

Gender identity and athletic performance at the intersections of the Olympics: Cultural clashes of societal and political changes

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Abstract

This honors thesis project is opening up the discussion around issues of gender identity and how it intersects in a sports context. This project includes the voices from high-level athletes, sports professionals, advocacy organization leaders, medical professionals and researchers to illuminate the different perspectives surrounding this complex issue. Caster Semenya, an Olympic runner with hyperandrogenism, a condition that causes elevated levels of testosterone in females, challenged a new rule by the IAAF that was expected to be implemented in November 2018, but faced opposition. This rule set a maximum testosterone level for female athletes at five nanomoles per liter (nmol/L), which is higher than the average level for women but lower than the standard male testosterone level. This new potential rule has created controversy around the issue of eligibility, especially regarding athletes who identify outside of a man or woman and have physical characteristics that may disqualify them from competing with the gender they identify with.

For this honors thesis project, I examined the literature surrounding the Caster Semenya case as well as perspectives of scholars on issues with transgender and non-binary athletes and their eligibility in professional sports such as the Olympics. I produced a long-form journalism piece with multimedia aspects that focuses on perspectives of people affected by the problem of sports being binary and gender as otherwise. I interviewed high-level athletes, sports professionals, sports psychologists, researchers and LGBTQ+ advocacy leaders in an attempt to hear different stances on the issue. I implemented visual soundwaves throughout the website that I coded myself, to hear a glimpse of the athletes' stories through their own voices. Through the creative project, I have improved my interviewing skills that will continue to be an asset in my future journalism career.

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Chapter One: Literature Review and Rationale

Gender identity and athletic performance at the intersections of the Olympics: Cultural clashes of societal and political changes

To be an Olympic athlete is to have proof that you are qualified enough, elite enough and strong enough to have trained for an extended period of time to compete in something that may be as short as 15-seconds. Olympic athletes receive significant attention and, for some events, millions of people are glued to the television to watch their country's representatives compete and hopefully win. Competition in Olympic events has routinely been divided by biological sex, with men and women competing separately, and sometimes under different competition rules. However, with changes in societal understanding of gender and sex and more sophisticated understandings of the biology of sex, Olympic sports have faced the need to address biological differences of athletes and to consider how to accommodate transgender athletes.

In 2016, the International Olympics Committee decided that transgender athletes did not have to undergo gender reassignment surgery for female-to-male athletes in order to compete as the gender they identify with and not the gender they were assigned at birth. Changes are being made to deal with traditional regulations that come under fire for not mirroring the rapidly changing societal circumstances, especially around gender. However, as the organizers of these international athletic games attempt to "level the playing field," the athletes who may not identify with the biological sex they were born with are repeatedly questioned for a so-called "advantage." This review seeks to open the discussion about how gender fluid athletes who are not "traditional" athletes seen in the male vs. female Olympic games will fit into the rigid

regulations. These rules have been built and shifted over the years, but in an attempt to level the playing field, which may not quite fit in with the current conversations around gender identity.

A New Eligibility

One example of the way this issue of sex and gender is playing out in Olympic competition is evident in the new eligibility requirements that the International Association of Athletics Association (IAAF) will implement in races such as the 400m, hurdles races, 800m, 1500m, one-mile races and other combined events over the same distances. Under these new eligibility requirements, female athletes who have a Difference of Sex Development (DSD), meaning that their testosterone levels are higher than normal or “androgen-sensitive” (IAAF), can compete, but only if the athlete meets the requirements set by the IAAF. The requirements are as follows:

- (a) The athlete must be recognized by law either as female or as intersex (or equivalent);
- (b) She must reduce her blood testosterone level to below five nanomoles per liter (nmol/L) for a continuous period of at least six months (e.g., by use of hormonal contraceptives); and
- (c) Thereafter she must maintain her blood testosterone level below five nmol/L continuously (whether she is in competition or out of competition) for so long as she wishes to remain eligible (IAAF introduces new eligibility regulations for female classification, 2018).

An average male has a testosterone level between 8.8 – 30.9 nmol/L. For women, the average testosterone range is 0.4 – 2.0 nmol/L (Clark, Ward, & Swerdloff). This new eligibility

requirement sets the level of testosterone for female athletes at a point higher than the average female, but lower than the lowest male testosterone level.

This is one of other rules in sports such as basketball, U.S. powerlifting and other sports that rules surrounding eligibility of athletes surround gender in an attempt to “level the playing field.” This specific regulation from the IAAF regarding testosterone level is an important embodiment of the complexities of gender and sex in Olympic sport that have caused issues in the past.

Caster Semenya: One Athlete’s Challenge to New Requirements

Caster Semenya is a two-time Olympic champion from South Africa who won in the 800-meter race during the 2012 and 2016 Olympic games. She is also at the center of the controversy over the new eligibility rules set forth by the IAAF. She came under fire for her elevated levels of testosterone, and if she wants to compete under these regulations, she must chemically lower her testosterone level. Semenya was 18-years-old when she first raced in the Berlin World Championships in 2009, winning by over two-seconds (Daum, 2009). Immediately after her race, people claimed that this victory was not fair because she had higher levels of testosterone, even though she did not know she had a condition called “hyperandrogenism”, which results in a naturally higher level of testosterone in females. The spectators of this race questioned whether she was a man or a woman and Semenya was forced to go through gender tests after her win. During that same period, Semenya appeared on the cover of magazines looking as feminine as possible; in layers of makeup and stilettos with quotes that said, “Now that I know what I can look like, I’d like to dress like this more often” (Daum, 2009). Meanwhile, the IAAF was deciding whether Semenya should be stripped of her title. After this controversy, Semenya hid from the public’s eye, being accused of cheating for reasons she did not realize until she

competed and her blood tests revealed high testosterone results. Daum (2009) states that she understands that this was not Semenya's fault, but shares the feelings of some people who felt a sense of betrayal, "She made us think we were looking at a superwoman, only to learn later that her superness was dependent on a significant measure of masculinity," (p. 32). The new eligibility that was scheduled to be implemented in early November 2018 but has been pushed back due to Caster Semenya's challenge to the new rule. She has called it "discriminatory, irrational, unjustifiable," according to a statement released by her lawyers.

The conversation around Semenya and the debate about whether it is "unfair" for her to compete raises the question: if it is already a problem for athletes who have a higher level of testosterone, what happens to athletes who don't identify in the traditional male or female categories? The IAAF is implementing new eligibility rules to allow hyperandrogenic athletes with naturally elevated levels of testosterone to compete only if they reduced their blood testosterone levels. The continued discussion of gender norms at the Olympics highlights the issue of gender fluid athletes who are increasing with the changing society. While society continues to change, those changes can be seen through international events such as the Olympics. The Olympics have been a place of countless social and political movements mirroring what is happening in society during that time.

Social and Political Movements at the Olympics

Although the controversy about gender identity and biological differences at the Olympics is new, the Olympics have been a site of controversy about social change in the past. In 1968, two U.S. Olympic athletes, Tommie Smith and John Carlos, raised their fists during the medal ceremony at the Mexico Olympic games to signify the "black power salute" (Williams,

2012). It was a silent gesture to protest racism in the U.S. at that time (Williams, 2012). In 1980, the U.S. boycotted the Moscow Olympics, and a number of Eastern bloc countries boycotted the following summer Olympics in 1984 in Los Angeles. “Sports competitions or activities have had the intention to bring about change in certain cases,” Grama, Maroti and Herman (2018) said about the relationship between politics and sports. The Olympic games have been the leading competition for athletes worldwide. Brian Martin (2006) states that the games are almost like another world of its own. “One of the important characteristics of the games is that they are worlds unto themselves, with rules to define behavior and an explicit separation from outside concerns...many games in practice are marked by racial prejudice; gender discrimination, economic inequality, and numerous other social dynamics. But the ideal of the game involves a bracketing or exclusion of these factors, with all attention on abiding by the artificial reality of the game itself,” (Martin, 2006, p. 2). As the leading world competition that has built its own standards and rules, the Olympic games have become a glimpse into the state of society and what it values.

As society changes, the Olympic games have changed with society, although not always quickly. For example, after World War II, during a time of tension with communist states, the International Olympics Committee bent its rules to allow Communist states to compete (Martin, 2006, p. 1). With the emerging broader definitions of gender identity, the question will be how the Olympics will shift with the rapidly changing society to respond to the athletes wanting to compete who don't fit in the “mold” of the male and female athletes we most often see in Olympics coverage. The Olympics have shown that the rules can be changed, but whether they will is another question. However, it is important to first distinguish if testosterone levels are the only barrier to allowing possibly non-binary or transgender athletes compete without gender

reassignment surgery or medically lowering testosterone levels and if it would be considered “cheating” in the eyes of IOC, IAAF and other national sporting organizations.

Physical Advantage and Gender in Competition

Basic categories such as age, weight and time have always been important in sports competition, but new ways of testing and assessing biological conditions have led to a sense that anyone who falls outside of norms may have an unfair advantage. The new eligibility requirements put in place by the IAAF reflect concerns about how differences in biology that may create an “unlevel” playing field for athletes. However, according to Brendan Parent (2018), it is not easy to assess advantage in sport and determine how it impacts performance or when it may be “unfair.” Parent turned to a study done by Thomas Murray at the Hastings Center that looks at why athletes use performance enhancers and what those enhancers mean in sports. The study analyzed four 1500-meter runners: a runner taking extra-strength aspirin, a runner having a genetic condition causing higher levels of testosterone, a runner on a carefully scheduled regimen to take medicine to increase your red blood cell count and a runner who has a team of diet, sleep and exercise specialists to be sure she has the perfect balance to be a successful athlete (Murray, 2018). He questions which of these athletes “cheated” and differentiates between what is natural and what is cheating. Murray found that extra-strength aspirin, which blocks pain signals, a significant deterrent to running fast, would probably be not considered doping at least for the 1500-meters because it does not give enough of a significant advantage (however, it could be considered doping in races with longer distances). He said that genetically having more testosterone would also not be considered doping since current studies show that though there is a 10 to 12 percent difference between the times of male and female

runners in the same distance, there is only a 2 to 3 percent advantage within female events (Murray, 2018). The runner with medicine that increases her red blood cell count directly correlates to her endurance while she runs, therefore, she may not be eligible to compete considering that the medicine (hormone erythropoietin) would most likely be prohibited due to safety concerns. Lastly, Murray said that the runner with the team of experts to optimize performance is not doping, there is a significant difference between runners with different resources during their training. Murray's study did not conclude who cheated, but it did highlight that it's difficult to draw the lines between doping and advantage because it can be hard to differentiate enhancement versus preparation (Murray, 2018, p. 173). Sports itself is a place of the physical advantaged; the most physically advantaged people are gathered in a place like the Olympics to compete. The focus on physical differences, like hyperandrogenism, seem to suggest that physical differences must be managed because they create an unlevel playing field.

“Leveling the playing field”

A quote from the IAAF President Sebastian Coe on the IAAF website states, “As the International Federation for our sport we have a responsibility to ensure a level playing field for athletes... Like many other sports we choose to have two classifications for our competition – men's events and women's events. This means we need to be clear about the competition criteria for these two categories. Our evidence and data show that testosterone, either naturally produced or artificially inserted into the body, provides significant performance advantages in female athletes,” Coe said. The term “leveling the playing field” is often mentioned when these regulations are explained. The IAAF President has made it clear that the rule is implemented not because someone with Difference of Sex Development (DSD) is cheating, but because there

needs to be a way to clearly define the rules to keep the games fair. “The revised rules are not about cheating, no athlete with a DSD has cheated, they are about leveling the playing field to ensure fair and meaningful competition in the sport of athletics where success is determined by talent, dedication and hard work rather than other contributing factors,” Coe said on the IAAF website. This issue is complex because of the definition of “advantage,” especially surrounding Olympic sports, a place where the most “advantaged” athletes come to compete. From the perspective of people deciding the regulations, they need to be set from a biological standpoint, however, some say that it is not just about biological sex.

Arguments against restrictions

Researchers disagree about whether or not testosterone gives female athletes an unfair advantage. “Unfortunately, the endeavor to make elite sports a ‘level playing field’ has victimized many women,” (Simpson et al., 2006). Caster Semenya’s case with hyperandrogenism was a unique issue that the Olympics may certainly face more of in the future. However, the problem of gender, gender identity and athletic advantage in the sports world is very real for any athlete who doesn’t fit within the male or female categories that have been set based on biology. Yanni Pitsiladis (2016) claims that studies comparing the performance of transgender female athletes to athletes who identified as women and were born female showed that transgender athletes did not have an advantage, and that the hormone-suppressing medication did not do much to lessen that “advantage” (Pitsiladis, 2016). On the other hand, there have been negative side effects to hormone-suppressing drugs such as the luteinizing hormone-releasing hormone (LHRH) agonist. Medicine like LHRH is a hormone-suppressing drug that could negatively affect an athlete such as Semenya if she is required to medically lower

her testosterone. The Scientific American Editors journal states that having to lower naturally produced testosterone could lead to having to remove a hormone-producing organ or even a potential electrolyte imbalance causing irregular heartbeats or even symptoms such as nausea, excessive thirst and urination (Olympic officials should tell women “High T” is no hurdle, 2016). According to a study in the *Journal of Clinical Endocrinology & Metabolism* that studied a large group of elite female athletes, they found “the prevalence of women with a 46 XY disorder of sex development (DSD) condition is at least 7 per 1000, which is dramatically higher than expected in the general population,” (Bermon, Vilain & Fénichel, 2015). Some researchers claim that rather than questioning whether someone “qualifies” as a woman, more research needs to be done on naturally occurring hormone differences to determine if it contributes to an unfair advantage (Schultz, 2011). There are also researchers who claim that athletes who should have a say in creating the regulations for the sport they play: “Although elite sports can never achieve a perfectly level playing field, there should be parameters to which athletes must conform for a given sport. Yet elite athletes themselves should play a decisive role in what is best for their sport,” (Sánchez, Martínez-Patiño & Vilain, 2013, p. 15).

The rule of having to suppress testosterone levels for athletes with hyperandrogenism could also be a risk to an athlete. This struggle to find an inclusive, yet fair line is a glimpse into what the Olympics will have to deal with, especially with the changing understanding of society about what it means to be male or female.

Male vs. Female; Biology vs. Gender

“Gender verification and sport are two terms which when put together provide a bang louder than any starting pistol” (Nerva, 2010, p. 2). For as long as people can remember, there

have been male sports and female sports. Sometimes males would play in female sports and vice versa. However, what about athletes who don't fit into that mold? News of high schools allowing transgender athletes to play on their sports teams or allowing athletes to play in whichever gender they identify with has been increasing throughout the country. Those regulations start to become more rigid when reaching an international level such as at the Olympics where thousands of people watch their country and its values being represented. When an international competition, like the Olympics, defines who can and cannot compete based solely not on the physical ability of that individual, but more on biological characteristics that are seen as more masculine, it reflects on the rest of society as how gender should be defined.

Examples of issues with regulations limiting eligibility of athletes has been surfacing through cases other than Caster Semenya's news. Andraya Yearwood, a student and track runner at Cromwell High School in Connecticut, came under fire for winning the 100-meter and 200-meter race at a track meet as a transgender woman. Joanna Harper, a medical physicist and competitive marathon runner also receives backlash for competing in women's events even though she has already undergone hormone therapy.

There have also been examples of more transgender athletes being eligible to compete with the gender they were not assigned at birth. Schuyler Bailar is a Harvard College swimmer who competes on the university's men's team. Bailar grew up swimming as a woman with impressive times that caught the eye of Harvard's women's swim coach. However, after realizing that he identifies as transgender, he luckily was able to continue swimming for Harvard but on the men's team. In Bailar's case, the Harvard men's coach did not have a problem letting Bailar compete for the men's team, however, the line of eligibility becomes more difficult in professional level sports such as through the IAAF or the IOC.

Gender Identity as a Social Construction

In research on gender and sex, gender is understood as a social construction related to identity and a person's sense of femininity and masculinity. However, the social construction of gender could make an athlete ineligible to compete since the Olympic games emphasize biological definitions of sex. "Differences exist as race and gender are their social construction based on expected behaviors, abilities, roles, and interests. Self-defined identity is important to many minoritized, marginalized groups in terms of establishing their collective identity on their own terms," (Zamani-Gallaher, 2017). This means that the definition of gender and sex may be different; one is based on social construction and the other based on biology. It is important to acknowledge this distinction because it gives another way to think of the regulations at the Olympics by understanding that they were created on the biological definition of gender. "In nature, human embryos need be told specifically to turn into boys," (Science and Technology: The Gender Unbenders, 1992). The SRY gene determines whether someone will be a male or female. Men share a stunted "Y" chromosome and if the sex chromosome that arrives from the father is a Y, the embryo becomes a male. However, even if the Y arrives, the SRY may be faulty, in which case, the embryo would be born with female parts. "This is nature's way: female until proved otherwise. But it is not the way of the International Olympic Committee, In the IOC's view, you are male until proven otherwise," (Science and Technology: The Gender Unbenders, 1992). This article claims that the IOC's views on athletes is different than the way nature "determines" the biology of a person. In Judith Butler's *Gender Trouble*, she states that gender should be independent of sex, "When the constructed status of gender is theorized as radically independent of sex, gender itself becomes a free-floating artifice, with the consequence

that man and masculine might just as easily signify a female body as a male one, and woman and feminine a male body as easily as a female one.” (Butler, 1990, p. 6) This, in the context of sports, is where the sports organizations and committees draw the line and divide based on biology in their effort to level an already difficult playing field to level.

Transgender Eligibility

The International Olympic Committee (IOC) announced in 2004 that they would allow transgender athletes to participate for the first time. However, this was only for those individuals who had undergone sex reassignment surgery and hormone therapy for at least two years prior to competing (Semerjian and Cohen, 2006). This policy is applied for males and females, but the focus has been on a male’s transition to a female competing in female sports. Semerjian and Cohen (2006) say that there is never discussion about how that could be a problem for male sports because it wouldn’t necessarily be seen as an advantage: “There are rarely concerns or discussions of transgender men participating in sport, and never is this raised as an issue of ‘unfair competition.’” This is true despite the IOC rules that require female-to-male (FTM) athletes to take testosterone (ordinarily regarded as a banned performance-enhancing substance) to qualify under current policy (Semerjian and Cohen, 2006). However, it never disqualifies a male identified athlete from competing in that sport. Only when an athlete has physical attributes that could add strength, such as male-sex hormones, does the athlete’s eligibility get called into question. There is a need for a clearer distinction of the basis that the IOC defines a male or female sport that mirrors how society defines gender.

Need for more research

New changes call for more research regarding testosterone. A chance of a female athlete with hyperandrogenism is not common; however, it still could be a problem if it goes against the regulations for that competition, just like it has for Caster Semenya. The fact that the IAAF is trying to update its rules is an attempt to shift with society. This is just a glimpse into the clashes between traditional rules and the new rules and eligibilities that need to be implemented to keep up with the changing society, especially about how people identify and choose to identify which may be different from their physiological sex. “Elite athletes are by definition physiological outliers because of their strength, speed and reflexes,” (Olympic Officials Should Tell Women “High T” Is No Hurdle, 2016). Limiting athletes due to height is not something that is done because height differences are considered “natural,” but what about elevated testosterone? Or someone who chooses not to identify as male or female? Or someone who is female, identifies as male, and chooses not to undergo sex reassignment surgery? Again, the number of elite athletes who these questions fall under are few, but they are not non-existent. People are turning their attention to professional sports and their future policies on gender identity and athletics that also will effect other levels of sports.

These include all of the challenges, implications and issues surrounding eligibility regarding gender identity in sports. This project seeks to get personal narratives of elite athletes who identify as transgender and hear from them about these traditional regulations and their implications from their perspective as someone wanting to compete without being questioned about their eligibility.

Chapter Two: Creative Work

For my creative work, I created a multimedia, long-form piece that is displayed on a website that I coded. I decided to visually showcase quotes from elite athletes I interviewed about this topic in the form of soundwave videos. I placed the soundwaves strategically throughout the long-form piece with quotes from experts who can talk more about my topic. I created a multimedia, long-form piece and decided to create each component myself because I think that this is the best way to display the problem I am trying to discuss regarding the Olympics. The long-form piece will allow me to fully dive into the topics and add my own analysis, as well as provide the perspectives of elite athletes and sports and health professionals. I decided to include the soundwaves because I think that personal voices in my topic are incredibly important to be able to put a face to this issue. I interviewed athletes who fit outside of the traditional regulations set at the Olympics and experts who study gender identity in the context of sports.

My audience is people interested in the Olympics and even athletes who may be the ones competing in the near future. I hope to publish my long-form piece on news sites that cover the Olympics such as 9News in Denver or other sports sites such as Bleacher Report. I aim to also direct my piece to a non-traditional sports audience who are interested in hearing personal narratives about people fighting to have a place to compete.

I have chosen three main components: a website, a long-form article and visual soundwaves from the interviews. I think that the visual soundwaves from the audio interviews add the personal voice and touch to this topic that is important because it is discussing an issue that people are facing and will continue to face. This piece would also be useful to the audience by humanizing the regulations and highlighting the complexities of Olympic regulations.

My website was coded using a Bootstrap template that I modified the code myself. This allowed me to personalize my website and add the creative components to not only showcase my work as a journalist, but to utilize my coding minor skills as well.

Since I wanted voices of people who fall into a very specific category, all of my interviews happened over the phone with people outside of Colorado, even outside of the United States. I pulled the most important lines from a few of the interviews with athletes and showcased them as a visual waveform with the subtitles written out for the viewer to follow along. This will allow me to include their personal voices and stories that include photos of them to help the reader get to know the characters better.

I was first inspired to structure my creative project as a multimedia long-form piece after reading a New York Times article titled, “Snow Fall: The Avalanche at Tunnel Creek” by John Branch. This article begins with a quick motion graphic of a snowy mountain at the top before the article begins. Throughout his entire piece, Branch incorporates video interviews of people speaking on their experience through the avalanche. He places it where the personal story adds to what he is writing about. When I first read through his piece, I was amazed at how each component (the writing and the videos) fit so well together. The personal perspectives were crucial to his piece and though the writing itself was interesting, the videos helped to make it more personal.

I chose the most significant soundbites in the soundwaves that would allow the viewer to watch or listen to the clip and proceed reading the piece. Another limitation with having multiple components involves being strategic about the audio clips and implementing them throughout the piece in a way that will not disrupt the thought process of the audience member reading the piece.

My creative project is unique because of the personal voices I will incorporate throughout the long-form piece. The voices of the experts who can speak more on gender through their studies as well as the voices of the actual athletes who are facing this difficult issue. My piece will hopefully open up the discussion surrounding gender identity in professional level sports such as the Olympics.

Please contact me for access to this material at Lina.Takahashi@colorado.edu.

Chapter Three: Discussion

Description

The literature review allowed me to look at the literature already present regarding Olympic policies surrounding eligibility and more on the Caster Semenya case. The creative project portion took a more personal approach in an attempt to put a face to the voices in this issue. Both the literature review and the creative project helped me understand the different conversations happening around this issue both from a scholarly standpoint as well as from experts and athletes in the sports realm who are directly impacted by this issue.

Over the course of exploring my topic further, I was constantly reminded of the relevance of this controversial topic. News about the Caster Semenya case was unfolding as I was interviewing and writing my piece. The sports world is at a place where they can talk more about sports eligibility in the context of gender identity, therefore, it was fascinating to be able to cover a topic that was unfolding as I was researching it.

In pursuing the topic about gender identity at the Olympics, I was nervous about how to start tackling such a large topic with so much depth. I struggled with knowing who to start interviewing and I was unsure of how I would attain those interviews. The number of people around the country and world I have been able to speak to has taught me more about LGBTQ+ issues in sports and how to correctly report on them.

Evaluation

Every time I interviewed someone, I found myself becoming more confident in interviewing people who have experienced something I personally have not. I went into this topic with slight fear that I would not be able to tell these wonderful stories in a way that would provide meaningful conversation and discussion around gender identity in sports. However, over

the course of several months of research and interviews, I realized that I have only scratched the surface regarding this complex issue. However, the amount that I did cover was all incredibly fascinating and I greatly enjoyed getting the opportunity to speak to so many experts and athletes who were willing to share their perspectives and life stories with me.

If I were to pursue this thesis topic again, I would love to play around with possible video components. I wanted to focus on telling the stories first before I focused on the visual aspects, which meant that my interviews could be outside of Colorado, hence, they were phone interviews. I liked the soundwaves included and I think my piece would have been different without it, however, I think video components would add an even stronger detail to the story.

In my countless attempts to find professional athletes to interview, there were several Olympic-level athletes, or people who were once Olympic athletes who declined to speak to me because of their current or future relations with the Olympics. If I were to do this topic again, I would like to spend even more time trying to find an athlete who has recently competed in the Olympics.

Feelings

I am delighted to have had the opportunity to pursue a topic that not only mirrored my dream to cover the Olympics, but to learn more about sports and our current society. Again, this is a topic that has incredible depth and I am interested in knowing what will happen going forward in the Caster Semenya case and to see how sports will look in the future. I'm incredibly hopeful for the future of sports surrounding gender identity and I am grateful to have researched a topic where I can continue to see the story unfold and hopefully continue reporting on it.

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Appendix A

This thesis has been modified for the CU Scholar repository. If you would like to view my creative work, please contact me at Lina.Takahashi@colorado.edu.