exclusions.

Table 7: Coding Nodes for Hyperandrogenism Regulations and CAS Award (Alphabetical)

<b>Coding Nodes for Hyperandrogenism Regulations and CAS Award (Alphabetical)</b>		
Athletic Federation of India (AFI)	Flawed or Faulty Evidence	Philosophy
Athleticism	Gender	Physical Appearance
Caster Semenya	Health	Pre Hyperandrogenism Regulations
Complexity	Hyperandrogenism	Procedure
Consensus	IAAF and Representatives	Psychology
Dis/ability	Intercultural Communication	Public Discourse
Discrimination	Intersex or “Disorder of Sexual Development” (DSD)	Redacted
Disproportionate	International Olympic Committee (IOC)	Sports Authority of India (SAI) or the SAI’s Standard Operating Procedure (SOP)
Doping Control	Lean Body Mass (LBM)	Science
Dutee Chand and Representatives	Legality	Sex
Essence	Linguistic Connector	Sexual Dimorphism
Ethics	Medicine	Stakeholder
Expertise	Missing Data	Testosterone
Facts	Natural	Theory Related
Fairness	Personal Experience	Transgender
Female	Physical Appearance	

### Official Ruling of the CAS Panel

After being presented with testimony on behalf of the IAAF and Dutee Chand regarding the four issues up for debate during the hearing, the official ruling of the Panel resulted in the two-year suspension of the 2011 IAAF Regulations on Hyperandrogenism. The purpose of the

two-year suspension is important to note. The Panel stated that the two-year suspension is to provide the IAAF with time to

...submit further written evidence and expert reports to this Panel addressing the Panel's concerns concerning the Hyperandrogenism Regulations as set forth in this Interim Award and, in particular, the actual degree of athletic performance advantage sustained by hyperandrogenic female athletes as compared to non-hyperandrogenic female athletes by reason of their high levels of testosterone. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 160)

The basis for this ruling has important implications for technical communication scholarship, which I analyze in more detail in the next section of this chapter. Briefly, however, the ruling of the Panel was as follows:

- With regards to Issue 1, whether the regulations were discriminatory, the Panel found that the Hyperandrogenism Regulations were indeed discriminatory because they were applied only to female athletes and, more than that, the regulations placed certain eligibility restrictions on certain female athletes on the basis of a certain natural characteristic, testosterone levels (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 126). Based on this ruling, the onus shifted to the IAAF to demonstrate that regardless of such discrimination, the regulations were “necessary, reasonable and proportionate for the purposes of establishing a level playing field for female athletes” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 126), which is the focus of Issue 3.
- With regards to Issue 2, that the scientific evidence on which the regulations are based is flawed or faulty, the Panel found in the IAAF’s favor, ruling that the evidence on which the regulations were based was sound. The Panel noted, however, that certain aspects of

this scientific evidence, such as the differences between the effects of endogenous and exogenous testosterone on athletic performance, are inconclusive and would benefit from further exploration (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 141-144).

- On Issue 3, whether the regulations were “justified as a necessary and proportionate means of attaining a legitimate sporting objective,” the Panel ruled in Chand’s favor. The Panel explained,

...the Panel is unable to conclude that the Hyperandrogenism Regulations fulfil [sic] their stated purpose. This may be because available data are not yet available. The evidence is that there are inadequate data to establish or refute hypotheses in this area. In the context of this issue, the onus lies on the IAAF. The IAAF has not established, on the balance of probabilities that the Hyperandrogenism Regulations apply only to exclude female athletes that are shown to have a competitive advantage of the same order as that of a male athlete. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 153-154)

- On Issue 4, Chand’s claim that the regulations were a form of illicit doping control, the Panel ruled in the IAAF’s favor.

The ruling on Issue 3, then, is what resulted in the suspension of the 2011 IAAF Regulations on Hyperandrogenism. The Hyperandrogenism Regulations were not suspended because they were discriminatory, although the Panel confirmed that they were indeed discriminatory. They were not suspended because the evidence on which they were based was deemed flawed or faulty, although, as I discuss in the next section, that appears to be subjective to specific definitions of effective evidence. Nor were the Hyperandrogenism Regulations suspended because they were an illicit form of doping control. The World Anti-Doping Agency and the Panel agreed that the

Hyperandrogenism Regulations did not overstep their boundaries to extend to doping control. No, the 2011 IAAF Regulations on Hyperandrogenism were suspended for two years because the IAAF failed to justify the *need* for such discriminatory regulations, and failed to convince the Panel that the regulations fulfilled their stated purpose to only exclude female athletes who have a competitive advantage over other female athletes similar to the competitive advantage over female athletes that male athletes might have. This is a rich moment for analyzing a very particular failure of a health policy in the form of a technical document from a distinctively feminist technical communication perspective on health and medical rhetoric.

In the next section of this chapter, the fourth and final section, I analyze in depth the themes that emerged from my examination of the CAS Award in conjunction with those that emerged from my examination of the Hyperandrogenism Regulations. I do so considering the ruling of the Panel that suspended the regulations. This final section is divided into seven subsections, one for each theme and a final concluding subsection in which I articulate my two-part argument regarding the ways the suspension of the 2011 IAAF Regulations acts as what I am calling a closed, “Foucauldian” system, and the role technical communicators might have in changing such a system through the use of the heuristic I have developed based on my themes. I analyze each of these themes from a technical communication perspective that draws heavily on the theoretical foundation that emphasizes the relationships among power, discourse, and sexual dimorphism that I explicated in Chapter 2, an analytical perspective that I am calling a distinctively “feminist technical communication perspective” on health and medical rhetoric.



### **Thematic Analysis from a Feminist Technical Communication Perspective**

In this section I analyze the six themes that emerged from my feminist CDA approach to the 2011 IAAF Regulations on Hyperandrogenism and the CAS Award that resulted in their suspension from a feminist technical communication perspective on health and medical rhetoric. I am defining this perspective for the purposes of this study as combining aspects of scholarship in the feminist theory, technical communication, and health and medical rhetoric that I explicated in Chapter 2. The following assumptions are key tenets of a feminist technical communication perspective on health and medical rhetoric:

1. Sex and gender binaries are discursively constructed;
2. Medical and health discourses often rely on gendered language even in scientific studies, perpetuating the myth of sex and gender binaries, and often resulting in particularly negative effects for individuals with embodiments that exist beyond such binaries;
3. A humanistic approach to technical communication provides important insight into the normalizing power of technical writing, especially health and medical rhetorics;
4. Because of all of the above, there is unique value in focusing on health and medical rhetorics from a humanistic, feminist, technical communication perspective.

The above assumptions shape my analysis of the two text sites at the heart of this study and the themes I have identified within and across them. In what follows I use a feminist technical communication perspective on health and medical rhetorics to analyze the following six themes:

1. Slippage among sexual dimorphism, concern for health, and fairness
2. Slippage among physical appearance, athleticism, and gender norms
3. The role and definition of expertise
4. The role and definition of effective evidence

5. The value of stakeholder perspectives

6. The challenges of intercultural communication in enacting international policy

A feminist technical communication perspective on health and medical rhetorics is useful in analyzing the above themes order to shed light on (a) the ways the Hyperandrogenism Regulations operated as a technical, health and medical focused policy in an international context, with particular implications for the bodies of female athletes in general and potentially intersex female athletes specifically; (b) how and why these regulations were suspended for two years; and (c) the role the regulations themselves and the discourses at work in the regulations and in the CAS Award play(ed) in discursively constructing and perpetuating not only the notion of sexual dimorphism but also the need to enforce sexual dimorphism through policy in the name of fairness.

### **Slippage Among Sexual Dimorphism, Concern for Health, and Fairness**

Throughout both the Hyperandrogenism Regulations and the CAS Award, and across both documents together, there is slippage between a concern for the health of female athletes in general but especially for those who may be diagnosed with hyperandrogenism, a care for emphasizing and maintaining distinct differences between male and female athletes through a focus on sexual dimorphism, and a vague notion of fairness. Indeed, at the beginning of each document, there is a statement regarding the fact that sexual dimorphism is an explicit underlying assumption of each, partly to ensure fairness in competition. Especially in the Hyperandrogenism Regulations, these statements include language focused on the potential health problems a female athlete with hyperandrogenism may experience—an athlete who, it is

implied, does not fit into a traditional sex binary and therefore negates any fairness the competitive categories of male and female athletes might achieve.

In the Hyperandrogenism Regulations, for example, the authors begin the entire document by stating, “Since 1928, competition in Athletics has been strictly divided into male and female classifications and females have competed in Athletics in a separate category designed to recognize their specific physical aptitude and performance” (2011, p. 1). The authors of the Hyperandrogenism Regulations subsequently continued,

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. It is also known from experience that there are rare cases of young females competing in Athletics today who are affected by hyperandrogenism which, if the condition remains undiagnosed or neglected, can pose a risk to health. (HA Regulations, 2011, p. 1)

While my focus in this subsection is on the slippage among an emphasis on sexual dimorphism, a concern for female athletes’ health, and a vague notion of fairness, from the passage above it is clear that there is another, similar slippage among the physical appearance of female athletes and the idea of athleticism, a slippage which I argue relies heavily on Westernized notions of gender normativity. I analyze this theme in the next subsection of this chapter. In the above statement we see the authors quickly move from equating the differences between male and female athletes’ athletic performance to testosterone levels alone, which relies both on sexual dimorphism as an underlying assumption and on the oversimplification of athleticism, which I will explore in the next subsection, to hyperandrogenism. It is implied by the order of sentences that female athletes with hyperandrogenism are more like male athletes than female athletes

because of their testosterone levels, and may also have undiagnosed health risks because of the condition. This slippage among sexual dimorphism and a concern for health and fairness can also be seen in other areas of the document.

Similar to the statement above from the preface of the Hyperandrogenism Regulations, the authors of the regulations rely on a number of underlying principles upon which the rest of the policy is based. These principles focus alternatively on the prevention of health problems, the implication that female athletes diagnosed with hyperandrogenism are outside of, beyond, or do not fit into “normal” embodiment, which presumably consists of only two, distinct categories, and the importance of maintaining sexual dimorphism based competition categories in order to ensure fairness. The following are the stated principles on which the Hyperandrogenism Regulations are based:

1. The early prevention of problems associated with hyperandrogenism;
2. A respect for confidentiality in the medical process and the need to avoid public exposure of young females with hyperandrogenism who may be psychologically vulnerable;
3. The evaluation of complex cases on an anonymous basis through the use of a panel of independent international medical experts in the field;
4. A respect for the very essence of the male and female classifications in Athletics;
5. A respect for the fundamental notion of fairness of competition in female Athletics;
6. An acknowledgement that females with hyperandrogenism may compete in women’s competition in Athletics subject to compliance with IAAF Rules and Regulations. (HA Regulations, 2011, p. 1-2)

Here we see slippage among all three of these concepts. Sexual dimorphism is touted as the very essence of competitive classifications in Athletics; female athletes with hyperandrogenism are

categorized as being outside women's competition unless they comply with these regulations; competition among female athletes requires "a respect for the fundamental notion of fairness"; and hyperandrogenism is already medicalized.

As demonstrated by the stated principles above, the Hyperandrogenism Regulations are entirely based on the idea that hyperandrogenism causes both physical and psychological health problems for female athletes, a leap of logic which may not be completely accurate. In one instance in the hearing an IAAF witness acknowledges that female athletes "with a DSD but without symptoms may not present themselves to an endocrinologist" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 130). The implications of this statement are that women with higher levels of testosterone may not know that they have higher levels because they have no symptoms of anything medically wrong, and also that these same women may never be diagnosed as having any medical condition. In the aforementioned case, a female athlete who is intersex (the term "DSD" or "Differences in Sexual Development" is used throughout these documents instead of intersex) but who has no symptoms would not be known to be intersex unless investigated by the IAAF for hyperandrogenism. The significance of this witness' admission is that hyperandrogenism need not be medicalized. Yet, in these regulations it is, largely because of this slippage among sexual dimorphism as a concept, a concern for both the physical and mental health of female athletes who may be diagnosed with hyperandrogenism, and an emphasis on fairness. The assumption is that a female athlete with a diagnosis of hyperandrogenism is the equivalent of the diagnosed individual existing outside of the categories of male and female athletes, which, if the female athlete is intersex, may very well be true. But because of the reliance and insistence on sexual dimorphism as an underlying assumption of this policy, rather than an understanding that human biology is not so neat, hyperandrogenism or

intersex become things that are wrong with the female body, which must be corrected in order to help the female athlete with hyperandrogenism compete in the correct category. This slippage is also apparent in the CAS Award document.

Like the Hyperandrogenism Regulations, the CAS Panel relies on sexual dimorphism as a key assumption of their document. However, the statements the CAS Panel makes at the beginning of the hearing document complicate the idea of two distinct categories of male and female athletes by acknowledging that this is actually a false binary. Nevertheless, the Panel states, it is a false binary that needs to be upheld through regulatory practice. In the last area of subsection 3B of the CAS Award, after first stating that athletics is divided into male and female competitive categories for reasons of fairness because of differences in athleticism between male and female athletes, the Panel moves on to acknowledge some key pieces of information for the purposes of this study. The Panel notes,

Although athletics events are divided into discrete male and female categories, sex in humans is not simply binary. As it was put during the hearing: *'nature is not neat'*. There is no single determinant of sex. There are people with differences in sexual development ('DSDs') who do not biologically fall neatly into the traditional categories of women and men. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 11.35e)

This acknowledgement was not a part of the Hyperandrogenism Regulations, as discussed above. While the Hyperandrogenism Regulations do acknowledge that DSD and / or intersex individuals exist by mentioning these terms in passing (see Table 4), they are not addressed as having any relation to the underlying assumption about whether human sex development is binary or not. The Panel addresses the issue of sexual dimorphism directly, which is important and valuable. However, they still maintain the necessity of male and female categories in athletic

competitions for the purpose of fairness. What becomes a point of contention later in the hearing transcript is how, then, to determine who may compete in which category, harkening back to concerns in the 1960s and beyond about “gender fraud,” or men masquerading as women in order to achieve a competitive advantage. The Panel again acknowledges this, stating, “It is inappropriate to subject athletes to gender verification; or to mere examination of external genitalia; or to chromosomal testing in order to determine eligibility to compete as women or for the purpose of making a determination about their sex or gender status” (CAS 2014/A/3759 *Dutee Chand v AFI & IAAF*, 2015, p. 12). Although both the Panel and the IAAF Regulations on Hyperandrogenism explicitly distance themselves from sex or gender verification testing, confusion remains over the purpose of the regulations from a usability standpoint: If medical investigations related to maintaining strict male and female competitive categories are pursued, what then is being tested if it is not sex or gender? I examine this confusion in my analysis of the challenges of intercultural communication in enacting international policy later in this section.

While the definition of “fairness” in the context of the Hyperandrogenism Regulations and the CAS Award is typically vague, it is often articulated through descriptions of scenarios that are deemed “not fair” or “unfair.” For example, in one passage,

The IAAF submits that the restriction on a hyperandrogenic athlete's ability to compete must be weighed against ‘*the need to be fair ... to the vast majority of female athletes who are within the (much lower) normal/female range*’. Those athletes, the IAAF says, would consider it unfair to compete with women whose bodies respond in different and stronger ways to training and racing to the bodies of female athletes with normal testosterone levels. (CAS 2014/A/3759 *Dutee Chand v AFI & IAAF*, 2015, p. 70)

Here we see a description of what is considered “unfair,” implying that what would be fair is to have competition among women whose bodies all respond in similar ways to training and racing, although it is impossible to measure such physical responses. In another instance, a witness for the IAAF explained his opinion that,

the essence of competitive sport is that a contest is *‘fair and meaningful’* in the sense that *‘its outcome is uncertain and will be determined by the factors that are prized and valued by the sport (e.g. talent and dedication) and not by other factors’*. It follows from this that it is inevitable that lines must be drawn to ensure fair and meaningful play. Those lines must delineate categories of competition; establish rules of permissible and impermissible conduct; and define what is fair and what is unfair. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 82)

Here the slippage between sexual dimorphism and fairness is most clear. In the above passage sexual dimorphism is at once used to justify the need for fairness, and fairness is used to justify the existence of sexual dimorphism.

One more witness for the IAAF, Paula Radcliffe, demonstrates this slippage among sexual dimorphism and fairness well. The Panel recounts, “In relation to the separation of male and female athletes, Ms. Radcliffe described the *‘huge gap’* in athletic performance between elite men and elite women athletes. If men and women competed in one category then, she said, competition would not be fair and meaningful, because the men would always outperform women” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 98). Radcliffe states that she, “would have *‘genuine concerns about the fairness’* of having to compete against females with testosterone levels in the male range” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 98.337) and “cited the reaction to the case of Caster Semenya, in respect of whom *‘many*



*athletes*’ were ‘*extremely concerned that she had an unfair advantages and that as a result she was able to compete at a level that they simply were not*’” CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 98.338). Here again we see the slippage between sexual dimorphism and fairness, one used to support the existence and definition of the other, even when the CAS Panel has already stated that it is impossible to neatly divide humans into two distinct sex categories. Nevertheless, for the purposes of fairness, such categories are insisted upon. While not stated directly, the statements above also often hint implicitly at the physical appearance of certain female athletes as the indicator that a situation might in fact be “unfair.” This indicates a slippage among female athlete’s physical appearance, the notion of athleticism or athletic performance, and gender normativity, with a specific focus on Western interpretations of femininity or lack thereof.

### **Slippage Among Physical Appearance, Athleticism, and Gender Norms**

Similar to the slippage among sexual dimorphism, a concern for the health of female athletes, and the notion of fairness, there is also slippage among the physical appearance of female athletes, the notion of athleticism or athletic performance (which is sometimes described as and equated to “lean body mass” [LBM] and at other times described as or equated to testosterone levels) and Western conceptions of gender normativity. One of the key debates of the hearing is the role that testosterone plays in athleticism or LBM, but often this debate includes attention to the role testosterone plays in the development of so-called “male physical characteristics.” What becomes unclear, then, is where to draw the line between the physical appearance of a female athlete with all the strength and power it requires to be an elite international athlete, and so-called “male physical characteristics” which may indicate an

underlying higher level of testosterone and, therefore, according to the IAAF, some measure of “unfairness,” and all the complications of that term which I explicated earlier.

This notion of using physical appearance as a key indicator of some underlying medical condition is most evident in the Hyperandrogenism Regulations in two key places: (1) Appendix 2, which provides visual aids to assist in the possible referral of a female athlete for more in-depth medical testing and (2) the guidelines on who may provide information that may begin an investigation into a female athlete for potential hyperandrogenism. Appendix 2 of the 2011 IAAF Regulations on Hyperandrogenism is the “Medical Guidelines for the Conduct of Level 1 and Level 2 examinations,” (see Appendix C). It includes guidelines for physicians to use in evaluating potential cases of hyperandrogenism in female athletes, including descriptions of physical characteristics that seem to suggest stereotypical, Westernized notions of femininity. The indicators include muscle size, breast size and shape, facial hair, body hair, deepness of voice, and size of genitalia, among others (see Appendix C). During her testimony as an expert witness for Chand, Dr. Katrina Karkazis described the fraught relationship between these physical characteristics and Western notions of femininity. The Panel described her testimony on this matter in the following paragraph:

In [Karkazis’] view, the Hyperandrogenism Regulations imply that *‘these “surface” masculinities on a woman's body are signs of a deeper “true” masculinity (or even maleness) and thus incite scrutiny and suspicion around particular types of bodies and modes of gender presentation.’* This, in turn, increases the pressure on female athletes to conform to expectations of *‘feminine’* appearance. Dr. Karkazis commented that more than half of the indicators specified in the Hyperandrogenism Regulations to determine which female athletes should undergo investigation are *‘entangled with deeply subjective*

*and stereotypical Western definitions of femininity*'. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 76)

The physical characteristics of female athletes can also be used as the basis for beginning an official medical examination based on the IAAF guidelines of who may provide information to the Medical Manager to begin such an investigation.

The Hyperandrogenism Regulations provide specific guidelines on what kinds of information, and from whom, may instigate an official investigation into a female athlete for potential hyperandrogenism. They stated that, "the IAAF Medical Manager may initiate a confidential investigation of any female athlete if he has reasonable grounds for believing that a case of hyperandrogenism may exist. The IAAF Medical Manager's reasonable grounds for belief in a case may be derived from any reliable source" (HA Regulations, 2011, p. 3). Included in the list of reliable sources is "information received by the IAAF Medical Delegate or other responsible medical official at a competition" (HA Regulations, 2011, p. 3). This seems to indicate that if anyone at a competition complains about an athlete's competition results or physical appearance to an IAAF Medical Delegate "or other responsible medical official" such information may be used to initiate a formal investigation into that athlete. And indeed, throughout the CAS Award it becomes clear that Chand's investigation may have been initiated for that very reason. The Panel wrote,

In his statement, Dr. Mendiratta described how, following the National Inter-State Athletics Championships in June 2014, the President of the AFI told Dr. Mendiratta that during a recent visit to a SAI training camp, *'several female athletes had expressed concern to him that the Athlete appeared to be very masculine in her physique, and queried whether she should be allowed to compete in the female category'*. Subsequently,

during the Junior Athletics Championships in Taipei between 12 - 15 June 2014, officials from the Asian Athletics Federation and some national coaches '*informally observed about the Athlete's stride and musculature*' and questioned her right to participate in female events. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 112)

Stride, musculature, and physique: these were the reasons that Chand was investigated for hyperandrogenism and ultimately declared ineligible. As Karkazis notes above, these types of physical or surface-level characteristics are "entangled with deeply subjective and stereotypical Western definitions of femininity." Another former athlete put it more bluntly in describing her experience competing against Caster Semenya: "She suspected that Ms. Semenya had a competitive advantage over other female athletes as a result of possessing certain biological traits associated with male bodies (including male levels of endogenous testosterone). Her feelings were reinforced by the comments of her fellow athletes (both male and female) who described Ms. Semenya as a man" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 102). Again and again the IAAF stated that these kinds of investigations have nothing to do with the sex or gender of female athletes. However, with the use of physical appearance as a legitimate reason to investigate an athlete, and the entanglement of physical appearance with both athleticism and subjective notions of gender norms, it is difficult to separate the Hyperandrogenism Regulations from the sex verification testing and gender testing they purport to have replaced.

Experts testifying at the CAS hearing who pointed out this slippage among physical appearance, athleticism, and gender norms, however, were told that they misunderstood the procedure of the 2011 IAAF Regulations on Hyperandrogenism. For example, the IAAF argues, ...it is wrong to suggest (as Dr. Karkazis does) that a majority of the indicators of hyperandrogenism identified by the Hyperandrogenism Regulations are entangled with

*‘deeply subjective and stereotypical Western definitions of femininity’.* The indicators in the Hyperandrogenism Regulations are not used to determine which female athletes should be investigated. Instead, they are only used once it has been decided that an investigation should be conducted: only at that point do the medical guidelines come into play. Furthermore, the guidelines are closely based on the American Association of Clinical Endocrinologists’ *Medical Guidelines for the Clinical Practice for the Diagnosis and Treatment of Hyperandrogenic Disorders* (2001) and on the *Consensus Document on the Management of Intersex Disorders*. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 76-77)

The above passage not only indicates the debate over the role that an evaluation of physical characteristics should play in investigating a female athlete for possible hyperandrogenism, but also confusion about the steps involved with actually pursuing an investigation. This confusion over procedure arises again and again, and I analyze it later in this section with a specific focus on enacting complex ethical, technical, medical focused policy in intercultural contexts. In addition to Karkazis’ analysis being discounted above because the IAAF evaluates her interpretation of procedure as incorrect, the very basis of her expertise is also discounted in other places during the hearing. This raises important questions regarding who gets “counted” as an expert, and what gets “counted” as expertise within this particular discourse community. I analyze the role and definition of expertise within this context next.

### **The Role and Definition of Expertise**

While a number of individuals who testified at the CAS hearing were referred to as experts, many of these individuals were routinely discredited during questioning or their

testimony was characterized as not relying on effective evidence. In this subsection I analyze the role and definition of expertise in the Hyperandrogenism Regulations and over the course of the hearing that suspended them. In the next subsection, I shift my focus to the role and definition of effective evidence. Experts in both the Hyperandrogenism Regulations and in the CAS hearing are primarily described as such because of two characteristics: (1) having gained expertise through practiced research, usually scientific or medical in nature, or (2) having gained expertise through direct personal experience as an elite athlete. When there is an attempt to discredit an expert, in this context it is usually done by criticizing or questioning an individual's experience with scientific or medical research or practice, or it is done by criticizing or questioning an individual's interpretation of scientific or medical literature.

One of the clearest examples of attempting to discredit an expert's testimony by criticizing or questioning their scientific or medical research or practical experience are the attempts to discredit Dr. Katrina Karkazis. As I noted earlier, Karkazis offered her own criticisms of the Hyperandrogenism Regulations during her testimony, arguing that they rely heavily on Western notions of femininity and on the policing of the appearance of female athletes who do not conform to such standards. Karkazis is one of the authors of the recent article "Out of Bounds? A Critique of the New Policies on Hyperandrogenism in Elite Female Athletes," published in the *American Journal of Bioethics* (Karkazis, Jordan-Young, Davis and Camporesi, 2012), and is a cultural and medical anthropologist and bioethicist currently working as a Senior Research Scholar at the Stanford Center for Biomedical Ethics in the Stanford University School of Medicine. By all accounts, Karkazis has a significant amount of personal and professional ethos and her perspective can offer useful insight into the issues at the heart of the CAS hearing on Chand's appeal. During her testimony, Karkazis cites her 2012 article and

...disputed the connection between testosterone and athletic performance, stating that there is '*no evidence*' that successful athletes have higher testosterone than less successful athletes. [Karkazis, et al., 2012] noted that while clinical studies show that testosterone helps individuals to increase their muscle size, strength and endurance, it does not follow that higher endogenous testosterone will cause improved athletic performance. Individuals have '*drastically different*' responses to testosterone, which is '*just one element in a complex neuroendocrine feedback system*'. Nearly all research on testosterone and athletics has been conducted in men. Moreover, while there is '*a 10- fold gap*' in male and female endogenous testosterone levels, the differences in athletic performance are significantly smaller. In summary, she says, there is '*a great deal of mythology*' about the physical effects of testosterone. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 51)

Karkazis' testimony above is compelling, offers a valuable critique of the evidence used to support the Hyperandrogenism Regulations, and effectively displays her experience and expertise with clinical studies and the research done in this area. Nevertheless, following the above paragraph the Panel noted in the hearing document, "In response to questioning by the IAAF's counsel, Dr. Karkazis confirmed that she was not an endocrinologist or a medical doctor and, as a bioethicist, she did not have experience in diagnosing or treating medical patients. However, she did have clinical experience of working with individuals with a range of intersex conditions and providing input into their care" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 51). Attempts to question her expertise focus on the fact that Karkazis is not a medical doctor and does not have direct medical experience. As I discuss later, this criticism of Karkazis' expertise has profound implications for critiques of science and medicine that come from outside

scientific and medical communities, such as that coming from technical communicators or technical communication scholars who work on health and medical rhetorics.

Expertise is portrayed as a significant aspect of witnesses' ethos throughout the CAS hearing in terms of expertise they do have, expertise they do not have, and expertise they are careful not to speak beyond. For example, in one instance the Panel noted, "Professor Ljungqvist was careful not to speak outside his area of expertise" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 64), a caution that is implicitly praised by the Panel. In another instance, the Panel recalled that "In response to questioning by the Panel, Ms. Radcliffe stated that as she was not a scientist, she was unable to express a view about whether allowing a female athlete to compete with an endogenous testosterone level of 8 nmol/L (i.e. just under the 10 nmol/L threshold) would upset the level playing field" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 99), another instance of an expert careful not to offer commentary or opinions beyond the specific scope of their expertise. Although Radcliffe's lack of expertise as a scientist in this instance is noted as significant in her understanding of specific levels of testosterone, in a prior paragraph her direct personal experience as an athlete is noted as valuable expertise in being able to comment on a different aspect of the Hyperandrogenism Regulations. The Panel recounts, "In her oral evidence, Ms. Radcliffe confirmed that her support for the Hyperandrogenism Regulations was based on the scientific opinions of the experts cited in her report and was reinforced by her own experience of growing up and competing as a female athlete" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 99). So while she failed to meet one requirement to be considered an expert, having direct medical or scientific research experience, Radcliffe did meet the other requirement of having direct experience as an athlete. In the eyes of the Panel, however, Karkazis met neither of these conditions, as evidenced above.



This role of expertise and the definitions of what makes a person an expert within this particular discourse community is significant for technical communicators and for the field of technical communication in a number of ways, the implications of which I investigate in more detail in Chapter 5. Briefly though, our field relies on the claim that as a bridge between the hard sciences, for example, and the humanities, we as technical communicators offer something of unique value by being able to read, research, write about, interact with, and be critical of scientific studies, medical reports, and other specialized knowledges. These are areas of practice or research with which we typically do not have the same specialized experience as, for example, medical practitioners who work directly with intersex infants, or scientists who work directly on tracking climate change. Nevertheless, we count our rhetorical expertise as a valuable contribution to these discourse communities to some extent, in fact, because we are outsiders, able to offer a perspective that would be challenging to arrive at working from within these systems. If however, such humanistic, rhetorical expertise, such “outsider” knowledge, is not considered expertise at all by those working within these specialized discourse communities, then we must reevaluate both *what* we can offer such specialized communities and *how* we offer it so that it is perceived as valuable and important. The view on expertise within this particular system demonstrates that as technical communicators we must reevaluate how to make our particular brand of expertise the kind of knowledge that is not only considered expertise by discourse communities such as this one, but at its very core, how to make our particular kind of expertise the kind of expertise that is taken seriously. This may in part have to do with the kinds of evidence we use to establish our expertise. The role and definition of both effective and ineffective evidence is another key theme that offers insight into how and why the

Hyperandrogenism Regulations were suspended and why this suspension is significant for technical communication research on health and medical rhetorics.

### **The Role and Definition of In/Effective Evidence**

Evidence deemed both effective and ineffective played a significant role in the suspension of the Hyperandrogenism Regulations, but not in the ways one might initially suspect. Recall that the regulations were not suspended because they were discriminatory, even though the CAS panel described them officially as discriminatory. And the CAS did not agree that the Hyperandrogenism Regulations were themselves based on flawed or faulty evidence, and instead praised the IAAF for the care it took in crafting the regulations. Rather, the Hyperandrogenism Regulations were suspended because over the course of the hearing, the evidence presented by the IAAF did not convince the CAS Panel that the discriminatory nature of the regulations was necessary in order to maintain fairness among competitors. The Panel ruled that the IAAF failed to establish “on the balance of probabilities that the Hyperandrogenism Regulations apply only to exclude female athletes that are shown to have a competitive advantage of the same order as that of a male athlete” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 153). Both the evidence that the CAS deemed effective and the evidence that the CAS deemed ineffective are worth analyzing here for insight into how in/effective evidence is understood in this particular context and discourse community.

Throughout the CAS hearing there are instances in which evidence is judged as being effective or ineffective. For example, after a lengthy debate over whether endogenous (natural) testosterone provides an advantage on athletic performance, one expert offered a comparison to elucidate his opinion on the current state of evidence in this research area. The Panel recounts,

At the end of his oral testimony, Professor Holt drew a comparison between the evolution of growth hormone testing and the Hyperandrogenism Regulations. He said that tests for growth hormone were developed during the 1990s, but that they were not implemented until 2012. During the intervening period, scientists worked hard to establish the scientific proof needed to justify the implementation of a growth hormone testing regime. The present state of the scientific evidence in relation to the role of endogenous testosterone on athletic performance is, in his view, similar to the state of knowledge about the effects of growth hormone in the 1990s. In Professor Holt's opinion, the current state of evidence is '*rudimentary*' and there is a long way to go before the evidence can withstand satisfactory scientific scrutiny. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 46).

Evidence that is valued in this context is typically clinical medical or scientific evidence, but even within this discourse community scientific evidence like the evidence Holt references above can be found flawed or in this case "rudimentary." Non-scientific, or sociological or humanistic based evidence is held to an even higher standard and more often judged to be "ineffective" evidence.

At a few instances throughout the CAS document the Panel offers some insight into how this particular discourse community views non-clinical evidence. In the passage below, for example, the Panel discusses some of the debate over differences in LBM between male and female athletes. In the course of this discussion, there is also commentary on what evidence is "counted" in this context and what is not. The Panel explicates,

It is fair to say that the scientific and medical basis for the difference in LBM has not been established and that more work would need to be done fully to understand how the

metabolism of males and females post puberty results in differences in LBM. The IAAF has, however, provided evidence that refutes the Athlete's argument that testosterone is not a material factor in causing that difference. The Athlete's case is essentially that testosterone alone does not cause differences in LBM. She has suggested other possible causes, both medical and sociological. However, those suggestions are based on hypotheses and sociological explanation and deductions by the Athlete's experts, not scientific or clinical data sufficient to establish them. On the other hand, the IAAF has provided such data and evidence to support its case on this issue. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 143)

In the above paragraph, sociological explanations are considered ineffective evidence, while scientific or clinical data are considered effective evidence. The Panel puts this distinction more bluntly in another area of the document, commenting on the 2012 article published in the *American Journal of Bioethics* by Karkazis, et al. The Panel claims, “The argument contained in the article represents a sociological opinion, which does not equate to scientific and clinical knowledge and evidence....[it] is unsupported by scientific study or analysis” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 134). Most bioethicists would probably disagree with the characterization of their work as “unsupported by analysis,” and yet in this context sociological evidence is not considered useful or effective because it is not scientific or clinical knowledge or evidence. Understanding the kinds of evidence that is deemed valuable in comparison to that evidence that is deemed valueless, and thus also the kinds of knowledge that is deemed to have value and the kind that is not. In this context, scientific and clinical knowledge and evidence supported by scientific study or analysis is worth considering. Sociological evidence is considered here to be mere opinion, and is therefore not worth the same

consideration. Similar to the ways that expertise and evidence played a role in the suspension of the Hyperandrogenism Regulations, a number of different stakeholders also had roles to play and particular value to contribute.

### **The Value of Stakeholder Perspectives**

Technical communication scholarship has long valued the input of stakeholder perspectives in a variety of contexts (Burton and Dunn, 1996; Cook, 2002; Kimme Hea and Shah, 2016; Stephens, DeLorme, and Hagen, 2015; Zoetewey and Staggers, 2004) and at first glance, the IAAF as an organization crafting policy and the CAS as an organization critiquing policy seem to be no different. Of particular value to the IAAF and CAS is the opinion of female athletes on the Hyperandrogenism Regulations, a key group of stakeholders arguably impacted the most by the regulations. Throughout the CAS hearing a number of witnesses testifying for both the IAAF and for Chand are noted as either current or former elite female athletes, and they are asked their opinions on the Hyperandrogenism Regulations. This demonstrates the value that the IAAF and the CAS put in stakeholder perspectives. The paradox, however, is that often these stakeholders are asked to make sweeping statements regarding the perspective of all female athletes. Indeed, the CAS and the IAAF both seem very focused on the idea of a “consensus” among female athletes regarding the need for and benefits of the Hyperandrogenism Regulations. A number of witnesses throughout the hearing are described as current or former elite female athletes, who are largely directly effected not by hyperandrogenism itself as a diagnosis but by the potential presence of hyperandrogenic female athletes competing in the female category of competition. During the hearing, three witnesses for the IAAF were current or former elite

female athletes, and one witness for Chand was a former elite female athlete. All offered valuable input from their perspectives, and are worth analyzing here.

Perhaps the most striking testimony offered on behalf of the IAAF was that of María Jose Martinez-Patiño. Recall that in Chapter 1 I discussed Martinez- Patiño’s case as part of the history of sex verification testing. Martinez-Patiño was the Spanish hurdler whose case may have been the key to transforming the way the IOC and the IAAF approached sex verification testing during the 1980s and 1990s by complicating the notion that chromosomal testing was an objective method for determining an athlete’s sex. Similarly, in Chapter 2 I noted the ways that Fausto-Sterling used Martinez-Patiño’s experience to analyze “how scientists, medical professionals, and the wider public have made sense of (or ought to make sense of) bodies that present themselves as neither entirely male nor entirely female” (2000, p. 3). In the CAS hearing document, Martinez-Patiño’s role is a bit more complicated. Her expertise derives from her experience with the former versions of the Hyperandrogenism Regulations, which existed at the time as chromosomal sex verification testing or what the CAS Panel refers to as “gender verification testing.” This language alone, a conflation of sex verification testing and gender, is indicative of some of the problems with enacting this policy in practice, which I explore in more detail in the next subsection.

Martinez-Patiño’s full testimony can be seen in Appendix D, and is worth including in full for a number of reasons. First, in the hearing Martinez-Patiño seems meant to metaphorically represent the history of athletes affected by sex verification testing policies, specifically those athletes now coming out in support of the Hyperandrogenism Regulations. The Panel noted, “Despite her own deeply painful experience, Professor Martinez- Patiño expressed confidence that the Hyperandrogenism Regulations are a necessary and appropriate means of ensuring a

level playing field for elite female athletes” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 95). Second, Martinez-Patiño’s testimony acknowledges not only her own positionality as a stakeholder who was directly effected by the Hyperandrogenism Regulations’ predecessor, but also acknowledges another important stakeholder group: “the women who are not hyperandrogenic and who wish to compete on an equal basis. In [Martinez-Patiño’s] view, the Hyperandrogenism Regulations are necessary in order for athletic competition to be carried out with equality” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 95). Finally, Martinez-Patiño here seems to represent an additional stakeholder group: those who are skeptical and vocal about their skepticism of the Hyperandrogenism Regulations. As a representative of this stakeholder group, Martinez-Patiño’s perspective is particularly valuable because she appears to have reversed her position on the Hyperandrogenism Regulations. The Panel explains,

In her oral testimony, Professor Martinez-Patiño was asked about a paper she had authored in which she explained her opposition to the Hyperandrogenism Regulations. Professor Martinez- Patiño explained that before she was a member of the IOC Medical Commission her opinion was shaped by her own personal experience of being subjected to gender testing under the Barr body test. However, over time her understanding of the science and medical evidence underpinning the Hyperandrogenism Regulations evolved. She had also had the opportunity to consider the perspective of high profile sportswomen and to understand the importance of ensuring a level playing field in professional sport. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 95)

This is another example of the role of evidence in this debate, as well as the role of expertise derived from different types of experience. Martinez-Patiño’s personal experience was initially what shaped her perspective on the Hyperandrogenism Regulations. However, her subsequent

exposure to and understanding of a particular kind of evidence, science and medical evidence, changed her perspective. Martinez-Patiño's was not the only stakeholder perspective on the Hyperandrogenism Regulations to have evolved over time.

Joanna Harper, a witness for the IAAF, is not only a medical physicist but also competed for over 30 years in distance running events in the male category before undergoing what the CAS Panel refers to as "a process of gender transition" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 96). Since 2005 she has competed in the female category. Her testimony is thus of importance because she again demonstrates the two different types of expertise that are valued in this context, but also because of that expertise she is meant to represent a significant number of stakeholders from a particular group. In this case, Harper personally represents the stakeholder group of transgendered runners, and her research also focuses on the effect of testosterone levels on transgender distance runners. Harper's testimony on her research seems meant to demonstrate that higher natural levels of testosterone do indeed contribute to greater athleticism because of the decrease in speed she and other transgender runners experienced after undergoing testosterone suppression as a part of hormone replacement therapy. The Panel notes, "According to Ms. Harper, she was '*noticeably slower*' within one month of starting testosterone suppression. (Her witness statement compared her finishing times for various athletics event before and after undergoing HRT.) This reduction in speed persisted after undergoing a gonadectomy" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 96). Noticing this difference, Harper collected data from other transgender runners and describes how,

All had '*much slower times*' competing as females than when they competed as males. Those athletes' time differences were so great that their aged-graded performances (a mathematical method of comparing race times by men and women of all ages) stayed



*‘virtually constant’*. The results of Ms. Harper's study have been published in the *Journal of Sporting Cultures and Identities*. She concluded that, *‘the data indicate that, at least for distance running, manipulating [testosterone] levels is enough to change a person's athletic performance from competitive male to equally competitive female’*.

(CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 99)

The Panel found this evidence compelling, noting that it “provides support for the conclusion that testosterone is an appropriate differentiating factor between male and female athletes and a conclusion that a lowering of endogenous testosterone reduces athletic ability, as does the lowering of exogenous testosterone” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 134). However, from a feminist technical communication perspective on health and medical rhetoric, Harper and the Panel are equating the experience of transgender runners with the experience of hyperandrogenic runners, or potentially intersex runners, and the two stakeholder groups are not only completely different but are also affected by the Hyperandrogenism Regulations in completely different ways.

Harper conflates the experience of these two distinct stakeholder groups a second time regarding the Hyperandrogenism Regulations’ surgical and hormonal criteria that female athletes with hyperandrogenism are expected to follow in order to regain eligibility. She explains,

In relation to the issue of medical consent, Ms. Harper *‘very strongly’* agreed with the Athlete that it is wrong for intersex women to be coerced into undertaking surgery in order to continue participating in competitive sport. She said that it was *‘questionable at best’* whether young women in that position can give informed consent for medical interventions within the current procedures. However, Ms. Harper did not agree that the harmful effects of chemical hormone manipulation are as severe as the Athlete suggested.

Ms. Harper underwent 18 months of chemical testosterone-suppression and, except for some diuretic effects, she experienced no adverse consequences. She has also spoken with several other female athletes who reported that they have undergone testosterone-suppression without any major side effects. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 97).

From a feminist technical communication perspective on health and medical rhetoric, there are a number of important and problematic things regarding the role and value of stakeholders in Harper's statement above. First, again, the conflation of two distinct groups of stakeholders is problematic. A transgender athlete who chooses to undergo hormone suppression cannot and should not be equated to a hyperandrogenic or intersex athlete who is told she must undergo such suppression. Second, Harper's personal experience, while a useful anecdote, cannot and should not be applied to all members of her own stakeholder group, as she has tried to do by referencing speaking to other female athletes who have undergone testosterone suppression. Third, Harper's entire testimony seems to suggest that there is some universality to the experience of hormone suppression therapy, whether by choice or by insistence, which erases the very subjective and unique personal experience of each individual female athlete who has gone or will go through either of these two distinct experiences. In these ways, while Harper's voice is an important one, the role of her stakeholder perspective is at once overgeneralizing and reductive at the same time.

Paula Radcliffe, MBE, whose testimony I have recounted aspects of in earlier portions of this section, was a witness for the IAAF. The Panel describes her qualifications as follows:

Ms. Radcliffe is an exceptionally accomplished elite-level long-distance runner. She has won gold medals at the European Championships, World Championships and Commonwealth Games and is the current women's world record holder for the 10km,

25km and marathon events. Ms. Radcliffe has been a member of the IAAF Athletes' Commission since around 2009. In 2013, she participated as an IAAF athlete representative in the IOC's review of its hyperandrogenism regulations. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 98)

Radcliffe is thus meant to represent the stakeholder group of current competitive female athletes who presumably have a stake in the Hyperandrogenism Regulations because of the regulations' scope of maintaining fairness across all female athletic competition. Most of Radcliffe's testimony regarding the overall need of the Hyperandrogenism Regulations in order to maintain fairness has been reviewed earlier in this section, but of particular use for this subsection on the role of stakeholders is Radcliffe's generalizations about the stakeholder group she represents. She explained,

For these reasons, Ms. Radcliffe fully supported the approach under the Hyperandrogenism Regulations. She believed that many other athletes share her views. She cited the reaction to the case of Caster Semenya, in respect of whom '*many athletes*' were '*extremely concerned that she had an unfair advantages and that as a result she was able to compete at a level that they simply were not*'. In Ms. Radcliffe's opinion, the current approach under the Hyperandrogenism Regulations is both necessary and fair and strikes an '*appropriate balance*' between the various interests involved. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 99)

It should be noted that Radcliffe here is being asked to represent not only all of the "many other athletes" who share her views, but also "the various interests involved," which seems to be an implied reference to hyperandrogenic female athletes. But nowhere in the CAS hearing, aside from Chand's own testimony, are hyperandrogenic female athletes given a voice to represent that

particular stakeholder group, the group that arguably has the most interest in the Hyperandrogenism Regulations as they have existed since 2011.

Through the witnesses above and other witnesses, the IAAF repeatedly argued that “the community of athletes” overwhelmingly supports the Hyperandrogenism Regulations. However, one witness for Chand, Madeleine Pape, refuted this supposed consensus. Pape is a former Australian track and field athlete and current PhD student at the University of Wisconsin. Pape’s opinion, contrary to the IAAF’s contention that the community of athletes not only agrees as a stakeholder group but also that they support the regulations, is important for two reasons. First Pape’s testimony demonstrates a stakeholder perspective that directly contradicts other witnesses brought in by the IAAF, although there is a purported consensus among the community of athletes regarding these regulations. For example,

Ms. Pape took issue with Paula Radcliffe's reliance on the notion of '*a fair and level playing field*'. According to Ms. Pape, this position is problematic for two reasons. First, sport is inherently unfair and there are innumerable randomly distributed factors that affect athletic performance and which preclude the possibility of a level playing field. She cited the examples of variations in: (i) height; (ii) vision; (iii) aerobic capacity and endurance; (iv) muscle growth; (v) access to state-of-the-art training facilities and methods; (vi) access to superior coaching; (vii) access to sports-psychology services and sports-science services; and (viii) access to nutritious food and health supplements. Second, Ms. Pape suggested that Ms. Radcliffe's reliance on the IAAF's position regarding the scientific effects of endogenous testosterone fails to acknowledge the complexity of the scientific evidence or the extent of divergent views amongst the experts themselves. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 103).

In addition to the critique offered above of both experts as a unified stakeholder group and of the notion of fairness, Pape also offered her own take on the IAAF's supposed engagement with stakeholders regarding the Hyperandrogenism Regulations. As part of her witness testimony, Pape states,

...in light of the performance gap between men and women in many sports, she supported the ongoing separation of the sexes where appropriate. However, she opposes *'resorting to flawed scientific perspectives to police that separation'* and *'targeting of women whose self presentation is inconsistent with dominant gender stereotypes'*. She added that there was no sign that the IAAF had engaged with a diverse group of female stakeholders in the process of adopting the Hyperandrogenism Regulations. Ms. Pape strongly rejected the suggestion in Dr. Murray's witness statement that the Hyperandrogenism Regulations received support from the majority of the community of female athletes. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 103)

The statement above is the second key reason that Pape's testimony as that of a central stakeholder is important. Here we see the results of a stakeholder feeling like she has not had a role in a process in which she has purported to have participated through the representation of other members of her stakeholder group. Clearly there are multiple groups of stakeholders in the community of athletes affected by these Hyperandrogenism Regulations, and yet the IAAF has been insistent that there has been a consensus from that community. This obviously is not the case, if only based on the fact that multiple witnesses throughout this CAS hearing have offered multiple opinions from the position of current or former elite female athletes. However, Pape goes one step further in her testimony and actually engages the voices of those athletes who do not agree with the IAAF's 2011 Hyperandrogenism Regulations. The Panel recounts,

Ms. Pape exhibited to her statement a letter to the IAAF Council signed by a number of elite-level athletes, medical professionals and human rights activists. The letter, which was dated 3 December 2014, expressed strong opposition to the Athlete's suspension. The letter attacked the scientific basis of the Hyperandrogenism Regulations and argued that the policy exacerbates the unfair scrutiny and discrimination of women in sport who are perceived as deviating from gender norms. It added that the Hyperandrogenism Regulations place a disproportionate burden on women from developing countries and women who earn low incomes, adding that the policy *'fundamentally undermines the spirit of sport'*. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 103).

This demonstrates something technical communicators know well: if stakeholders are to be engaged in a research and development process, or in audience analysis, or in usability testing, they should truly represent the multiplicity of stakeholder groups effected.

The role of stakeholders in the CAS hearing is important, and the value placed on stakeholder perspectives is a positive aspect of the hearing. The problem demonstrated by the above instances in which stakeholders are asked to provide their opinion is twofold. First, stakeholders are often asked to generalize their personal experience as applicable not only to their own stakeholder group, a concept on which I expand in a moment, but also to other stakeholder groups of which they are not necessarily a part. In this way stakeholders are asked to provide insight, but only in so much as a consensus—although a false one—can be arrived at. Second, repeatedly throughout the hearing there is an assumption that one representative can serve as the voice of an entire stakeholder group. As I noted above, the word “consensus” is used multiple times, although it is clear even from the expert testimony that there isn't a consensus among scientists, medical experts, or athletes on these regulations or the evidence that supports

them—hence the need for this hearing in the first place. This twofold problem with the ways that stakeholders are considered in the development of the Hyperandrogenism Regulations and in the critiques of them offered throughout the hearing could be a moment at which technical communicators could intervene in positive ways. Technical communicators understand both the value of stakeholder perspectives and the fact that they are rarely uniform. I discuss this opportunity more in the final subsection of this section, and I provide examples of broader implications for the field in Chapter 5.

### **The Challenges of Intercultural Communication in Enacting International Policy**

Throughout the CAS hearing it becomes clear that one of the challenges of the Hyperandrogenism Regulations is putting them into practice. This became especially apparent in the timeline of procedures the AFI, the IAAF's national federation in India, and the Sports Authority of India (SAI), attempted to follow in order to uphold the Hyperandrogenism Regulations. The challenges of enacting international policy also became apparent after Chand was initially deemed ineligible in the subsequent media attention focused on Chand's physical appearance and questions about her sex, both of which were magnified because of the cultural implications of such questions in India.

While the Hyperandrogenism Regulations do provide some guidance on how national federations are to put them into practice, there are gaps that leave some of that process open to interpretation. The timeline of the actions AFI and SAI took in an attempt to accurately follow the procedures called for by the Hyperandrogenism Regulations indicates some of the mistakes that might be made. Both the timeline itself and the language (or lack thereof) that was used to explain to Chand the medical procedures she was undergoing and her options once she was

declared ineligible are debated throughout the hearing. These debated aspects of the timeline of events are key because they provide some insight into the bungling of actually implementing policy and procedures like the ones prescribed by the Hyperandrogenism Regulations. Of note, for example, is the letter Chand received officially notifying her that she had been provisionally suspended. The letter read,

*Madam,*

*Based on your medical reports received from Sports Authority of India and a copy of the same has already been handed over to you by SAI in person, you are hereby provisionally stopped from participation in any Competition in athletics with immediate effect.*

*To be eligible for participation, you are further advised to follow the annexed IAAF guidelines (Copy enclosed).*

*Yours sincerely (C.K. Valson) Secretary, AFI (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 8)*

Of particular significance in this letter is the reference to the “enclosed guidelines.” The Panel continued with the timeline Chand’s suspension from eligibility, explaining:

The Decision Letter did not contain any further information about the basis of the Athlete's suspension, the content of the medical reports referred to in the first sentence of the letter, or the Athlete's rights of appeal. According to the Athlete, the letter incorrectly enclosed the IAAF Sex Reassignment Regulations rather than the Hyperandrogenism Regulations. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 8)



Of importance here is that the incorrect guidelines were enclosed in the letter to Chand, which raises questions about what other issues were encountered in the implementation of the procedures of the Hyperandrogenism Regulations. And, indeed, there were other moments of confusion about scope, directions, language, requirements, and implications as the AFI and the SAI attempted to put into actions the Hyperandrogenism Regulations. For example, in describing the timeline of Chand's medical testing and subsequent suspension, the Panel recounted the testimony of Dr. Mendiratta, the Chairperson of the AFI Medical Commission, as follows:

According to Dr. Mendiratta, in late June 2014 Mr. Dogra informed him that the Athlete and another female athlete had complained of repeated stomach problems. Mr. Dogra therefore advised Dr. Mendiratta to conduct an ultrasound examination to investigate the cause of the problems. In addition, he asked Dr. Mendiratta to arrange for blood and urine samples to be tested for anti-doping and health monitoring purposes. Dr. Mendiratta expressly denied that any of these tests were connected with gender testing or testing for hyperandrogenism. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 4)

However, a witness who traveled with Chand to New Delhi testified at the hearing and stated, "Upon arrival, AFI officials informed the Athlete that she had to undergo a routine doping test. Ms. Singh stated that Dr. Mendiratta informed the Athlete that the test was a '*High Performance Profile test*' to assess the Athlete's performance level and to gauge what steps could be done to enhance it" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 117). She continues, "Ms. Singh stated that she had never heard anyone mention the Athlete having stomach pains" (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 118). The contradictions of this timeline represent a moment when technical communicators, who are trained in critically thinking about

how to actually implement policy through things like usability testing, might intervene. I explain this opportunity and its implications for the field of technical communication in Chapter 5.

The second significant aspect of the AFI and SAI's attempts to put the Hyperandrogenism Regulations into practice is the role that intercultural communication played in this process and, more specifically, in its failures. Technical communication scholarship has recognized intercultural technical communication as a complicated and important communication site, and understanding unique cultural factors is widely recognized as an important part of effectively implementing technical and professional communication practices in intercultural contexts (Cardon, 2008; DeVoss, Jasken & Hayden, 2002; Dragga, 1999; Hunsinger, 2006; St. Amant, 2002; Ulijn, & St. Amant, 2000). The failures to effectively implement Hyperandrogenism Regulations in this context seems to have resulted in part from a lack of attention to intercultural communication. Indian culture not only played a significant role in Chand being investigated in the first place, but also in the results her investigation had on her mental and emotional well being. This seems to begin in the communication between AFI and SAI regarding Chand's athletic successes and complaints from the Asian Athletics Association regarding her physical appearance.

The CAS Panel recounts a letter sent from the AFI to the SAI, which seems to have initiated the investigation into Chand possibly having hyperandrogenism. According to the Panel, the subject of the letter was "Gender Verification Issue," and it read, in part,

*It has been brought to the notice of the undersigned that there are definite doubts regarding the gender of an Athlete Ms. Dutee Chand The athlete has won a Gold Medal in 200m (Women) and as well as 4X400 Relay (Women), in the recently concluded 17th Asian Junior Athletics Championships held at Chinese Taipei. During the above*

*mentioned championships, also, doubts were expressed by the Asian Athletics Association regarding her gender issue.*

*As is aware [sic] that in the previous past also such cases of Female Hyperandrogenism [sic] have brought embarrassment to the fair name of sports in India.*

*She is presently training at SAI Centre Bangalore, Karnataka. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 4)*

Of note in this excerpt is the notion of “embarrassment.” This indicates a cultural context in which sexual dimorphism is strictly upheld, a cultural consideration that researcher and activist Dr. Payoshni Mitra confirmed in her explanation of Indian cultural conceptions of gender during the CAS hearing (which I will discuss momentarily). The letter continues, *“In view of the above you may like to conduct Gender verification test of Ms. Dutee Chand as per the established protocol, so as to avoid any embarrassment to India in the International arena at a later stage. The matter may be taken up on an urgent basis as the athlete is bound to leave on 18th July, 2014, for World Junior Athletics Championships”* (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 4). This excerpt from the letter is significant both because of the way such an investigation is characterized as “embarrassing,” and the urgency with which attention to such potential embarrassment requires, but also in the very language used to describe the investigation.

The IAAF is adamant throughout the Hyperandrogenism Regulations that these regulations have nothing to do with the sex or gender of the athlete under investigation. Similarly, the IAAF insists that references to sex and gender verification tests are no longer a part of their official policy. And yet, in an official letter sent from the AFI to the SAI we see the suggestion that the SAI “may like to conduct Gender verification test of Ms. Dutee Chand as per

the established protocol” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 4). Pape’s testimony also notes the way that the athletic community at large perceives the language and implications of the Hyperandrogenism Regulations. She explains that,

...despite their express disavowal of ‘gender verification’, the Hyperandrogenism Regulations do amount to sex testing and are perceived as such by the athletics community. In her view, this is because *‘the act of drawing a line between the endogenous testosterone levels of male and female athletes, in combination with scrutinising other bodily and behavioural characteristics of women, is unmistakably an attempt to define those who are not women for the purposes of athletic completion, even if they are not explicitly being defined as men’*. She added that, *‘the use of the term “masculine” in place of “male” is a semantic strategy that in no way absolves the Regulations of their sex test function’*. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 102)

Again, although the IAAF is insistent that the Hyperandrogenism Regulations are not sex testing, Pape argues that the language usage and purpose of the document are enough to convince the athletic community that these regulations are no different than the sex verification testing policies that came before them. Chand’s case demonstrates this in one particular cultural context.

Dr. Mitra provides some important insight into the ways sex and gender are predominantly perceived in Indian culture, and the magnified impact the procedural breakdown I analyzed above had within this particular cultural context. The Panel recounted part of her testimony as follows:

Dr. Mitra's statement sought to explain the effect of the Athlete's suspension in light of the prevailing social climate in India, which includes high levels of misogyny and

violence against women. According to Dr. Mitra, Indian culture places a high value on fertility and sexual purity. Against that backdrop, the repeated public references to the Athlete's '*gender*' and the presence of '*male hormone*' in her body have made life extremely difficult for the Athlete. The Athlete often breaks down because of the way her sexual identity, honesty and ability to procreate have been questioned in the media. While the Athlete has responded with remarkable resilience to the invasive and deeply personal coverage, her life is unlikely ever to be what it would have been had she not been exposed to such intense public scrutiny and questioning about her gender. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 111)

While the public discourse and media attention focused on Chand and explicitly questioning her sex and gender certainly played a significant role in the challenges Chand has faced throughout this experience, the effect of this discourse is magnified because of the particular cultural context in which this narrative has played out. Cultural context is not addressed at all in the Hyperandrogenism Regulations, a lack of attention that became problematic in this particular situation. Chand herself echoes these implications in her own testimony:

She stated that while people would recognise her as a woman if her appeal succeeds, she is deeply concerned they may not do so if her appeal is dismissed. She described how a young female friend had been forced to leave her village after people refused to accept her as a girl because of her physical appearance. [Chand] went on to describe how she had already developed a good reputation in her country. She fears that if she loses her appeal, she will have to leave her village. (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 109.379)

The effects of not only the regulations themselves but also the public speculation about Chand have significant personal implications for her. An understanding of the importance of considering cultural contexts in implementing such policy could have alleviated some of the problems in both putting the regulations into practice and the bungling of the supposed emphasis on maintaining the investigated athlete's privacy. This is the kind of insight that a technical communicator could potentially offer, especially guided by feminist theoretical stance.

### **Conclusion: Circular Relationship Between a Regulatory Ideal and Policy**

#### **Upholding It**

From a feminist technical communication perspective on health and medical rhetoric, the 2011 IAAF Hyperandrogenism Regulations and the CAS Award are an example of a closed, Foucauldian system. By this I mean that the Hyperandrogenism Regulations are the most recent discursive construction in this particular history to uphold sexual dimorphism as a “a regulatory ideal.” There is a circular relationship between the thing that is being regulated and the policy that is created to regulate the thing, a relationship that is not open to outside voices, stakeholders, expertise, or evidence that might contradict that relationship. We see this in the routine ways that non-clinical evidence is dismissed, the expertise of contradictory witnesses is discounted, athletes are treated as a unified community, and key stakeholder groups are conflated and their diverse interests ignored. We see this in the acknowledgement that nature is not neat, and that sex is not a binary, and yet in the face of these acknowledgements there is still a continued insistence on finding some sort of way to regulate such a messy reality into two neat categories.

In Chapter 2 I explicated Foucault's regulatory ideal and Butler's application of that regulatory ideal to the discursive construction and maintained of a binary system of sex

differences. These concepts are significant for in light of the findings of this study because the focus of the ways that the Hyperandrogenism Regulations and the CAS Award both purport that the thing the Hyperandrogenism Regulations are regulating, that is, hormonal levels of female athletes, is worth regulating. Because these documents argue for the need to regulate female athletes' hormone levels through technical, medical language, images, an emphasis on the health of the female athletes, a care for fairness, and a number of other strategies I explicated above, the regulations themselves are in effect producing the difference they claim requires regulation. And because the significance of a difference in female athletes' hormone levels has been identified—and therefore, produced—the regulations appear to many viewers and users to indeed be needed for all the reasons they claim to be necessary.

In this closed, circular system, Foucault's regulatory ideal shapes the development of health policy, which then enforces the existence of that regulatory ideal, which then reinforces the need for a policy to regulate it. However, something happened to open up this closed system to outside inspection. This closed system was ruptured by Chand's appeal, which brought the regulations to public attention and resulted in the CAS hearing. At the CAS hearing, the Hyperandrogenism Regulations were suspended because they did not provide effective evidence to support the need for their own existence as health policy. That is, the regulations were suspended because they did not effectively produce the regulatory ideal that they were crafted to regulate. However, because of the circular system in which the regulations exist(ed), their suspension is not actually a break in the system. Instead, it is an opportunity for the IAAF to provide such evidence, thereby returning to the Hyperandrogenism Regulations' role of ultimately upholding the existence of the regulatory ideal they produced in the first place. In order to change such a closed system, critical voices must be both allowed within the system and

must be taken seriously. My analysis shows that dissenting voices throughout the CAS hearing are dismissed, ignored, or critiqued as illegitimate. The question, then, is how to achieve change in closed system such as this one.

The themes I analyzed in this chapter can be reframed as a heuristic through which technical communicators might insert themselves into such a typically closed, circular system and potentially enact change. Upon having the opportunity to work within a closed, circular system such as the one I analyzed in this study, such a heuristic might seek to answer the following questions:

1. What kinds of slippages are there between words, concepts, ideas, and themes, and what are the implications of such slippages? How might these be more clearly defined and delineated?
2. What is the role and definition of expertise within this discourse community?
3. What is the role and definition of effective evidence within this discourse community? Of ineffective evidence?
4. What is the value of stakeholder perspectives within this discourse community? Who are the stakeholders who are included? Who are the ones who are excluded? (How) are they delineated?
5. What kinds of practical and theoretical challenges will face the enactment of a particular policy in a particular context?

By better understanding the slippages between concepts and terms, the way evidence and expertise is constructed and valued, the role of stakeholders, and the particular challenges of enacting this health policy in international contexts, technical communicators might not only enter into this particular discourse community to potentially enact change, but might also use this



heuristic to enter into other typically closed systems like specialized health and medical policy contexts to enact change within those spaces as well. I expand on the implications of this heuristics for technical communication research, practice, and pedagogy in Chapter 5.

## CHAPTER 5: IMPLICATIONS FOR TECHNICAL COMMUNICATION

### Introduction

In my analysis of the 2011 IAAF Regulations on Hyperandrogenism, their supplementary documents, and the CAS Award that resulted in their suspension, I found that the discourse community that supports these regulations is an example of a closed, Foucauldian system in which Foucault's regulatory ideal shapes the development of health policy, which then enforces the existence of that regulatory ideal, which then reinforces the need for a policy to regulate it. This closed system was ruptured by Chand's appeal, which brought the regulations public attention and resulted in the CAS hearing and the regulations' suspension. However, because of the circular system in which the regulations exist(ed), their suspension is simply an opportunity for the IAAF to provide such evidence, thereby returning to their role of ultimately upholding the existence of the regulatory ideal the regulations produced in the first place. My analysis shows that dissenting voices throughout the CAS hearing are dismissed, ignored, or critiqued as illegitimate, but in order to change such a closed system, critical voices must both be allowed within the system and taken seriously. Based on the themes I identified in the text sites I analyzed, I developed a heuristic through which technical communicators might insert themselves into such a typically closed, circular system and potentially enact change. My findings contribute to the field of technical communication in general, but especially technical communication focused on health and medical rhetorics, in three ways: (1) they further define and expand the boundaries of technical communication scholarship on health and medical rhetorics; (2) they open a new space for intervening in the ways that technical communication

practices normalize problematic conceptualizations of sex and gender; and (3) they provide the framework for a contemporary case study project to meet a number of student learning outcomes and course objects in an undergraduate technical writing service course. In the sections that follow I explain in detail the implications of my findings for our field's research, practice, and teaching. I conclude this chapter by discussing future areas of research based on and extending the focus of this study.

### **Implications for Research: Re/Mapping the Current and Future Boundaries of Health and Medical Rhetorics**

In April 2016 a call for proposals (CFP) was released for a new edited collection in the field of health and medical rhetorics: *The Rhetoric of Health and Medicine as/is: Theories and Concepts for an Emerging Field*. Editors Lisa Meloncon, Scott Graham, Jenell Johnson, John Lynch, and Cynthia Ryan position the collection as a self-reflexive opportunity for scholars to articulate the theoretical constructs that guide the research and thinking of the field and an opportunity to define the boundaries of the field. They explain, "We definitely want to nudge and even push scholars in the rhetoric of health and medicine to appraise what it is that we do and examine what sets us apart from other related fields. This endeavor means taking a critical stance to determine what is at stake when we say that we are rhetoricians of health and medicine" (S. S. Graham, ATTW-listserv, April 20, 2016). The *Rhetoric of Health and Medicine as/is* CFP is thus a useful place to find an assessment of the current and potential future boundaries of the field, as well as a space in which to locate key concepts grounding rhetoric of health and medicine as a field of inquiry (S. S. Graham, ATTW-listserv, April 20, 2016). Consequently, this call also helps to demonstrate the ways that this study simultaneously contributes to defining these existing boundaries and to expanding the boundaries of the field as it develops.

Published on the WPA-listserv and the ATTW-listserv and posted on a number of notable rhetoric, technical communication, and health and medical rhetoric websites, including the Rhetoricians of Health and Medicine site (<http://medicalrhetoric.com/?p=221>), the Blogora of the Rhetoric Society of America (<http://rsa.cwrl.utexas.edu/node/7018>), and the Association for the Rhetoric of Science, Technology, and Medicine Facebook page (<https://www.facebook.com/Association-for-the-Rhetoric-of-Science-Technology-and-Medicine-179158745489275/?fref=nf>), just to name a few, the circulation of the CFP to this wide network of public sites indicates the growing scholarly interest in health and medical rhetorics in general. The content of the call is of particular interest to this study as it is the most recent articulation of the current state of the field (see Appendix E). Describing their rationale for the call, editors Lisa Meloncon, Scott Graham, Jenell Johnson, John Lynch, and Cynthia Ryan describe the “growing and vibrant” field of health and medical rhetorics as incorporating scholars who hail from a number of different fields, including communication, technical and professional communication, composition, and linguistics (S. S. Graham, ATTW-listserv, April 20, 2016). Helpfully, they provide the following “series of terms participants at the Discourses of Health Medicine 2015 ([www.medicalrhetoric.com/symposium2015](http://www.medicalrhetoric.com/symposium2015)) felt were vital for a conceptual understanding of the field” (S. S. Graham, ATTW-listserv, April 20, 2016) (see Table 8 below):

Table 8: *Rhetoric of Health and Medicine as/is* CFP Vital Terms

<i>Rhetoric of Health and Medicine as/is</i> CFP Vital Terms	
Consent	Advocacy
Ethics	Health citizenship
Professionalism	Environment
Global	Risk (comm)
Methods	Publics
Performance	Invention
Materiality	Circulation/delivery
Ontology	Discourse
Agency	Narrative
Lived experience	Decision-making
Online	STS
Technology	Disability studies
Visual	Rhetoric of science
Genre	Medical and health humanities

This set of terms is also useful for situating this study within the field of health and medical rhetorics. In Table 9 below, the shaded cells represent terms that this study touches upon or incorporates in my selected research sites, methodology, analysis, and / or findings:

Table 9: *Rhetoric of Health and Medicine as/is* CFP Vital Terms: Current Study

<i>Rhetoric of Health and Medicine as/is</i> CFP Vital Terms: Current Study	
Consent	Advocacy
Ethics	Health citizenship
Professionalism	Environment
Global	Risk (comm)
Methods	Publics
Performance	Invention
Materiality	Circulation/delivery
Ontology	Discourse
Agency	Narrative
Lived experience	Decision-making
Online	STS
Technology	Disability studies
Visual	Rhetoric of science
Genre	Medical and health humanities

The ways that this study reflects, challenges, and adds to each of the above terms in shaded cells, some briefly and some deeply, contributes to defining, expanding, and in some ways, troubling the current boundaries of the field of health and medical rhetorics.

In a growing field such as health and medical rhetorics, scholarship that contributes to mapping the existing boundaries of the field is equally as important as scholarship that expands or troubles those boundaries. In many ways, this study helps with establishing the above terms as terms that are of vital importance for health and medical rhetorics because my analysis contributes to existing research in these areas. For example, in Chapter 4 I explicated the role that expertise and experience played in this particular discourse community and ultimately in the suspension of the 2011 IAAF Regulations on Hyperandrogenism. My analysis of expertise and experience within this context could be categorized as “ethics,” “professionalism,” “ontology,” “lived experience,” “discourse,” and “rhetoric of science,” helping to define these as important terms for mapping the boundaries of the field. In other ways, this study helps to trouble the boundaries of the field of health and medical rhetorics. For example, one might ask: when should scholarship be categorized as “health and medical rhetorics” and when should it be categorized as “disability studies”? In exploring the ways that the 2011 IAAF Regulations on Hyperandrogenism and the CAS hearing medicalized hyperandrogenism and, by extension, potentially intersex individuals, this study has drawn on the work of a number of scholars from disability studies (Booher, 2011; Cowley, 2012; Davis, 2013; Gabel, et al., 2016; Garland-Thomson, 2011; Hall, 2011; Meloncon, 2013; Palmeri, 2009; Price, 2009; Schalk, 2013). However, whether an intersex individual should be considered a person with a disability is a question that has been debated within and among the intersex community, disability rights activists, and the medical community for many years, and is an issue that has no easy answer

(Davis, 2011; Foster, 2004; Garland-Thomson, 2004; Reis, 2007). This troubles the boundaries of the field of health and medical rhetorics by challenging where and how disability studies and health and medical rhetorics—as distinct but interconnected and often overlapping fields—come together and where they do not.

This study also suggests a new site of research for technical communication scholarship on health and medical rhetorics: athletic health policy. While unique in many ways, the 2011 IAAF Regulations on Hyperandrogenism are not the only athletic policy focusing on health and medicine, nor are they the only ones to do so on an international scale. For example, the IAAF has policies on the participation of transgender athletes in competition, on “Special issues of female athletes,” on infectious diseases, sports and medicine, and on Attention Deficit Hyperactivity Disorder (ADHD), among others (iaaf.org). Similarly, the IOC also has a policy on the participation of transgender athletes in competition, and recently changed its policy on the participation of hyperandrogenic female athletes in competition. On a national level, the National Collegiate Athletic Association (NCAA) has policies, regulations, and publications on mental health best practices, on including transgender athletes in competition, on disordered eating and eating disorders, and on concussions, to name a few (ncaa.org). Each of these policies, the discourse communities that help to shape them, and the public discourse that follows when a rupture occurs and brings a problematic aspect of a policy into public attention, help shape popular conceptualizations of health, medicine, and bodies. And yet, technical communication broadly has not yet focused on athletic policy to the extent that it might. Aside from Hallenbeck’s study of 19<sup>th</sup> century woman bicyclists (2012), there has been little attention to the rich opportunities for studying the communication, policy, health and medical research, discourse communities, user interactions, and intercultural contexts that come with the world(s)

of sports at the elite, collegiate, amateur, or youth levels. With a focus on the health and medical aspects of athletic policy, this study opens the opportunity for such research.

This study also contributes a uniquely feminist technical communication approach to analyzing health and medical rhetorics, which in turn helps to map the boundaries of the field by extending analytical perspectives used for studies in this field. This perspective adds to both the sites of research that make up scholarship in health and medical rhetorics and to the ways that such sites are studied, simultaneously defining and expanding aspects of the field. In Chapter 4, I described a feminist technical communication approach to health and medical rhetorics as including the following key assumptions:

1. Sex and gender binaries are discursively constructed;
2. Medical and health discourses often rely on gendered language even in scientific studies, perpetuating the myth of sex and gender binaries, and often resulting in particularly negative effects for individuals with embodiments that exist beyond such binaries;
3. A humanistic approach to technical communication provides important insight into the normalizing power of technical writing, especially health and medical rhetorics;
4. Because of all of the above, there is unique value in focusing on health and medical rhetorics from a humanistic, feminist, technical communication perspective.

As a mode of analysis, a feminist technical communication perspective on health and medical rhetorics draws on a theoretical foundation that is familiar to the disciplines from which health and medical rhetorics draws. It is also firmly grounded in the tradition of humanistic approaches to technical communication. The result is a research perspective that can shed particular light on the ways that health and medical rhetorics effect the discursive construction and normalization of



certain conceptualizations of bodies, a research focus that is right at home in health and medical rhetorics. Such an expansion of our field's research focus can affect the practice of technical communicators in health and medical discourse communities as well, with a specific focus on sex and gender, an area with which our field has yet to fully engage.

### **Implications for Practice: Critically Engaging with Health Policy on Issues of Sex and Gender**

The findings of this study contribute not only to the case that technical communication *can* and *should* engage with issues of sex and gender in health and medical discourse communities, but also *how* technical communicators might do so. In Chapter 2 I noted that the field of health and medical rhetorics, like the broader field of technical communication, has done some work engaging with feminism and, more specifically, with issues related to the ways that health and medicine often construct, regulate, medicalize, and limit conceptualizations of sex and gender. There is more work to be done, but my findings indicate both how challenging and important such work can be. The results of this study demonstrate that in this case, voices actively working to change the discursive narrative about female athletes' bodies in general and, more specifically, hyperandrogenic and potentially intersex bodies, are routinely dismissed, ignored, or critiqued as illegitimate. If health and medical rhetorics often sustain problematic notions about the sex and genders of bodies, how might technical communicators intervene in such (often) closed, Foucauldian systems to enact change? Below I provide a heuristic as a starting point for technical communicators who wish to engage with the practice of changing such closed discourse communities. I then discuss key moments in the CAS hearing during which technical communication practice could have had an important impact on the development and implementation of policies like the 2011 IAAF Regulations on Hyperandrogenism.

The themes I analyzed in Chapter 4 can be reframed as a heuristic through which technical communicators might insert themselves into a typically closed, circular, Foucauldian system such as the IAAF and the CAS and potentially enact change. Upon having the opportunity to work within such a system, technical communicators should use the following questions to assess the discourse community with which they will be engaging:

1. What kinds of slippages are there between words, concepts, ideas, and themes, and what are the implications of such slippages? How might these be more clearly defined and delineated?
2. What is the role and definition of expertise within this discourse community?
3. What is the role and definition of effective evidence within this discourse community? Of ineffective evidence?
4. What is the value of stakeholder perspectives within this discourse community? Who are the stakeholders who are included? Who are the ones who are excluded? How / Are they delineated?
5. What kinds of practical and theoretical challenges will face the enactment of a particular policy in a particular context?

By better understanding the slippages between concepts and terms, the way evidence and expertise is constructed and valued, the role of stakeholders, and the particular challenges of enacting health policy in particular contexts, technical communicators will be better prepared to enter into typically closed systems like specialized health and medical policy contexts to enact change. One of the key debates at the heart of the Hyperandrogenism Regulations and their suspension is how to craft regulations that support binary categories of sex difference when such a neat binary is known not to truly exist. In the words of the CAS Panel, when it comes to sex

differences, “nature is not neat.” Regardless of this admission, both the CAS and the IAAF insist on two distinct categories to regulate athletes based on sex differences. In general, this kind of “not-neat” complexity is exactly what technical communicators trained in critical thinking, technical writing, and humanistic approaches to discourse succeed at. More specifically, a few key moments in the CAS Award transcript demonstrate the kinds of opportunities technical communicators might have to enact change by showing the tension between science and medicine on one side, and a humanistic approach to technical writing on the other, which I discuss below. While these moments are specific to the 2011 IAAF Regulations on Hyperandrogenism and their suspension, such moments of tension are not unique to this specific discourse community. Technical communicators can use these as examples of what might be found in other closed health and medical policy contexts.

There are a few moments during the CAS hearing in which expert witnesses that are not physicians or scientists in the hard sciences testify to the importance of their contributions and offer perspectives that shed significant light on the complexity of the issues at hand. These are moments that open space for technical communicators or scholars of health and medical rhetorics to intervene by considering and helping to define what makes expertise viable and valuable. For example, after testifying her strong opposition to the Hyperandrogenism Regulations on the basis of their scientific validity and the “fairness-based justification” on which the IAAF relied, Karkazis’ ethos was questioned by the opposing council. According to the CAS Award transcript, “In response to questioning by the IAAF's counsel, Dr. Karkazis confirmed that she was not an endocrinologist or a medical doctor and, as a bioethicist, she did not have experience in diagnosing or treating medical patients. However, she did have clinical experience of working with individuals with a range of intersex conditions and providing input

into their care” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 51). As I noted in Chapter 4, Karkazis is a cultural and medical anthropologist and bioethicist and a Senior Research Scholar at the Stanford Center for Biomedical Ethics in the Stanford University School of Medicine; her expertise is indeed valid. With the training technical communicators receive in rhetorical, humanistic communication and the bridge technical communicators can provide between the hard and social sciences, a technical communicator in this instance might have been able to act as a sort of “translator.” A technical communicator might have been able to participate by identifying and understanding that both the hard and social sciences can offer valuable expertise and insight into the issues debated during this hearing.

Two additional moments offer compelling glimpses into the role that technical communicators might play in shaping the future of regulations focused on sex differences like the Hyperandrogenism Regulations, and they highlight the complexity of the sex and gender issues at hand. One key issue debated throughout the CAS Award transcript is whether measuring testosterone is an accurate and effective way of distinguishing between who gets to compete in the female category and who gets to compete in the male category. Although this is repeatedly discussed, the fact that human biology is more complicated than this is also accepted as true. The difficulty, then, becomes how to craft policy that reflects this complexity. When asked about the scientific validity of the Hyperandrogenism Regulations, Ljungqvist, a witness for the IAAF, is described as explaining that

the Hyperandrogenism Regulations are scientifically sound, as known to science today.

He also said that where the competition is divided into male and female categories and there is an intersex population, scientists with whom he has consulted say that *these*

*Regulations are the best that can be done.* At present, there is no intersex category. There

is, however, a distinction between the male and female ranges of testosterone and this characterises the difference between males and females. *At this time, this is the best criterion available.* (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 65)

Similarly, during her testimony regarding Issue 3: Proportionality, Madeleine Pape, a witness for Dutee Chand, acknowledges this complexity at the heart of the debates over the 2011 IAAF Regulations on Hyperandrogenism. While Ljungqvist has accepted that the complexity of sex differences cannot be regulated any better than it is in the 2011 IAAF Regulations on Hyperandrogenism, Pape offers a glimpse at the future of these regulations or the next version of them. It is this glimpse into the future on which I want to focus here.

Pape is a former Australian Olympic track and field athlete and a current graduate student in sociology at the University of Wisconsin, Madison, where she focuses on the sociology of gender (“Sociology of Gender”). During the course of the hearing Pape provided her perspective on how the 2011 IAAF Regulations on Hyperandrogenism could be improved by pointing out one of their key weaknesses. Her testimony is described as claiming that:

...there is a diversity of ways in which an athlete may enjoy a competitive advantage over other athletes. Women in developed countries, for example, enjoy certain advantages as a result of their location. In her opinion, by focusing on a single biological trait the Hyperandrogenism Regulations exhibit a profound failure to appreciate the many different ways in which the sport of track and field is inherently un-level. She added that *there is a complex and dynamic interaction between human biology and the social context and structures within which humans operate. She believed that it is necessary to move beyond a binary opposition between nature and nurture and to explore the complexity of that interaction. In effect, her view is that the IAAF's narrow focus on*

*endogenous testosterone fails to grapple with that multi-faceted complexity* (emphasis mine). (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 104)

It is this multi-faceted complexity with which technical communicators are equipped to grapple. Indeed, technical communication scholars and scholars focusing explicitly on health and medical rhetorics have historically articulated and explored the “complex and dynamic interaction between human biology and the social context and structures within which humans operate” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 104) in our teaching and in our research. Likewise, it is the training technical communicators receive in engaging with such scientific and medical technical complexity from a humanistic perspective that makes this space one in which technical communication practitioners may be the ideal contributors to intervene in a number of ways: by problematizing the assumptions underlying the current policy, by helping to craft better policy, by being able to work with a multiplicity of stakeholders and understanding the value of their contributions, by assisting with usability testing and audience perceptions of the policy, and by providing insight into the realities of implementing such policy. Ljungvuist claimed that the 2011 IAAF Regulations on Hyperandrogenism were “the best that could be done” (CAS 2014/A/3759 Dutee Chand v AFI & IAAF, 2015, p. 65). Since they’ve been suspended for two years, the implication is that they could indeed be improved, refuting Ljungvuist’s claim. Were a technical communicator with the training I discussed above to be involved with developing the next version of these policies in whatever form they might exist, they would indeed be better.

### **Implications for Pedagogy: Teaching the Dutee Chand Case Project**

While this project has important implications for the ways that health and medical rhetorics will continue to evolve as a field, and the ways that technical communication practitioners can engage with critical issues of sex and gender in policy-making contexts as such issues continue to be hotly debated nationally and internationally, the spaces in which we shape the next generation of technical communicators who are equipped to engage with and research these complicated practices is the technical writing classroom. More specifically, it is often the undergraduate technical writing service course that serves as the first opportunity students from non-humanities disciplines have to critically engage with the ways that technical communication shapes their worlds, their understandings of their worlds, and, likewise, how they might both engage with that communication and perhaps even craft it themselves. As a controversial current event, as a site in which technical communication practices are contested by multiple stakeholders, and as a compelling narrative with one young woman's story, voice, and personal experience at its heart, Dutee Chand's appeal of her ban and the subsequent debates that ensued make an ideal case study to be taught in an undergraduate technical writing service course.

Case studies are often used in technical communication courses to help students learn about the complexities of real-life communication situations, and the material, sometimes violent, implications such communication situations can have (Nelson-Burns 2004; Zoetewey & Staggers, 2004). More specifically, case studies have been used in technical communication courses to teach students about the complexities of real life technical communication situations related to different types of audiences and users not always considered as primary audiences, such as those with disabilities (Browning & Cagle, 2016). Advocates for teaching about disability in technical communication courses argue that doing so meets a number of goals: it can

assist with teaching critiques of positivist representations of science and technology (Meloncon, 2013); it can highlight the legal and ethical aspects of communication (Youngblood, 2013); and it can help meet learning outcomes often seen in TC syllabi, such as attention to audience, concision, and usability (Browning & Cagle, 2016; Oswal, 2013). Teaching about sex and gender in technical communication courses can achieve similar goals. This is especially true in a health- or medicine-focused technical communication course, such as a technical writing course for undergraduate health science majors. Additionally, teaching about sex and gender in technical communication courses can help students see the ways that technical communication has real life applicability by engaging with contemporary controversial issues and considering how technical communication contributes to discursively shaping our understanding of such controversial issues.

Case studies are also powerful tools for pedagogy because of the role that storytelling plays in engaging students with cases. In “Exposing Hidden Relations: Storytelling, Pedagogy, and the Study of Policy” (2013), Kristen Moore describes storytelling as assisting in students’ understanding the importance of “relational work” in policy. Moore describes relational work as the work that needs to be done “to build relationships with citizens, and to understand the ways the citizens are connected to the place/city/landscape, the policy, and the other people involved” (2013, p. 64). As demonstrated in Chapter 4, relational work is a key component of not only how the 2011 IAAF Regulations on Hyperandrogenism were initially developed but also the debates that play out in the transcript of the hearing, in the ultimate suspension of the regulations, and in the issues that seemingly remain unresolved even upon the suspension of the regulations and Chand’s reinstatement as eligible for competition.



I designed the Dutee Chand Case Study as a way for undergraduate health science students to critically engage with the real-life discursive, technical construction of sex and gender in a context that focused on health- and medical-related aspects of definitions of sex and gender, while simultaneously meeting course outcomes of a technical communication service course. In teaching a technical writing for health sciences class at the same time as I explored Chand's story and the suspension of the 2011 IAAF Regulations on Hyperandrogenism as the initial site of my research for this project, I was deeply engaged with Chand's ongoing case, and I felt that her story might be one that my students would find compelling as well. In what follows I briefly explicate the three units I developed to simultaneously introduce my students to critical approaches to sex and gender while also meeting pedagogical goals related to three specific concepts: (1) the social construction of sex and gender; (2) stakeholder theory; and (3) presenting complex health- and medical-related technical information to multiple audiences. I conclude this chapter by offering a critical reflection on the role such current-event focused case-based projects can play in both expanding the scope of the field of technical communication through attention to sex, gender, health communication, and medical rhetorics, as well as potentially changing the ways regulatory documents like the 2011 IAAF Regulations on Hyperandrogenism are written in the future. I also suggest a few other sites that may be productive locations to develop similar case-based projects that focus on a combination of technical communication, health or medical policy, discursive constructions of sex and / or gender, and recent controversial current events.

The basic facts of the case I provided for students included a brief overview of Chand's athletic career prior to her IAAF ban, the circumstances surrounding her ban, and her subsequent appeal (see Appendix F). In small groups, students completing the Dutee Chand Case Project

created four deliverables: (1) a Stakeholder Analysis & Proposal, in which students analyzed the various stakeholders involved in the case and proposed one stakeholder or stakeholder group to represent for the project; (2) a Recommendation Report, in which students recommended a particular course of action to the stakeholder or stakeholder group they represent, based on research and an understanding of the stakeholder's stake in the issues at the heart of the case; (3) a Press Release announcing the course of action the stakeholder or stakeholder group would be pursuing; and (4) a Poster Presentation communicating the students' research, chosen stakeholder or stakeholder group's position, and the students' ultimate recommendation(s) for the stakeholder, presented to a real lay audience with no prior knowledge of the case. Each of the above deliverables are research-based and go through multiple rounds of revision based on both instructor and peer feedback. In addition to the above deliverables, student groups kept track of their group meetings in a Team Minutes document turned into the instructor at the end of the project. Individually students also completed a Reflection Memo to critically reflect on the process of completing the project. Students completing the project were provided a number of sources discussing this case from various viewpoints and providing more specifics about the Hyperandrogenism Regulations, definitions of sex, gender, and hyperandrogenism, and responses from various stakeholders involved in the case. These included: primary sources from the IAAF; online newspaper articles and op-eds about the Hyperandrogenism Regulations; a change.org petition on Chand's status; critical discussions of athleticism; and Wikipedia articles on sex, gender, and the two concepts' relationships to one another, among other things. One key aspect of the resources and sources provided to students was that they included the voices and perspectives of persons who have been affected by the Hyperandrogenism Regulations, and

before them, by sex verification testing policies, including female athletes such as Dutee Chand, Caster Semenya, and Maria Martinez-Patiño.

I taught the Dutee Chand Case Study in technical writing courses specifically designed for health science majors. Broadly, the case asked undergraduate health science students to consider the following questions:

- Who are the stakeholders affected by the 2011 IAAF Regulations on Hyperandrogenism? What is at stake for them?
- Who are the stakeholders affected by Chand's ban? What is at stake for them?
- Who is allowed to compete in elite international female track and field competition? Who *should* be allowed to compete in elite international female track and field competition?
- Is variance in female testosterone levels a medical condition that should be regulated? In what cases might it be? In what cases might it not be?
- How do different stakeholders communicate differently about female testosterone levels? About hyperandrogenism? About female athletes? About fairness in athletic competitions? Why might these communication differences be significant?
- Currently, the regulations designed to maintain fairness in female competitions—and, by extension, female categories and male categories in elite track and field—have been called discriminatory. What should / could be done differently going forward?

My goal was to assist students in approaching these questions from a perspective that took into consideration critical approaches to sex, gender, and the rhetoric of health and medicine without being prescriptive about what students should or might personally believe in approaching these sensitive and potentially controversial topics. In order to accomplish this goal I developed three units that integrated critical approaches to sex and gender with technical communication genres

and, because of the nature of the issues at the center of this project, with feminist technical communication pedagogical strategies. Each unit takes a specific conceptual focus, beginning with the social construction of sex and gender, and then shifts to core ideas in technical communication that are relevant to multiple courses and potentially to professional careers in health and medical fields.

While it is important to begin the project with a discussion of the social construction of sex and gender binaries, equally important to students navigating the project successfully is the introduction and consistent usage of stakeholder theory. Stakeholder theory provides students with a theoretical lens that prepares them to better understand technical communication issues that are relevant across multiple contexts and cases, not just those involving sex and gender. Stakeholder theory also provides students with a way of accessing the issues of the case that focuses on the complexity of these issues rather than an oversimplification of them. Just like sexual dimorphism is a false binary, so, too, is it important for students and instructors alike to avoid reducing the central issues in the Dutee Chand Case Project to simple binaries, whether that binary is “male vs. female” or “right vs. wrong.” Part of why this case is a useful one for teaching in technical writing for health sciences class is that it gets at the complicated nature of health communication situations, especially those communication situations that are focused on complex body-related concepts such as sex and gender, and complex philosophical ideas such as “fairness,” all of which can be challenging to define.

Each of the following units can be taught in approximately one week, but could also be extended or shortened depending on the length of the course, the length of the project, the needs of the instructor, and how in-depth the instructor might want to get into complex theoretical discussions of sex and gender. In teaching this project, students should have been introduced to

basic rhetorical theories, research strategies, and common technical communication genres prior to beginning the first unit of the project, which focuses on stakeholder theory. Additionally, it may be useful to have already introduced students to strategies for successfully negotiating group research, writing, and peer review situations. If need be, introducing students to group dynamics could be done simultaneously in teaching this project. However, because of the complex nature of the topics inherent to the Dutee Chand Case Project, it can be more beneficial to the overall student success of the project if students already have strategies for navigating group dynamics before beginning the project's first unit, on the social construction of sex and gender.

### **Unit 1: Introduction to the Case and the Social Construction of Sex and Gender**

I began the Dutee Chand Case Project by introducing students to Dutee Chand. I do so through a combination of her own words, through recent online news articles about her case, and, in order to foreground communication about complex health- and medical- related information through a discussion of the central health- and medical-related debates of the case as they relate to individual athletes: testosterone levels in female athletes, and hyperandrogenism. In so doing we also review the Hyperandrogenism Regulations. We discuss the regulations' implications for Chand, and explore relevant news articles offering different opinions about either why the regulations should stand or what some critical problems with the regulations might be. This then leads to a discussion of definitions of sex and gender, and the relationship—if there is one—between the two. Some articles offering perspectives on the Hyperandrogenism Regulations refer to past “gender testing” or sex verification testing that was in place before 2011, and, similarly, some students are familiar with these concepts as well. Many, for example, remember Caster Semenya from the media coverage of her case in 2008. Similarly, because students in this

particular technical writing classroom do have some background in health sciences courses, many—but not all—are familiar with the idea that sex, like gender, is not in fact a binary system, and that the human body cannot necessarily be clearly placed into one of two categories based on things like testosterone levels. Because of an initial familiarity with these topics, a critical discussion of sex and gender and the role of testosterone in each is important at this point in the project in order to develop a shared language and a shared set of assumptions about the differences between male and female bodies. It is important to note that the focus here is on the regulations themselves, and because of that, primarily on testosterone levels and hyperandrogenism rather than on potentially intersex individuals. Since this is a technical communication course for health science majors, the focus here is and necessarily should be on the ways that technical communication helps to shape the ways that audiences understand information about health and medicine. In this case, that means focusing on the ways that technical communication practices shape how audiences understand the importance of testosterone levels in female athletes, and, more specifically, the importance of a diagnosis of hyperandrogenism. Understanding the social construction of sex and gender is an important part of that discussion, but this is not a course in which students are expected to read and understand Butler and Foucault, for example. Feminist pedagogical strategies applied to the technical communication classroom can assist with this combination of theoretical and practice-based work.

While not new, as I noted in Chapter 2 the field of technical communication has not embraced feminism as openly or as widely as it might. This is also true of feminist pedagogical approaches that could be incorporated into the technical communication classroom in valuable ways. In 2005, Eschenbach, Cashman, Waller, and Lord wrote about applying feminist pedagogy

to an engineering curriculum. In reviewing relevant literature and describing what feminist pedagogical principles are to readers unfamiliar with them, the authors explain how one other teacher incorporated feminist pedagogy into an engineering course, writing,

At Smith [16], Donna Riley taught thermodynamics to 12-15 students implementing “liberative pedagogies” including feminist pedagogy. She used these methods while still demonstrating that the students had learned required engineering science concepts. She changed her room location so that students could study thermodynamics while sitting in a circle. She required students to complete all readings before class so that class time was spent with students solving problems at the board. She tried to create a learning environment where students became a community of scholars and could speak authoritatively about the subject matter in class. She had multiple assignments (including three essays) that required students to relate thermodynamics to their own personal or professional lives. Riley’s [16] description of implementing feminist pedagogy into the engineering learning experience is the only work we are familiar with other than our own. (Eschenbach, et al., 2005, p. F4H-9)

Although Eschenbach, et al., are disciplinarily situated in engineering, the above comment is still significant because even in 2005 these authors were doing groundbreaking work by applying feminist pedagogy to their field. This timeline is also true of technical communication and the field’s failure to apply feminist theoretical approaches to teaching to the technical writing classroom, a critique Frost (2013) offers in her articulation of what she has called “an apparent feminism in technical communication.”

Frost (2013) theorizes that there are a number of reasons that the field of technical communication has not embraced feminist pedagogy, as it once seemed ready to do, and called

for feminist pedagogues to strategically and deliberately employ apparent feminist approaches in both rhetoric and technical communication classrooms (2013, p. 125). In articulating her theory of “an apparent feminism in technical communication”, Frost first charts the ways technical communication research has failed to take up work focused on issues of sex and gender, a gap I also noted in Chapter 2 and one that this project fills. While Frost focuses on the application of apparent feminist pedagogical strategies to digital and visible rhetorics, such strategies can also be useful for application in health and medical focused technical writing curricula. Especially in health and medicine focused technical communication classrooms, applying feminist pedagogical strategies to teaching technical writing achieves a number of the goals of most technical communication courses and allows the instructor to include content that is controversial, debatable, or “messy” in an accessible way. Frost describes her apparent feminist pedagogy as “a dynamic approach to teaching with specific concerns about the status of women, feminist identification, and rhetorics of efficiency, all in service of social justice” (2013, p. 113). Recent calls in the field for technical communication scholars to employ a humanistic approach to technical communication and to include discussions of ethics in our classrooms can be challenging to meet; Frost’s apparent feminist pedagogical strategies applied to the technical communication classroom offer a means to meet those calls. The opportunity I see here is to apply Frost’s apparent feminist pedagogy to the technical writing curriculum focused specifically on health and medical rhetorics or health and medical technical writing. The Dutee Chand Case Project is one example of how to do so.



## Unit 2: Stakeholder Theory

The concept of “stakeholder theory” is typically originally attributed to R. Edward Freeman’s *Strategic management: A stakeholder approach*, first published in 1984 and most recently republished in 2010, indicating the continued relevance of the theory. Freeman and others often applied stakeholder theory to business management strategies, as it can help shed light on the complexity of business models and the various parties involved. This usefulness in exploring complex relationships means that such a theory can also help researchers and teachers in the humanities consider or reconsider the complexities of our own research and scholarship, and can also help us teach students to recognize and explore such complexities in their own writing and research. Technical communication researchers have relied on stakeholder theory in a number of different contexts. For example, Zoetewey and Staggers use a stakeholder approach to deliberative rhetoric to teach their “Air Midwest Case” to engineering undergraduates (2004); Stephens, DeLorme, and Hagen use stakeholder engagement to evaluate the design of interactive visual applications for online communication with a focus on one particular “wicked” scientific problem, sea-level rise (2015); and recently, Kimme Hea and Shah use critical stakeholder theory to better understand community partners’ self-defined stakes in professional writing service-learning projects (2016). Citing Burton and Dunn’s “Feminist ethics as moral grounding for stakeholder theory” (1996) and Calton and Kurland’s “A theory of stakeholder enabling: Giving voice to an emerging postmodern praxis of organizational discourse” (1996), Kimme Hea and Shah define their usage of critical stakeholder theory as an approach to stakeholder theory that explicitly draws on feminist ethics and epistemologies “to suggest a focus on material lived realities versus abstract principles, and it requires dialogue where multiple voices are heard” (Kimmea Hea & Shah, 2016, p. 51). Kimme Hea’s and Shah’s piece had not yet been published

at the time that I initially developed and taught the Dutee Chand Case Study Project. However, in reflecting critically on my own usage of stakeholder theory, feminist pedagogical principles, and my emphasis on material lived realities over theoretical principles throughout the case, I would describe my own pedagogy in designing and teaching this project as emphasizing the type of feminist-based critical stakeholder theory Kimme Hea and Shah define. Additionally, beyond the field of technical communication but still of interest because of this project's research sites and the necessity of explaining to students a bit about sports governing bodies in introducing them to the case itself, Ferkins and Shilbury use stakeholder theory to explore new models of how nonprofit sports organizations can develop their governance capabilities (2015). All of this is to say that stakeholder theory is a useful strategy for helping students understand complex situations involving multiple parties, both groups and individuals, who have different stakes in the outcome of the case. Through the "Stakeholder Analysis and Proposal" assignment, stakeholder theory as used in the Dutee Chand Case Project also helps students make choices about with whom they would like to align themselves for the remainder of the project.

The Stakeholder Analysis and Proposal Assignment is scaffolding to help students begin to think critically about the communication situation at the heart of the Dutee Chand Case Project, and so it should be submitted prior to the rest of the completed deliverables. In groups, having completed a set or all of the assigned readings (see Appendix G) and been present in class for discussions about the details of the case, students should use memo format to provide the course instructor with the following information: (1) the group's understanding of the various stakeholders involved in the case; (2) the group's position (which stakeholder's will the group choose to advise and why?); (3) any and all research questions the group will need to answer; and (4) the group's proposed strategy for answering those research questions. Answering or

discussing the following questions in relation to each text viewed (read, watched, listened to, etc.) as part of the case documents may be useful as students work to complete the Stakeholder

Analysis and Proposal Assignment:

- Which stakeholder groups or individuals are represented?
- Which stakeholder groups or individuals are left out?
- Who is/are the intended audience(s) of the text?
- How does the medium affect the audience's reception of the text?
- Which stakeholder group or individual do you wish to act as an advocate for? Why?
- Which "benefits" for your chosen stakeholder will result in "losses" for another stakeholder? Describe the stakeholder and their potential benefits and / or losses.
- Which group or individual would you least like to act as an advocate for? Why?

Many students will be tempted to choose the stakeholders Dutee Chand and the IAAF, when there are in fact many more options to choose from than these two. It is up to the instructor whether to structure the project so that multiple groups have each of these two main stakeholders to represent or so that each group has a distinct stakeholder to represent. There are benefits to each strategy, but avoiding oversimplified binaries should be emphasized. Using feminist pedagogical strategies to highlight individual voices and the material implications of the policies on different stakeholder groups can help elucidate the array of groups and individuals who have a stake in the question of whether the 2011 IAAF Regulations on Hyperandrogenism are discriminatory or not. Once students have selected the stakeholder their group will advise, they can begin researching and crafting their recommendations.

### **Unit 3: Presenting Complex Health and Medical Information to Multiple Audiences**

In the third part of the Dutee Chand Case Project, students craft a research-based recommendation to guide their chosen stakeholder in light of the accusations that the 2011 IAAF Regulations are discriminatory. In groups, students produce three different deliverables directed at three different audiences: (1) a Recommendation Report aimed at their chosen stakeholder; (2) a Press Release announcing the stakeholder's decision, aimed at the American public; and (3) a professional-quality poster and presentation to a lay audience at the University of South Florida. In order to make their recommendations effectively, students drew on readings and resources presented with the project assignment sheet, additional supplementary research they did independently to support their group's specific recommendation for their specific stakeholder, and their own backgrounds in health sciences as needed and as required.

Over the course of this project students have to adjust their technical writing and communication strategies for different modes of communication, purposes, and especially, audiences. For the Recommendation Report, the audience is internal. For the Press Release, the audience is external. In rhetorically shifting their communication strategies it is especially important that students take into consideration how familiar the audience of each deliverable may be with not only the details of Chand's case, but also with the language used by health and medical professionals or those familiar with the details of the regulations to discuss aspects of the case. At the University of South Florida, health science majors are enrolled in any of the following concentrations: biological health sciences; social and behavioral health sciences; aging health sciences; health management; and health information technology. While this is a wide range of concentrations, one thing is consistent across all of them: in their professional careers, students must be prepared to discuss health- and medical-related information with a wide variety

of audiences who may or may not have any background in health or medicine. This means that the technical writing service course they take should prepare them to approach health communication situations rhetorically, shifting the kind of language they use depending on the context and audience needs. For example, in designing their poster presentations students needed to be able to present the complexities of Chand's case, the research they did, their stakeholder's perspectives, and their own recommendation to real public audiences from the University of South Florida who potentially knew nothing about Chand's case in general, let alone what hyperandrogenism is. This kind of dynamic, rhetorical shifting from writing for a specialized, medical audience to speaking to a public audience, as well as the different deliverables they create in the Dutee Chand Case Project, helps students to develop the skills they will need as health and medical technical communicators in their future professional careers.

### **Conclusion: Looking Forward**

In this study I analyzed the 2011 IAAF Regulations on Hyperandrogenism, their appendices and explanatory notes, and the transcript of the CAS hearing that resulted in their two-year suspension. In Chapter 1 I provided a history of sex verification testing policies in elite international track and field, called "Athletics," culminating with the recently suspended 2011 IAAF Hyperandrogenism Regulations. In Chapter 2 I reviewed relevant literature relating to feminist interpretations of Foucault's theories on discourse, the ways that discourse and especially technical communication work as normalizing practices, humanistic approaches to technical communication, and the ways that technical communication focused on health and medical rhetorics has failed to engage with issues of sex and gender as concepts normalized by health and medical focused technical communication. In Chapter 3 I articulated my

methodology, a feminist CDA approach to theming the data and analyzing those themes. In Chapter 4 I identified and analyzed the following themes across all of the documents:

1. Slippage among sexual dimorphism, concern for health, and fairness
2. Slippage among physical appearance, athleticism, and gender norms
3. The role and definition of expertise
4. The role and definition of effective evidence
5. The value of stakeholder perspectives
6. The challenges of intercultural communication in enacting international policy

Based on my analysis of the above themes, I found that the Hyperandrogenism Regulations are the most recent discursive construction in the history of sex verification testing policies to uphold sexual dimorphism as a Foucauldian “regulatory ideal.”

Based on my findings, the suspension of the 2011 IAAF Regulations on Hyperandrogenism, while important, is not necessarily a significant setback in the continued efforts to regulate the messiness of human biology into distinct categories based on sex differences. Rather, the Hyperandrogenism Regulations and the CAS Award are an example of a closed, Foucauldian system. There is a circular relationship between the thing that is being regulated and the policy that is created to regulate the thing, a relationship that is not open to outside voices, stakeholders, expertise, or evidence that might contradict that relationship. However, I argue that technical communicators might insert themselves into closed Foucauldian systems such as this one by using the following heuristic to better understand the discourse community they are entering or have entered:

1. What kinds of slippages are there between words, concepts, ideas, and themes, and what are the implications of such slippages? How might these be more clearly defined and delineated?
2. What is the role and definition of expertise within this discourse community?
3. What is the role and definition of effective evidence within this discourse community? Of ineffective evidence?
4. What is the value of stakeholder perspectives within this discourse community? Who are the stakeholders who are included? Who are the ones who are excluded? (How) are they delineated?
5. What kinds of practical and theoretical challenges will face the enactment of a particular policy in a particular context?

As I reviewed in this current chapter, the findings of this study and the heuristic above have valuable implications for three important aspects of technical communication focused on health and medical rhetorics: (1) our research, (2) our practice, and (3) our pedagogy.

In addition to these three things, this project has important implications for cultural conceptions of sex and gender, and our understanding of the role that technical communication plays in shaping the world around us. The 2011 IAAF Regulations on Hyperandrogenism were not suspended because they were discriminatory, they were not suspended because they were an illicit form of doping control, and they certainly were not suspended because there are serious ethical issues with attempting to force human embodiment—which is accepted by the court as non-binary—into a binary system of competitive categories. By all accounts, Chand's representatives failed to convince the panel to side with Chand in any of the aforementioned issues that were up for debate before the court. Rather, the 2011 IAAF Regulations on

Hyperandrogenism were suspended because of a technical communication failure: the authors of the 2011 IAAF Regulations on Hyperandrogenism simply did not provide sufficient evidence to support their claims regarding the need for discriminatory regulations. The fact that the regulations were discriminatory was not the reason they were suspended. Indeed, one of the most baffling aspects of the entire CAS hearing is how repeatedly evidence was presented refuting the idea that sex differences are neat and tidy, that humans can be easily divided into two distinct categories, and in the face of such evidence, the IAAF and the CAS maintained that such divisions were needed and valuable. This is an example of a technical document in the form of international health policy regulating something that is not based in reality. And yet, in 2017 or even earlier than that, the IAAF may present a new version of the Hyperandrogenism Regulations that corrects the failures that resulted in the suspension of the 2011 version. If this happens, the IAAF and the CAS will continue upholding a false binary system, one that billions of people worldwide are exposed to every two years for the Summer and Winter Olympics, and one which the majority of people believe in, because technical writing like the 2011 Hyperandrogenism Regulations exists. This belief that sex is binary is a harmful one. One need only look to recent legislation in North Carolina regarding who may use certain bathrooms and who may not to see the material, legislative, and personal impact a conservative, narrow understanding of human sex differences can have. Understanding how such technical documentation operates is the first step in working against it and potentially enacting powerful, long-reaching change on our understandings of the human body.

This study therefore opens spaces for additional technical communication research into the ways that health and medical rhetorics often sustain but can also work against dominant narratives regarding the medicalization and regulation of sex and gender. As I mentioned earlier,



national and international sports governing bodies have crafted policy not only to regulate the ways that female athletes diagnosed with hyperandrogenism may or may not compete, but also to regulate the participation of transgender athletes in competition. These are worth studying from a feminist technical communication perspective on health and medical rhetorics. Additionally, we know that public discourse played a role in Chand's experience; this alone is worth exploring. How did the Indian media portray Chand, for example? What role did social media play in shaping public perceptions and understandings of Chand herself, hyperandrogenism, (potentially) intersex individuals, and the Hyperandrogenism Regulations themselves? There are also other aspects of this study that are worth investigating more deeply. Are there meeting minutes from the gatherings of professionals who helped to shape the development of the 2011 Hyperandrogenism Regulations? If so, what might those minutes tell us about the rhetorical deliberation that occurred in crafting the regulations? What might they tell us about the role of expertise or experience or evidence in that process? What might they tell us about the role of stakeholders in that process? What might they tell us about the ways that health and medical policy are crafted in other settings? We might also extend these kinds of questions to other sites of health and medical policy in athletic contexts. For example, what role might stereotypical conceptualizations of masculinity have played in shaping or upholding NFL policy on concussions? All of these are sites of potential technical communication research on health and medical policy in elite athletic contexts which could tell us more about the real work of technical writing, the effect such writing has on public understandings of sex and gender, and the role technical communication researchers, practitioners, and teachers can and should play in critically understanding and potentially working against such policies.

Dutee Chand was lucky to have advisors who told her not only that she did not need to change her body in order to compete but also that she had the right to appeal her ban. Chand was also incredibly brave to put herself in the international spotlight to challenge a set of regulations that had been in existence for four years with little public pushback before they were suspended. Other female athletes were not so lucky. Recall, for example, the 2013 report in the *Journal of Clinical Endocrinology & Metabolism* that described four unnamed elite female athletes who, after testing showed unusually high testosterone levels, not only had surgery to remove internal testes and were placed on estrogen-replacement therapy but also underwent doctor-recommended clitoral-reduction surgery and “feminizing vaginoplasty” (Hutchinson, 2015). As technical communicators, as scholars researching the technical communication of health and medical rhetorics, and as teachers of technical writing, we have an ethical obligation to understand the serious violence that technical writing can and does do everyday and to work against that by creating alternative narratives through our research, practice, and teaching. It will be a long and slow process, but the first step is turning our research focus to those spaces with which we have not engaged, such as the texts that are the focus of this study. My hope is that the findings of this study provide an avenue for our field to critically approach other technical documentation we have not yet explored that is working powerfully and invisibly in problematic ways, and, most importantly, to begin reshaping the role that technical communication has in those discourse communities by working for positive change instead of troubling normalization.

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## APPENDICES

### Appendix A: Full List of 100 Most Frequent Words in HA Regulations

Word	Length	Count	Weighted Percentage
athlete	7	121	4.78%
medical	7	99	3.91%
iaaf	4	69	2.73%
panel	5	43	1.70%
expert	6	42	1.66%
case	4	41	1.62%
level	5	39	1.54%
may	3	39	1.54%
examination	11	34	1.34%
regulations	11	33	1.30%
competition	11	32	1.26%
manager	7	24	0.95%
results	7	24	0.95%
compete	7	20	0.79%
physician	9	20	0.79%
assessment	10	18	0.71%
conducted	9	18	0.71%
information	11	18	0.71%
review	6	18	0.71%
accordance	10	15	0.59%
cases	5	15	0.59%
clinical	8	15	0.59%
eligibility	11	15	0.59%
initial	7	15	0.59%
levels	6	15	0.59%
data	4	14	0.55%
athletics	9	13	0.51%
hyperandrogenism	16	13	0.51%
including	9	13	0.51%
diagnosis	9	12	0.47%
eligible	8	12	0.47%
monitoring	10	12	0.47%
recommendation	14	12	0.47%
conditions	10	11	0.43%

women	5	11	0.43%
full	4	10	0.39%
laboratory	10	10	0.39%
required	8	10	0.39%
return	6	10	0.39%
urine	5	10	0.39%
androgen	8	9	0.36%
blood	5	9	0.36%
decision	8	9	0.36%
designated	10	9	0.36%
female	6	9	0.36%
following	9	9	0.36%
necessary	9	9	0.36%
chairman	8	8	0.32%
chapter	7	8	0.32%
endocrine	9	8	0.32%
females	7	8	0.32%
national	8	8	0.32%
period	6	8	0.32%
reference	9	8	0.32%
time	4	8	0.32%
appendix	8	7	0.28%
centre	6	7	0.28%
considers	9	7	0.28%
federation	10	7	0.28%
hormones	8	7	0.28%
male	4	7	0.28%
preliminary	11	7	0.28%
provide	7	7	0.28%
rules	5	7	0.28%
analyses	8	6	0.24%
applicable	10	6	0.24%
appointed	9	6	0.24%
decide	6	6	0.24%
determined	10	6	0.24%
examining	9	6	0.24%
experts	7	6	0.24%
independent	11	6	0.24%
international	13	6	0.24%
involved	8	6	0.24%
make	4	6	0.24%
management	10	6	0.24%
obtained	8	6	0.24%

samples	7	6	0.24%
specialist	10	6	0.24%
accredited	10	5	0.20%
additional	10	5	0.20%
anamnestic	10	5	0.20%
androgenic	10	5	0.20%
compliance	10	5	0.20%
conduct	7	5	0.20%
department	10	5	0.20%
event	5	5	0.20%
evidence	8	5	0.20%
guardian	8	5	0.20%
legal	5	5	0.20%
minor	5	5	0.20%
normal	6	5	0.20%
notification	12	5	0.20%
person	6	5	0.20%
process	7	5	0.20%
purpose	7	5	0.20%
purposes	8	5	0.20%
range	5	5	0.20%
testosterone	12	5	0.20%
treatment	9	5	0.20%

### Appendix B: Full List of 100 Most Frequent Words in CAS Award

Word	Length	Count	Weighted Percentage
testosterone	12	636	1.90%
athlete	7	572	1.71%
iaaf	4	522	1.56%
female	6	444	1.33%
athletes	8	420	1.25%
regulations	11	411	1.23%
hyperandrogenism	16	396	1.18%
professor	9	288	0.86%
levels	6	269	0.80%
cas	3	253	0.76%
2014	4	241	0.72%
afi	3	232	0.69%
male	4	226	0.67%
performance	11	215	0.64%



women	5	191	0.57%
medical	7	190	0.57%
panel	5	184	0.55%
endogenous	10	177	0.53%
evidence	8	173	0.52%
chand	5	172	0.51%
dutee	5	164	0.49%
page	4	162	0.48%
level	5	155	0.46%
athletic	8	136	0.41%
3759	4	130	0.39%
compete	7	128	0.38%
may	3	118	0.35%
competition	11	110	0.33%
advantage	9	108	0.32%
athletics	9	102	0.30%
stated	6	98	0.29%
however	7	97	0.29%
females	7	96	0.29%
elite	5	94	0.28%
exogenous	9	94	0.28%
also	4	93	0.28%
men	3	92	0.27%
nmol	4	88	0.26%
scientific	10	88	0.26%
androgen	8	86	0.26%
doping	6	86	0.26%
examination	11	85	0.25%
range	5	85	0.25%
sport	5	85	0.25%
gender	6	84	0.25%
holt	4	84	0.25%
sex	3	84	0.25%
difference	10	81	0.24%
case	4	80	0.24%
high	4	80	0.24%
data	4	79	0.24%
expert	6	78	0.23%
body	4	74	0.22%
whether	7	74	0.22%
hirschberg	10	71	0.21%
mendiratta	10	71	0.21%
ritzen	6	71	0.21%

rules	5	71	0.21%
study	5	70	0.21%
view	4	69	0.21%
appeal	6	68	0.20%
basis	5	67	0.20%
statement	9	67	0.20%
normal	6	65	0.19%
according	9	64	0.19%
eligibility	11	64	0.19%
issue	5	64	0.19%
therefore	9	62	0.19%
clinical	8	61	0.18%
must	4	61	0.18%
competing	9	59	0.18%
sal	3	59	0.18%
category	8	57	0.17%
explained	9	57	0.17%
necessary	9	55	0.16%
effects	7	54	0.16%
significant	11	54	0.16%
van	3	54	0.16%
competitive	11	53	0.16%
opinion	7	53	0.16%
testing	7	53	0.16%
effect	6	52	0.16%
hyperandrogenic	15	52	0.16%
report	6	52	0.16%
two	3	52	0.16%
cases	5	51	0.15%
lbm	3	51	0.15%
relation	8	51	0.15%
males	5	49	0.15%
article	7	48	0.14%
different	9	48	0.14%
establish	9	48	0.14%
letter	6	48	0.14%
physical	8	48	0.14%
since	5	48	0.14%
standard	8	47	0.14%
based	5	46	0.14%
oral	4	46	0.14%
within	6	46	0.14%
factors	7	45	0.13%

## Appendix C: Hyperandrogenism Regulations' Appendix 2

### A - Hyperandrogenism and virilisation syndrome in female athletes: Introduction

Hyperandrogenism in female athletes is a clinical condition that should always be thoroughly investigated to ensure a clear diagnosis.

Except for idiopathic hirsutism, virilisation results from the presence of abnormally high levels of androgens, the principal androgenic hormone being testosterone. The cause of the raised level may be either endogenous (e.g., a tumor or functional endocrine disorder) or it may be exogenous (oral or parenteral administration of synthetic androgens). There is a medical consensus supporting early diagnosis and careful follow-up of all cases.

Hyperandrogenism is associated with certain specific clinical features, including hyperseborrhea, acne and hirsutism. In more severe cases, there may be hoarseness and deepening of the voice, alopecia, muscular hypertrophy and clitoromegaly.

Moderate hyperandrogenism is not uncommon in women, and is usually linked to hormonal dysfunction. Its consequences will have different expressions according to the age of the patient and the date of onset. Polycystic Ovarian Syndrome (PCOS) is the most common diagnosis, often associated with menstrual disturbances and infertility. Early diagnosis can often help to improve these conditions, avoid metabolic disorders, and possibly reduce the risk of later cardiovascular events and gynaecological cancers.

The development of hyperandrogenism depends on both an excessively high level of circulating androgen and normal androgen sensitivity of the receptor tissues.

A serious underlying medical condition should always be suspected if the onset of symptoms is fast and/or intense. Although rare, the possibility of an androgen-secreting tumor should always be investigated.

The exogenous administration of doping agents (anabolic steroids), as well as Disorders in Sex Development (DSD), should also be excluded.

Investigation requires careful history-taking and clinical examination to ensure accurate diagnosis and appropriate treatment.

### B - Important elements of history taking, and clinical signs

Listed below are the main anamnestic and clinical elements used for screening, evaluation and referral of the patient for more specialist care. Evaluation must include an assessment of the severity of the condition. The first medical examination is usually performed by a Sports Physician, either alone or together with a specialist. This is followed by a specialist examination performed by an experienced Gynecologist or Gynecological Endocrinologist, or a Pediatrician if the patient is under 15 years old.

#### => Sports Medicine Examination

This represents a basic but very important step. This examination should be included as part of the « Pre Participation Medical Examination » (PPME) as anticipated by the IAAF) or the complementary « Periodic Health Examination » (PHE) as designed by the IOC). More practical information and guidelines about the IOC Consensus Statement on Periodic Health Evaluation of Elite Athletes can be downloaded [here](#).

#### => Specialized Examination

This examination must be performed by a gynaecologist, endocrinologist or pediatrician who has extensive experience of all conditions relating to hyperandrogenism and DSD.

### I - Medical History: Sports Physician &/or Gynecologist

#### Family history

1. Are the parents related to each other?
2. If so, describe relationship (attach a family tree)
3. Number of siblings (male/female)
4. Does anyone in the extended family have similar symptoms of hyperandrogenism? (If yes, describe in detail and indicate in the family tree)
5. Are there any family members with fertility problems/childless marriages?
6. Was the mother virilised during pregnancy?
7. Ethnic background (Caucasian, African, Asian, etc.)

#### Birth history

8. Birth weight (kg)
9. Birth length (cm)
10. Ambiguous genitalia at birth?
  - a. If so, describe.
  - b. Hospital records from neonatal period?
  - c. Name of hospital

#### Pubertal history

11. Age at start of :
  - a. pubic hair;
  - b. breast buds;
  - c. acne;
  - d. deepening of voice;
  - e. menstruation (menarche)
12. Menstruation characteristics
  - a. ever menstruated?: Yes/No
  - b. regular: Yes / No (Indicate periodicity and duration of menses.)
  - c. irregular: Yes / No (Describe in detail.)
  - d. date of last menstruation:

#### Medical History

13. Previous illnesses and operations
14. Any pregnancies?
15. Ever hospitalized?
  - a. If so, name and address of hospital
  - b. Reason for admission

#### Medication

16. Ever had long term medication?
  - a. If so, brand name?
  - b. Why was this prescribed?
17. Ever had hormonal medication?
  - a. If so, brand name?
  - b. Why was this prescribed?
18. Ever used oral contraceptives?
  - a. If so, brand name?
  - b. Ongoing oral contraception?
19. Any ongoing medication?
  - a. If so, brand name?
  - b. Why was this prescribed?
20. Do you ever remove body or facial hair?
  - a. If so, how often? How much? By what method(s)?
21. Any non-prescription medication?

## II - Physical examination Sports Physician & Gynecologist

General physical examination, including

1. Height:
2. Weight:
3. BMI:
4. Sitting height:
5. Body build:
6. Bi-acromial & bi-iliac breadths:
7. Adam's apple?
8. Deep voice?

Skin

9. Body hair:
10. Receding frontal hairline?
11. Loss of scalp hair?
12. Facial hair (Shaving? How often?)
13. Oily skin on face?
14. Apocrine sweat odour?
15. Abnormal pigmentation?
16. Cutaneous striae?

Circulation

17. Blood pressure:
18. Pulse rate:

Abdomen

19. Palpable masses?

Pubertal signs (Preferably assessed by a gynecologist or endocrinologist)

20. Breast (indicate Tanner-Whitehouse stage I-V (cf. schema below)
21. Horizontal diameter by palpation, lying down:
22. Areolar diameter:
23. Pubic hair (indicate Tanner-Whitehouse stage I-V (cf. schema below)
24. Midline pubic hair extending towards umbilicus?

Genitalia (To be performed by Gynecologist-endocrinologist or Pediatrician-endocrinologist for girls of <15yrs)

25. Detailed measurements and vaginal palpation to be reserved for the gynaecologist or paediatrician. (Vaginal examination may possibly require general anaesthesia, especially if the patient is young.)
26. Clitoral enlargement? Length and width?
27. Abnormal size of labiae minora or majora?
28. Posterior fusion of labiae? Ano-genital distance:
29. Are any lumps palpable in labiae or in inguinal canals?
30. Is uterus or prostate palpable per rectum?

**Keys points** Which clinical signs suggest pronounced and chronic hyperandrogenism?

- Deep voice
- Breast atrophy
- Never menstruation (or loss of menses since several month)
- Increased muscle mass
- Body hair of male type (vertex alopecia, >17 years)
- Tanner score low (I / II)
- F&G score (>6 / 1 minimized by the beauty)
- No uterus
- Clitoromegaly

## C - Scores and schemes

**Hirsutism scoring sheet according to Ferriman and Gallwey**

(Grade 0 at all sites indicates absence of terminal hair)

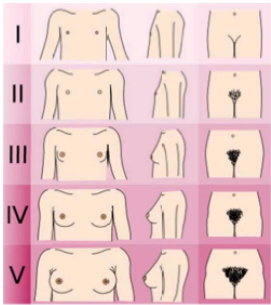
Upper Lip	1	A few hairs at outer margin
	2	A small moustache at outer margin
	3	A moustache extending halfway from outer margin
Chin	4	A moustache extending to mid-line
	1	A few scattered hairs
	2	Scattered hairs with small concentration
Chest	3 et 4	Complete cover, light and heavy
	1	Circumareolar hairs
	2	With mid-line hairs in addition
Upper back	3	Fusion of these areas, with three quarter cover
	4	Complete cover
	1	A few scattered hairs
Lower back	2	Rather more, still scattered
	3 et 4	Complete cover, light and heavy
	1	A sacral tuft of hairs
Upper abdomen	2	With some lateral extension
	3	Three-quarter cover
	4	Complete cover
Lower abdomen	1	A few mid-line hairs
	2	Rather more, still mid-line
	3 et 4	Half and full cover
Arm / Thigh / Leg	1	A few mid-line hairs
	2	A mid-line streak of hair
	3	A mid-line band of hair
Forearm	4	An inverted V-shaped growth
	1	Sparse growth affecting no more than a quarter of limb surface
	2	More than this; cover still incomplete
	3 et 4	Complete cover, light and heavy.
	1	Complete cover of dorsal surface
	2	Light growth
	3 et 4	Heavy growth

Score interpretation according to Abraham	Score value	
Normal	< 8	
Light hirsutism	8 to 16	Biological investigations should be performed for scores over 16
Moderate hirsutism	17 to 25	
Frank hirsutism	> 25	

Hirsutism scoring sheet according to Ferriman and Gallwey  
(Grade 0 at all sites indicates absence of terminal hair)

Body Area	Date of exam :				
Upper Lip					Score
Chin					Score
Chest					Score
Upper Abdomen					Score
Lower Abdomen					Score
Arms					Score
Thigh					Score
Upper Back					Score
Lower Back					Score
TOTAL SCORE					

**Tanner-Whitehouse Scale (female)**



**Tanner I**

- No glandular tissue; areola follows the skin contours of the chest (pr epubertal) [typically age 10 and younger]

**Tanner II**

- Breast bud forms, with small area widen [10-11.5] of surrounding glandular tissue ; areola begins to widen [10-11.5]

**Tanner III**

- Breast begins to become more elevated, and extends beyond the borders of the areola, which continues to widen but remains in contour with surrounding breast [11.5-13]

**Tanner IV**

- Increased breast size and elevation; areola and papilla form a secondary mound projecting from the contour of the surrounding breast [13-15]

**Tanner V**

- Breast reaches final adult size; areola returns to contour of the surrounding breast, with a projecting central papilla. [15+]

**D - Endocrine assessment: essentials**

Once a medical history has been established and a thorough clinical examination conducted, an endocrine assessment is usually necessary to make an etiological diagnosis. The laboratory tests will often make it possible to distinguish between different causes of severe hyperandrogenism, in particular tumors, and ovarian or adrenal functional disorders. It is advisable to proceed step by step, doing a more limited blood test initially for screening purposes, and then further tests only if indicated.

The first parameter to be measured is the total testosterone as this level correlates well to the severity of clinical signs and symptoms.

This blood test must be performed:

- between the third and the eighth day of the menstrual cycle (or after the release of menses by a short course of didrogesterone 10 mg daily for 7 days in amenorrheic or oligomenorrheic patients)
- between 8 am and 10 am in the morning
- these precautions are necessary to avoid errors due to circadian and cyclic fluctuations in the blood levels of these hormones.

Interaction with certain other medications has to be taken into account, especially if the patient is taking estrogens and/or progestagens or glucocorticosteroids. A wash out period from these treatments should therefore be considered prior to investigation.

**Key points**

What hormones/substances should be measured at first-line screening?

In Blood:

- T plasmatic (reflection of ovarian, adrenal or mixed production)
- SHBG (allows the calculation of the Free Androgen Index)
- 17-OHP (plasma marker of the block in 21-hydroxylase)
- DHEAS (reflection of the adrenal metabolism)

In Urine:

- Testosterone
- Epitestosterone
- Androstereone
- Etiocholanolone
- Dihydrotestosterone
- 5 $\alpha$ -androstane-3 $\alpha$ , 17 $\beta$ -diol
- 5 $\beta$ -androstane-3 $\alpha$ , 17 $\beta$ -diol
- Dehydroepiandrosterone

Additional blood parameters may be measured at the same time as the first-line screening - according to the expert's diagnostic orientation - or as part of a second round of analyses - according to the expert's diagnostic orientation or at the request of the IAAF Medical Director:

- Delta 4 Androstenedione,
- LH
- FSH
- Prolactin
- Anti-Müllerian Hormone
- Estradiol
- Inhibin B

**APPENDIX 3**

**IAAF-APPROVED SPECIALIST REFERENCE CENTRES**

Center	Expert	Address
Stockholm (SWE)	Prof. Martin Ritzén	Dept. of Women's and Children's Health, Paediatric Endocrinology Karolinska Hospital Q2:08, Stockholm
	Prof. Angelica Lindén Hirschberg	Dept. of Women's and Children's Health, Division of Obstetrics & Gynecology Karolinska Hospital, Stockholm
Nice (FRA)	Prof. Patrick Fenichel	Service d'endocrinologie et médecine de la reproduction, Hôpital de l'Archet, CHU de Nice, BP 3079, 06202 Nice cedex 03
Hershey, PA (USA)	Prof. Peter A Lee	Dept. Pediatrics, Penn State College of Medicine, Hershey, Pennsylvania
Melbourne (AUS)	Prof. Jeffrey D. Zajac	Dept. of Medicine, The University of Melbourne, Austin Health & Northern Health, Studley Road, Heidelberg, Victoria 3084, Melbourne
Tokyo (JAP)	Prof. Tsutomu ("Tom") Ogata	National Research Institute for Child Health and Development, Tokyo
Sao Paulo (BRA)	Prof. Berenice Mendonça	Unidade de Endocrinologia do Desenvolvimento e Laboratório de Hormônios e Genética Molecular, Disciplina de Endocrinologia, Hospital das Clínicas, Faculdade de Medicina da Universidade de São Paulo, São Paulo

## **Appendix D: Martinez-Patiño's CAS Hearing Testimony as told by the CAS Panel**

*Professor Maria Jose Martinez-Patiño (expert witness retained by the IAAF)*

Professor Maria Martinez-Patiño produced an expert report dated 30 January 2015. Professor Martinez-Patiño is a former elite-level female athlete. She is a national athletics coach and a Professor at the Faculty of Sciences in Education and Sport at Vigo University in Spain. Since 2013 she has served as an independent expert on the IOC's Medical Commission. As part of that role, she is involved in monitoring the IOC's hyperandrogenism rules.

In her report, Professor Martinez-Patiño explained how, during her career as a young elite athlete, she was subjected to gender-verification testing. In 1985, she “failed” the Barr body test and was declared ineligible to compete in the women's competition because of a genetic condition relating to her chromosomes. As a result, she experienced significant public criticism; her private medical information was disclosed to the world; and her status as a woman was widely questioned. Professor Martinez-Patiño later successfully challenged her ineligibility and was ultimately permitted to continue competing in women's athletics events. The experience was, however, a sad and painful one with significant and enduring personal consequences.

Notwithstanding her own experiences under the earlier gender-testing regime, Professor Martinez-Patiño said that she defended the existing hyperandrogenism rules. Professor Martinez-Patiño stated that, while the Hyperandrogenism Regulations could be improved in some respects (most notably in the areas of confidentiality, privacy and education) she supported the "spirit and approach" of the current regime. While acknowledging that she is not an expert in endocrinology, she said that she agreed with the majority of experts that the different testosterone levels in men and women provide men with a competitive advantage.

In Professor Martinez-Patiño's opinion, the Hyperandrogenism Regulations therefore serve to ensure equality in sport by enabling female athletes to compete on a level playing field in conditions that are fair and equal. In her opinion, when assessing the fairness of the Hyperandrogenism Regulations, it is necessary to consider both the women who are directly affected by the eligibility rule and also the women who are not hyperandrogenic and who wish to compete on an equal basis. In her view, the Hyperandrogenism Regulations are necessary in order for athletic competition to be carried out with equality.

In her oral testimony, Professor Martinez-Patiño was asked about a paper she had authored in which she explained her opposition to the Hyperandrogenism Regulations. Professor Martinez-Patiño explained that before she was a member of the IOC Medical Commission her opinion was shaped by her own personal experience of being subjected to gender testing under the Barr body test. However, over time her understanding of the science and medical evidence underpinning the Hyperandrogenism Regulations evolved. She had also had the opportunity to consider the perspective of high profile sportswomen and to understand the importance of ensuring a level playing field in professional sport.

Professor Martinez-Patiño explained the emotional toll of her own experience. She explained how the facts of her case had been made public after a doctor leaked the results of her medical

tests to journalists. As a result of the disclosure, her partner left her and her status as a woman was the subject of worldwide discussion and speculation. Professor Martinez-Patiño stressed the overriding importance of preserving athletes' confidentiality, which was an area that the IAAF and IOC could and must improve. She suggested that disciplinary sanctions should be available whenever an individual breached that confidentiality. In addition, Professor Martinez-Patiño stated that psychologists should be involved when women are investigated under the Hyperandrogenism Regulations.

Despite her own deeply painful experience, Professor Martinez-Patiño expressed confidence that the Hyperandrogenism Regulations are a necessary and appropriate means of ensuring a level playing field for elite female athletes. In response to questioning by the Athlete's counsel, Professor Martinez-Patiño stated that the process of undergoing medical investigation and testing does not cause an adverse psychological impact for an athlete. Instead, it is the questioning of a woman's status as a woman that causes harm.

## **Appendix E: The Rhetoric of Health and Medicine as/is: Theories and Concepts for an Emerging Field – Call for Proposals**

Editors: Lisa Meloncon, Scott Graham, Jenell Johnson, John Lynch, and Cynthia Ryan

### **Descriptive Rationale for Volume**

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The rhetoric of health and medicine is a growing and vibrant discipline that has emerged out of the rhetoric of science (Meloncon & Frost, 2015; Scott et al, 2013) and incorporates scholars from a number of fields—most notably, communication, technical and professional communication, composition, and linguistics. Accordingly, the overarching goal of this volume is to identify the key concepts that ground the rhetoric of health and medicine, as a field of inquiry. In so doing, this volume will explore how scholars in the rhetoric of health and medicine use rhetoric in theoretical and practical ways to examine the discourses of health and medicine and how those discourses create meaning within a wide variety of scientific, technical, practical, and political sites.

The growing body of work (see Condit et al, 2012; Meloncon & Frost, 2015), however, lacks the critical apparatus necessary to help place it within a broader context that is accessible to a wide range of scholars within and outside of the field. That is, at present we have many exemplars of scholarship that do not have/lack clearly articulated field-wide theoretical and methodological foundations. The health of our discipline relies in part on scholars ability to identify and share these foundational underpinnings.

Thus, the central concepts of the volume will be presented in terms of rhetoric of health and medicine's' dual perspectives: both "as" and "is." First the discipline can be seen **as** a theoretical construct that guides research and thinking in the field. Additionally, the

concepts can be explored in the **is** stance as a way to define the boundaries of the field. Both orientations are necessary to any scholarly field. Both allow a diversity of approaches while also ensuring a common core. For example, let's take the concept that is part of the field's name, "rhetoric." For many years, scholars in rhetorical studies and rhetoric and composition have argued that rhetoric is way of analyzing existing discourse as well as providing a framework for creating it. **As** provides us an entryway into thinking about different concepts as theoretical underpinnings. **Is** provides us an entryway into thinking about how theories can potentially be applied in practice. We definitely want to nudge and even push scholars in the rhetoric of health and medicine to appraise what it is that we do and examine what sets us apart from other related fields. This endeavor means taking a critical stance to determine what is at stake when we say that we are rhetoricians of health and medicine.

## Call to Action

Starting with a series of terms participants at the Discourses of Health Medicine 2015 ([www.medicalrhetoric.com/symposium2015](http://www.medicalrhetoric.com/symposium2015)) felt were vital for a conceptual understanding of the field, we challenge scholars to continue the participatory nature of this collection and propose innovative chapters that incorporate the following terms.

Consent	Advocacy
Ethics	Health citizenship
Professionalism	Environment
Global	Risk (comm)
Methods	Publics
Performance	Invention
Materiality	Circulation/delivery
Ontology	Discourse
Agency	Narrative
Lived experience	Decision-making
Online	STS
Technology	Disability studies
Visual	Rhetoric of science
Genre	Medical and health humanities

We strongly encourage collaboration between scholars from across institutions and more importantly, across fields and disciplines. Your chapter proposal should bring **two or more of the terms/concepts** into conversation and speak directly to the as/is theme. You are welcome to propose new terms or concepts in addition to these.

We also encourage cluster proposals. That is, if a group of scholars believes that particular chapters might work together nicely, you can propose them as a cluster. Think of this option as similar to proposing a panel at a conference or a section in a book.



We are leaving this call more open than most because we do want the overall volume to be shaped by the contributions. **In other words, we truly are embracing participation and innovation.**

A university press has invited a full proposal on this project and once proposals are received and acceptance decisions made, we will be forwarding a full prospectus to them.

If you want to discuss your idea or if you have questions, please contact Lisa [Meloncon@tek-ritr.com](mailto:Meloncon@tek-ritr.com) or Scott [grahams@uwm.edu](mailto:grahams@uwm.edu)

## Submissions

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Chapter proposals should be from 750-1000 words (give or take and excluding citations). Include a cover page with all of the authors' contact information, a list of the terms your chapter (or cluster of chapters) addresses, and a short c.v. for each author.

Submit proposals as PDF or Word files to **rohm\_asis@medicalrhetoric.com**

Proposals due: May 30, 2016

Proposal decision: June 30, 2016

Final chapters of 6000-7000 words: December 30, 2016

## Appendix F: The Dutee Chand Case Assignment Sheet

The Dutee Chand Case:  
Communicating About Hyperandrogenism in International Contexts

### *Overview of Project*

Case projects ask students to solve a communication problem that has no single right answer. Students must analyze primary and secondary texts connected to a high-stakes, real-world situation and work in teams to solve problems with/through communication. Issues in health- or medicine-related communication can become far more complex than what first meets the eye, and these issues can affect a large range of audiences in a number of complicated ways.

International athletic competitions often serve as the sites for marveling at the power, potential, and passion of the human body and spirit. In order to assure fairness of competition amongst athletes from all over the world, athletic governing bodies are needed to develop rules and regulations for all participants to follow. For the sport of Track & Field, that governing body is the International Association of Athletics Federations (IAAF) and they have developed official rules and regulations for all international Track & Field competitions, which can be found publicly on their website ([www.iaaf.org](http://www.iaaf.org)). As we learn more and more about the complex range

of physical differences manifested by the human body, these rules and regulations have come under scrutiny regarding their treatment of athletes with unusual physical characteristics and rare disorders. The treatment and attention such individuals receive is dependent on myriad factors and involves a broad range of stakeholders. Using the case of Dutee Chand, an Indian runner banned from international competition by the IAAF, regulations on hyperandrogenism, you and your team members will analyze the complexities of medical and public communication, ethical quandaries, and stakeholder interests.

The purpose of the case project is to immerse students in a real-life scenario where the technical channels of communication are extreme and/or complex. This case comes straight from real life and health care professionals are often exposed to similar problems in the professional world. The purpose of this project is to expose students to real-world communication problems in preparation for professional life. Each team will navigate through medical information and ethical issues and then produce communications of their own based on careful considerations tailored to specific audiences. Be mindful of the roles of various types of communication—particularly writing—in the facilitation of this issue from different stakeholder perspectives.

For this assignment students will:

- identify and differentiate conventions of and genres in various professional/technical documents and professional presentations;
- illustrate and analyze audience while creating various professional/technical documents with a sophisticated awareness of audience as a reader and a writer;
- recognize and discuss important elements of how culture affects communication in collaborative workplaces;
- describe and generate strategies for effectively planning and working on collaborative projects;
- demonstrate amiable and productive collaboration in team projects;
- recognize and explain basic visual design strategies;
- demonstrate audience and rhetorical awareness in visual design while creating professional/technical documents to visually appeal to appropriate audiences;
- operate current technologies in order to produce effective documents;
- describe and explain benefits of information literacy in relation to field of study;
- assemble relevant research in order to recommend an evidence-based solution;
- locate and discuss ethical issues in the field;
- apply and evaluate ethical considerations to a realistic professional scenario in the field;
- develop professional/technical documents with a clear awareness of ethics;
- identify and explain current local and global discussions and trends in the field while relating these to students' professional interests;
- identify professional/technical genres, organizational strategies, and appropriate tone and style; and
- describe the effects of tone, organization, and style in professional/technical communication while employing these principles appropriately in various writing situations.

Course Objectives addressed by the Case Project are:

- Compose professional/technical documents and oral presentations for multiple audiences and specific purposes using appropriate technologies
- Collaborate effectively as a member of a multidisciplinary writing team
- Employ visual design strategies to produce rhetorically effective documents, visuals, and presentations
- Design and implement information literacy strategies
- Articulate ethical issues in health science writing
- Negotiate current social cultural contexts for the field of health science
- Apply and adapt professional/technical writing conventions, including genre, tone, and style for particular writing situations

### *Background Information*

Born on February 3, 1996, one of four daughters of a poor weaver couple in Gopalpur, in the [Jajpur district of Odisha](#), India, Dutee Chand shot to fame in her home country in 2012 and became a national champion in the under-18 category when she clocked 11.8 seconds in the 100 meters Track & Field event. Later in 2012, Chand become the first Indian to reach the final of a global athletics 100 meters final, when she reached the final in the [2013 World Youth Championships](#).

After winning two gold medals for India during the 16th Asian Junior Championship in 2014, Chand was on the roster to represent India at the Glasgow 2014 Commonwealth Games, traditionally an important preliminary international athletic competition indicating potential for Olympic qualification. However, two days before Chand was supposed to travel from India to Glasgow, she was informed that she was ineligible for competition based on the fact that her body produces higher levels of testosterone than most women; a condition called “hyperandrogenism.” In order to regain eligibility, Chand was told that she needed to either take hormone-suppressing drugs or have surgery.

On October 6, 2014, *The New York Times* published a profile of Chand titled “Fighting for the Body She Was Born With: Sprinter Dutee Chand Challenges Ban Over Her Testosterone Level” (Macur) (see resources at the end of this assignment sheet). In it, Macur explained, “Chand’s situation has highlighted one of the most perplexing issues facing sports and society: that there is no indisputable way to draw a line between male and female when most competitions have only two categories — one for men and the other for women” (2014). And yet, this is precisely what the International Association of Athletic Federations (IAAF) has sought to do within their most recent set of regulations published on the subject of hyperandrogenism (2011).

Hyperandrogenism is an endocrine disorder usually caused by excessive production of androgen by the ovaries, by the adrenal glands, or by both (Hyperandrogenic Disorders Task Force, 2001). The IAAF has defined hyperandrogenism as “a term used to describe the excessive production of androgenic hormones in females,” noting further, “The androgenic hormone of specific interest for the purposes of the new Regulations is the performance enhancing hormone, testosterone” (HA REGULATIONS-EXPLANATORY NOTES, p. 1). Although this is not the first time the IAAF’s regulations regarding what is commonly referred to as “sex testing” have been under

scrutiny, Dutee Chand's appeal with the Court of Arbitration for Sport in Switzerland contesting her ban from competition marks the first time the IAAF's most recent regulations on hyperandrogenism have been openly challenged since their adoption in 2011.

Prior to Dutee Chand's ban, it was the case of Caster Semenya that brought international attention to the IAAF's regulations regarding hormone testing (optional: you can read the New Yorker's lengthy profile of Semenya [here](#)).

Chand has filed a petition against the IAAF with the Court of Arbitration for Sport (CAS), appealing her ban on the basis that the IAAF regulations on hyperandrogenism are discriminatory. Her official appeal against the ban started Monday, March 23, 2015 and is expected to last four days.

### *The Situation*

You, along with the other 2-4 students in your group, have been hired as health-related experts to advise the legal team of one of the following stakeholders: (1) Dutee Chand; (2) the IAAF; or (3) some other stakeholder of your team's choosing.

Based on current events regarding Chand's case, your role is to advise your chosen stakeholder's legal team of what course of action to pursue. This will require that you stay abreast of current developments in the case, as it is literally playing out right now.

In your capacity as experts, you will need to communicate well about both (a) the situation and (b) your recommendations (aka, your argument) to various audiences. Your team is expected to evaluate the situation as fairly and objectively as possible while still representing the interests of your chosen stakeholder.

Below is a list of deliverables your team must produce. Each deliverable must demonstrate rhetorical awareness, genre analysis, and visual rhetoric (perhaps in the form of document design, perhaps in some other capacity).

All documents should (1) fit the criteria listed on this assignment sheet and fit into the context of your situation as a third-party team of experts; (2) be formatted most appropriately for the audience of that text; and (3) be consistent with audience expectations through word choice, content, and document design.

### *Deliverables: General Information*

Students will create the following deliverables for the Case Project:

1. Stakeholder Analysis & Proposal Formal Memo (Group)
2. Recommendation Report (Group)
3. Press Release (Group)
4. Presentation + Poster (Group)

5. Team Minutes (Group)
6. Team Evaluation & Reflective Memo (Individual)

*Deliverables: Specifications*

1. Group Deliverable: Stakeholder Analysis & Proposal Formal Memo

*Your instructors will ask for this assignment to be submitted PRIOR to the submission of other deliverables.*

The audience for this deliverable is your instructor. This formal memo should inform your instructor of the following: (1) your team's understanding of the various stakeholders involved in the case, (2) your team's position (which stakeholder's legal team will you choose to advise?), (3) any and all research questions your team needs to answer, and (4) your team's proposed strategy for answering those research questions (keeping in mind our discussion of research strategies from Project 2)

Your formal memo should include the following main parts:

- Heading segment including lines for To, From, Date, and Subject.
- Opening segment that briefly summarizes the purpose of the memo (including a short description of the problem and context to which the memo is responding)
- Context segment that describes the background of the problem in more detail and briefly analyzes the various stakeholders involved in the problem at the moment in time your group has chosen
- Discussion segment that provides the reader with details regarding your team's position (i.e., which stakeholder's legal team will you advise and why? How do you anticipate seeing their needs are met?)
- Closing segment that includes your group's research questions and briefly summarizes your group's research strategy

As necessary, attachments that document the supporting information and details you described in the memo (If you include attachments, refer to them in the memo and note them below your closing segment.)

*NOTE: The above segments have no set lengths. Do not think of each segment as a paragraph. Some segments may only be half a sentence or a sentence; other segments may be more than one paragraph long. Take as few or as many words as you need to achieve your rhetorical purpose in each segment.*

The following guiding questions may be helpful to consider as your team works on this deliverable. For each text you review related to this case (written, visual, or otherwise), consider the following questions:

- Which stakeholder groups are represented?
- Which stakeholder groups are left out?
- Who is/are the intended audience(s) of the text?

- How does the medium affect the audience's reception of the text?
- Which stakeholder group do you wish to act as an advocate for? Why?
- Which "benefits" for your group will result in "losses" for another group? Describe the group and their potential losses.
- Which group would you least like to act as an advocate for? Why?

## 2. Group Deliverable: Recommendation Report

Recommendation Reports offer solutions to problems when those problems are complex or when the solution or answer is not a simple one. In a Recommendation Report, the authors examine several competing solutions based on a specific context or set of circumstances, devise a way to evaluate those solutions, and recommend one final solution or course of action for the report's audience.

In 800 – 1000 words (approximately 3-4 pages double-spaced), write a Recommendation Report advising your chosen stakeholder's legal team what course of action they should pursue regarding the events of the case. You may recommend any feasible course of action you and your team deem appropriate for the circumstances of the case, the audience of the report, and the stakeholders involved.

Your Recommendation Report should include the following main parts:

- Unique Title
- A Paragraph Summary / Abstract and/or a Paragraph on Final Recommendation
- Section 1: Problem or Need (this will require analysis and / or critique of current IAAF hyperandrogenism regulations and current events regarding Chand's ban & petition)
- Section 2: Possible Solutions & Evaluative Criteria (aka, how will you decide which solution is the best or most appropriate one?)
- Section 3: Evaluation (Application of criteria to solutions, demonstrating which is best)
- Section 4: Final Choice
- Section 5: Reference List

## 3. Group Deliverable: Press Release

Press releases communicate events as objectively as possible to particular audiences, typically for print or online news. Readers of news sources are stakeholders in some form, i.e., related to an issue geographically, demographically, culturally, etc. The main purpose is to apprise the selected audience of events, and in this case, the events regarding Chand's ban and subsequent petition, along with your group's recommendation for how to proceed. The audience for this document is the general American public.

Your press release should include the following main parts:

- Header that includes all contact information
- Headline (no more than one sentence long)
- Introductory paragraph that hooks the reader's interest and summarizes the press release's most important information (in journalism, this is the "who, what, when, where, why" paragraph)

- Body paragraph(s) (1-3) that provide(s) more details about the information in the introductory paragraph
- Final paragraph that re-summarizes the press release's most important facts and ideas, and restates contact information

#### 4. Group Deliverable: Group Presentation + Formal Poster

Your group will present a persuasive, evidence-based argument for the course of action you have recommendation on behalf of the stakeholder you represent. Your audience for this presentation is the lay public at the University of South Florida, attending our class research symposium.

Each member of the group should participate in the presentation. Presentations should include an associated poster visual that effectively and appealingly communicates your research and ultimate recommendation(s) to your audience.

Students will present team poster presentations at the first annual PTC Symposium Tuesday, April 14 in the Marshall Student Center. Your instructor will provide details on posters and presentations in a separate document.

#### 5. Group Deliverable: Team Minutes

For each meeting, including those in class, the group must make an entry in a team work-log. Your instructor will provide a customizable template on Canvas. Team Minutes are an important part of team planning and collaboration. This running log helps group members synchronize project tasks, record collaborative decisions, record delegation of tasks, etc. Refer to *Team Writing: A Guide to Working in Groups* by Joanna Wolfe for an in-depth explanation of team minutes and collaborative work. Your instructor will use the team minutes to help determine group and individual grades for the project and for the class.

#### 6. Individual Deliverable: Team Evaluation & Reflective Memo

This is the only deliverable that must be completed by each student individually.

Prepare a one- to two-page memo evaluating yourself and your team members and reflecting on the process used to complete the group deliverables above. The audience for this deliverable is your instructor. Draft this memo near the completion of the other deliverables. Your instructor will provide you with an additional assignment sheet to complete this document.

## Appendix G: The Dutee Chand Case Background Reading / Resources

Your instructor will provide some background reading and supplemental sources to assist you in your research and in crafting your argument (see below). However, you may need to supplement the background reading below with your own research, which should be done independently in your groups. Consider searching for documents and arguments relating to hyperandrogenism, medical- and bio-ethics, public discourse surrounding the issue (aka reader comments, popular media articles, blog posts, activist groups, etc.), and those texts that may directly involve or represent the interests of various stakeholders (Dutee Chand, other athletes, the IAAF, etc.).

*Note: in doing your own research, it may be helpful to begin by following links and references in the texts below and in the Background Information section of this assignment sheet.*

Below are some supplemental readings and resources that may prove helpful as starting points:

- Some Important Definitions for This Case & its Background:
  - Gender: “a person's self representation as male or female, or how that person is responded to by social institutions based on the individual's gender presentation” <http://en.wikipedia.org/wiki/Gender>
  - Intersex: “a variation in [sex](#) characteristics including [chromosomes](#), [gonads](#), or [genitals](#) that do not allow an individual to be distinctly identified as male or female” <http://en.wikipedia.org/wiki/Intersex>
  - Sex: “the biological makeup of an individual's reproductive anatomy or [secondary sex characteristics](#),” <http://en.wikipedia.org/wiki/Sex>
  - Transgender: “the state of one's [gender identity](#) or gender expression not matching one's [assigned sex](#).” <http://en.wikipedia.org/wiki/Transgender>
- Primary Sources:
  - April 12, 2011: “IAAF To Introduce Eligibility Rules for Females with Hyperandrogenism” <http://www.iaaf.org/news/iaaf-news/iaaf-to-introduce-eligibility-rules-for-femal-1>
  - IAAF Official Medical Documents: On Hyperandrogenism and Sex Reassignment <http://www.iaaf.org/about-iaaf/documents/medical#hyperandrogenism-and-sex-reassignment>
- Background Reading on Hyperandrogenism & Related IAAF Regulations
  - Wikipedia: Hyperandrogenism <http://en.wikipedia.org/wiki/Hyperandrogenism>
  - June 8, 2012: “Gender Testing for Athletes Remains a Tough Call” <http://www.nytimes.com/2012/06/18/sports/olympics/the-line-between-male-and-female-athletes-how-to-decide.html?smid=pl-share>
  - June 17, 2012: “You Say You’re a Woman? That Should Be Enough” <http://www.nytimes.com/2012/06/18/sports/olympics/olympic-sex-verification-you-say-youre-a-woman-that-should-be-enough.html?smid=pl-share>
  - 2012: “Out of Bounds? A Critique of the New Policies on Hyperandrogenism in Elite Female Athletes”



<http://www.tandfonline.com/doi/full/10.1080/15265161.2012.680533#.VRE2errAJ94>  
(may require USF access)

- Background Reading on Dutee Chand's Case
  - July 21, 2014: "Sex Verification in Women's Sports Is Humiliating and Unnecessary" [http://www.slate.com/blogs/outward/2014/07/31/sex\\_verification\\_in\\_sports\\_why\\_is\\_competing\\_as\\_a\\_woman\\_all\\_about\\_testosterone.html](http://www.slate.com/blogs/outward/2014/07/31/sex_verification_in_sports_why_is_competing_as_a_woman_all_about_testosterone.html)
  - July 24, 2014: "Indian Sprinter Dutee Chand Disqualified After Failing a So-Called Gender Test" <http://www.bustle.com/articles/33066-indian-sprinter-dutee-chand-disqualified-after-failing-a-so-called-gender-test>
  - September 12, 2014: "A New Study Supports Female Athletes Unfairly Excluded From Sport" ([http://www.slate.com/blogs/outward/2014/09/12/sex\\_verification\\_in\\_sports\\_a\\_new\\_study\\_supports\\_unfairly\\_excluded\\_female.html](http://www.slate.com/blogs/outward/2014/09/12/sex_verification_in_sports_a_new_study_supports_unfairly_excluded_female.html))
  - October 6, 2014: "Fighting for the Body She Was Born With: Sprinter Dutee Chand Challenges Ban Over Her Testosterone Level" [http://www.nytimes.com/2014/10/07/sports/sprinter-dutee-chand-fights-ban-over-her-testosterone-level.html?\\_r=0](http://www.nytimes.com/2014/10/07/sports/sprinter-dutee-chand-fights-ban-over-her-testosterone-level.html?_r=0)
  - Change.org Petition: "Let Dutee Run! Don't Ban Women Athletes for High Natural Testosterone" <https://www.change.org/p/let-dutee-run-don-t-ban-women-athletes-for-high-natural-testosterone>
  - LetDuteeRun.org <http://www.letduteerun.org>
  - March 23, 2014: "India's Dutee Chand Starts Appeal Against 'Gender Test' Ban" [http://www.huffingtonpost.in/2015/03/23/india-athlete-dutee-chand\\_n\\_6924354.html?](http://www.huffingtonpost.in/2015/03/23/india-athlete-dutee-chand_n_6924354.html?)
- Additional Helpful Supplemental Sources
  - 2008: "Michael Phelps: The 'natural' transhuman athlete" <http://www.sentientdevelopments.com/2008/08/michael-phelps-natural-transhuman.html>
  - 2012: "Are Olympic Athletes Really Mutants?" <http://io9.com/5929347/are-olympic-sports-creating-a-race-of-mutants>