“I was never going to be fully included”: Transgender Sport Participants’ Experiences of the Athletic Transition Process

A Dissertation Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Jessica Hamdan

May 2025

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Dedication

This dissertation is dedicated to my grandpa, a man who loved his family beyond measure and was endlessly proud of them. I hope I have made him proud of my work.

Acknowledgements

First, I want to thank the people who participated in this study because without them, this would not have been possible. I am thankful that they all trusted me with their stories because this research is more important than ever. I am in awe of the transgender and queer community and feel lucky to be a part of a community that consistently shows strength and resilience in the face of adversity.

Second, thank you to my advisor and dissertation committee chair, Dr. Adam Love, for his constant support. I have grown as an academic thanks to his mentorship, so I am thankful that he encouraged me to be his student at the University of Tennessee. I would also like to thank my other dissertation committee members, Dr. Lyndsey Hornbuckle, Dr. Jennifer Morrow, and Dr. Nora Berenstain, for their time and support throughout the dissertation process. My dissertation would not be where it is today without my committee's thoughtful suggestions that pushed me to be a better writer and scholar.

Third, I would like to thank my fellow doctoral students in our cohort. Their friendship has helped me feel less alone throughout this process. I want to give a special shoutout to Hunter Porter because our cohort get-togethers outside of school would not have been possible without her. There is no one else I would rather go through this program with, so I am infinitely grateful for Hunter's friendship and support both within and outside of the academic world.

Fourth, I am thankful for my friends outside of Knoxville who have cheered me on and checked in on me throughout this process.

Fifth, I would not be where I am today without the unwavering support of my family. My parents' and sister's belief in me gave me the courage to move away from home and pursue my doctorate, so thank you for always supporting me and believing in me. Thank you to my grandparents for also supporting me throughout my life. It means more to me than they know. To

my aunts, uncles, and cousins, thank you for checking in on my progress and being excited for my wins.

Lastly, I want to give a special thank you to my fiancé, Taylor Malatesta. Even though we had only been dating for five months when I moved to Tennessee, I am so grateful that Taylor decided to take a chance on our relationship and do long distance. I truly do not know where I would be without her constant love and support throughout this process. Thank you for our daily FaceTime, weekly virtual dates, and countless trips to visit each other. Taylor, I love you, and I am looking forward to moving in together with our three cats (shoutout to Arya, Cleo, and Petunia) and getting married in October 2026.

Abstract

Transgender eligibility and participation in sport has a long history of being policed by such means as sex testing of athletes participating in women's competitions, continually changing eligibility policies from sport organizations, and increasing anti-transgender sport legislation (Harper, 2020; Heggie, 2010; Jones et al., 2017b; Love, 2017; Martowicz et al., 2023; NCAA, 2022; Photopoulos, 2021; Trans Legislation Tracker, 2024; World Athletics, 2023). Expanding on previous research about transgender athletes' experiences of the athletic transition process (Klein et al., 2018, 2019), the purpose of this study was to utilize an intersectional transfeminist lens to understand the experiences of adult transgender sport participants throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. Applying a basic qualitative research design, I conducted semi-structured interviews via Zoom with 14 participants. Using Braun and Clarke's (2006) thematic analysis to analyze the interview transcripts, transgender sport participants' experiences of the athletic transition process centered around the following five themes: (a) Discrimination, (b) Policies, (c) Social Connection, (d) Importance of Support, and (e) Athletic (In)Ability. Participants feared potential discrimination and experienced actual discrimination by having their identities delegitimized. Participants discussed the impact that sport organizations' policies had on their ability to athletically transition, which included completing administrative tasks, restricting participation, and enabling participation. Transgender sport participants described their experiences of social connection, which included both exclusionary and inclusionary experiences. The participants in this study emphasized the importance of their support system during the athletic transition process. Lastly, participants explained how their athletic (in)ability served as both a barrier and facilitator of the athletic transition process. Based on the findings from the current study, sport organizations must implement transfeminist-informed policy changes, openly support LGBTQ+

people in sport and LGBTQ+ organizations, and bring transgender representation to the forefront of sports to make sport a more empowering and supportive experience for all.

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Chapter One: Introduction

In recent years, transgender rights have been met with fierce opposition, particularly in the United States (U.S.) where anti-transgender bills and laws at the state level have skyrocketed (Trans Legislation Tracker, 2024), despite transgender and/or nonbinary people occupying a small portion of the population, estimated at about 1.6% of adults (ages 18 and older) in 2022 (Brown, 2022). In 2023, U.S. state legislators introduced a total of 600 anti-transgender bills, more than three times the previous record of 174 bills in 2022 (Trans Legislation Tracker, 2024). These bills and laws range from bans on gender-affirming care to bans on sport participation for transgender people, particularly youth (Trans Legislation Tracker, 2024). These sport participation bans for transgender people exist on a global level, as a growing number of international sport governing bodies are banning transgender women from competing in the women's category if they have gone through puberty prior to receiving gender-affirming hormone therapy (GAHT; World Athletics, 2023), which is a type of gender-affirming care that transgender people may seek (Cheung et al., 2023; Coleman et al., 2022; Fein et al., 2017). However, many states within the U.S. have banned gender-affirming care for youth (Trans Legislation Tracker, 2024), making it effectively impossible for transgender people in much of the U.S. to compete in sport.

Transgender is an umbrella term that describes those whose gender identity does not align with their sex assigned at birth, while nonbinary is a term that can fall under the transgender umbrella and describes those whose gender identity does not conform to the gender binary, which is the belief that men and women are the only two genders (Cheung et al., 2023; Coleman et al., 2022; Enke, 2012b; Serano, 2024). For the purposes of this study, transgender will include people with nonbinary gender identities and be used to describe anyone with a gender identity

other than cisgender man or woman, which refers to someone whose gender identity aligns with their sex assigned at birth (Cheung et al., 2023; Coleman et al., 2022; Enke, 2012b; Serano, 2024). People who are transgender may choose to undergo a transition, which is a process of gender affirmation that may include social, medical, and legal facets (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019; Serano, 2024). A social transition may involve changing one's hairstyle, using a chosen name and/or pronouns, wearing different clothes, and other social markers of gender (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019). A medical transition may involve GAHT, gender-affirming surgical procedures (e.g., mastectomy, vaginoplasty), voice therapy, and other medical interventions (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019). A legal transition may involve changing one's name and/or sex/gender marker on government identification documents, such as a birth certificate (Coleman et al., 2022; Fein et al., 2017).

Transgender people who are sport participants may also go through what Klein et al. (2019) referred to as an *athletic transition*, which involves an athlete moving from one gender category (e.g., men's, women's, mixed) in sport to another. Transgender sport participants may want or need to athletically transition because the sex and gender binary is entrenched in sport, frequently dividing athletes into men's and women's teams (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Fischer & McClearen, 2020; Herrick et al., 2020; Klein et al., 2018, 2019; Love et al., 2009; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Zanin et al., 2023). Sex and gender segregation in sports operates under the assumptions that sex exists on a male-female binary, and cisgender men are naturally superior athletes compared to cisgender women (Hargreaves, 1994; Martínková, 2020; Sailors & Weaving, 2022; Vertinsky, 1987). However, a long history of sex testing athletes participating in

women's competitions, continually changing eligibility policies from sport organizations, and an increase of anti-transgender sport participation legislation have contributed to a worldwide controversy regarding transgender eligibility and participation in sport (Harper, 2020; Heggie, 2010; Jones et al., 2017b; Love, 2017; Martowicz et al., 2023; NCAA, 2022; Photopoulos, 2021; Trans Legislation Tracker, 2024; World Athletics, 2023). This controversy is problematic as transgender exclusion from sport may exacerbate existing sport participation and physical and mental health disparities that transgender people experience compared to their cisgender counterparts (Clark & Kosciw, 2022; Hughes et al., 2022; Johns et al., 2019; LaRocca et al., 2022; Moyer et al., 2023). For example, LaRocca et al. (2022) found that 65.3% of transgender high school students compared to 40.2% of their cisgender counterparts did not participate on a sports team; however, transgender high school students who participated on sports teams reported lower levels of depression and suicidal ideation compared to transgender students who did not participate on sports teams.

Because of the unique challenges experienced by transgender sport participants, a growing body of literature has explored the lived experiences of transgender participants in physical activity (PA) and sport (Afroozeh et al., 2023; Caudwell, 2014, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Elling-Machartzki, 2017; Fischer & McClearen, 2020; Hargie et al., 2017; Herrick et al., 2020; Holder et al., 2022; Jones et al., 2017a; Klein et al., 2018, 2019; Love et al., 2009; Oliveira et al., 2022, 2023; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Storr et al., 2022; Teti et al., 2020; Travers & Deri, 2011; Zanin et al., 2023). However, an important direction for building upon this literature is the use of an intersectional approach that centers the experiences of a larger, more diverse group of transgender sport participants who experience intersecting structures of oppression (e.g., sexism, racism, classism)

throughout the process of their athletic transition (Afroozeh et al., 2023; Caudwell, 2014, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Herrick et al., 2020; Holder et al., 2022; Jones et al., 2017a, 2017b; Klein et al., 2019; Oliveira et al., 2023; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Teti et al., 2020; Zanin et al., 2023).

Therefore, this study used an intersectional transfeminist lens to explore the experiences of adult transgender people throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. As such, this chapter begins with the history and background surrounding the sex and gender binary in sport to provide context for the importance of the current study. Then, this chapter introduces relevant literature regarding transgender PA and sport participants' experiences, followed by a statement of the problem, the purpose of the study, research question, significance of the study, paradigmatic commitments, definition of key terms, and organization of subsequent chapters.

Sex and Gender Binary in Sport: History and Background

This section briefly details the history of the sex and gender binary in sport to provide context for the importance of the current study. The following historical background is traced from the 19th century to present day, beginning with a discussion of the prevailing beliefs that women were weak because of menstruation and thus should be excluded from PA and sport (Hargreaves, 1994; Vertinsky, 1987). Moving into the 20th century, women started participating in competitive sports, like the Olympics; however, their high performance was met with accusations that these athletes were men masquerading as women (Harper, 2020; Heggie, 2010; Photopoulos, 2021). During the mid-20th century, the International Olympic Committee (IOC) and World Athletics, the international governing body for athletics events (e.g., track and field, cross country running) and formerly known as the International Amateur Athletics Federation

(IAAF), began sex testing all athletes at certain women's championship events by requiring certificates of femininity, visual inspections, and chromosome testing (Harper, 2020; Heggie, 2010; Photopoulos, 2021). In the latter part of the 20th century, blanket sex testing was eliminated (Harper, 2020; Heggie, 2010; Photopoulos, 2021); however, the 21st century ushered in many iterations of policies attempting to regulate athletes in women's sports, particularly those with differences in sex development (DSDs) and transgender women (Harper, 2020; Heggie, 2010; Jones et al., 2017b; Love, 2017; Martowicz et al., 2023; NCAA, 2022; Photopoulos, 2021; World Athletics, 2023).

The 19th Century

Although sport has existed for centuries, I begin this historical background in the late 19th century. The prevailing Western narrative argues that the globally dominant sport forms of today arose in England where they became organized and codified during the mid- to late 19th century as national sport governing bodies emerged and then spread internationally (Guttmann, 1978/2004; Huggins, 2021). However, it is important to recognize that the development of sport was part of an ongoing Western colonial project that led to the displacement and erasure of Indigenous sporting practices (Clevenger, 2017; MacLean, 2019).

During this period, sports were largely seen as a part of men's nature because they "were overwhelmingly symbols of masculinity and chauvinism, embodying aggressive displays of physical power and competitiveness" (Hargreaves, 1994, p. 43). Women, however, were largely excluded from sport based on pseudo-scientific evidence perpetuated by medical professionals, who argued that women were weak and unable to participate in vigorous PA and competitive sports because menstruation sapped their mental and physical energy (Hargreaves, 1994; Vertinsky, 1987). During this time, "biological ideas were used specifically to construct social

ideas about gender and to defend inequalities between men and women in sports" (Hargreaves, 1994, p. 43).

Towards the end of the 19th century, Baron Pierre de Coubertin worked to revive the ancient Greek Olympic Games, and his vision came to fruition in 1896 when the first modern Olympic Games were held in Athens (Boykoff, 2016; Harper, 2020). Because Coubertin believed that women's sports were "impractical, uninteresting, ungainly, and…improper" (Coubertin, 1912/2000, p. 713), the 1896 Olympic Games mimicked the ancient Olympic Games in that they were reserved for men (Boykoff, 2016; Harper, 2020). Coubertin argued that women's role in the Olympics should be to reward men's athleticism with applause (Boykoff, 2016; Coubertin, 1912/2000). However, despite the widespread beliefs held by many medical professionals and reflected by others like Coubertin, women began to participate in PA and organized sports through educational opportunities afforded to those in the middle and upper classes (Hargreaves, 1994). Although these increased opportunities for women in PA and organized sport continued into the 20th century, "the belief in innate biological and psychological differences between the sexes constituted a powerful and pervasive form of sexism—experienced as 'unproblematic commonsense behaviour'—which systematically subordinated women in sports for years to come" (Hargreaves, 1994, p. 43).

The 20th Century

1900 – 1939

Despite prevailing 19th century beliefs about women's athletic capabilities, or lack thereof, about 20 women participated in the second modern Olympics held in 1900 in Paris, with Great Britain's Charlotte Cooper being the first woman Olympic gold medalist (Boykoff, 2016). However, athletes participating in women's competitions were under intense scrutiny, especially

if they did not fit conventional Western ideals of femininity (e.g., white, heterosexual, cisgender, small, weak), which led to accusations, particularly in the 1930s, that these athletes were men masquerading as women to win competitions (Harper, 2020; Heggie, 2010; Photopoulos, 2021). Present day accounts often cite Heinrich Ratjen and Stella Walsh, both of whom competed on women's teams in the 1936 Olympics, as early cases of gender fraud to "fit the conventional narrative about the history of sex testing; one a tool of a fascist regime, the other Eastern European, if not strictly a Communist athlete" (Heggie, 2010, p. 158). Ratjen, raised and identified as a girl, competed for Germany in the high-jump and was not accused of gender fraud at the time; however, he is often cited as having masqueraded as a woman because he began identifying as a man years after competing in the Olympics (Harper, 2020; Heggie, 2010). Like Ratjen, Walsh was not accused of gender fraud when she competed for Poland in the 100-meter race; in fact, her femininity was not questioned until her death in 1980 when an autopsy revealed ambiguous sexual features (Harper, 2020; Heggie, 2010).

However, there were other athletes at the time who competed in the women's category and were accused of committing gender fraud while actively competing, such as Mark Weston, Zdenek Koubek, and Helen Stephens (Harper, 2020; Heggie, 2010). Weston competed internationally in women's competitions for Britain in the javelin and shot put; however, he underwent gender-affirming surgeries after his 1934 win in shot put and began identifying and living as a man (Harper, 2020; Heggie, 2010). Although he was accused of gender fraud, Weston's story was generally framed positively, noting that he was unaware of his potential advantage against cisgender women (Harper, 2020; Heggie, 2010). Koubek, a Czechoslovakian who competed in women's track events, shared a similar story to that of Weston as he retired from sport and asked to be recognized as a man in 1935 (Harper, 2020; Heggie, 2010). Stephens

had a different story from both Weston and Koubek (Harper, 2020; Heggie, 2010). After winning the 100-meter race at the 1936 Olympics, Stephens, an American, was initially accused of being a man by the Polish press because she defeated Polish sprinter, Stella Walsh, and was further questioned by other journalists; however, she was publicly cleared of the allegations after undergoing an unspecified test (Harper, 2020; Heggie, 2010; Photopoulos, 2021). These cases of gender fraud set the stage for policing athletes' bodies in women's competitions in following years (Harper, 2020; Heggie, 2010; Photopoulos, 2021).

1940 – 1969

In 1946, World Athletics implemented a rule requiring athletes competing in the women's category to obtain and bring a medical certificate of femininity to competitions to prove their eligibility as women (Harper, 2020; Heggie, 2010; Photopoulos, 2021). This same rule was implemented by the IOC for the 1948 Olympic Games in London (Heggie, 2010; Photopoulos, 2021). However, certificates of femininity fell out of practice due to World Athletics' and the IOC's distrust of individual countries; in its place, blanket, systematic sex testing was first employed in the 1960s (Harper, 2020; Heggie, 2010; Photopoulos, 2021). During this time, athletes in the women's category were required to strip their clothes and undergo a visual inspection of their external genitalia by a panel of doctors to determine their eligibility at the European Athletics Championship in 1966, while athletes in women's competitions at the Commonwealth Games in 1966 underwent invasive gynecological exams (Harper, 2020; Heggie, 2010; Photopoulos, 2021).

These demeaning and dehumanizing exams were considered unpopular and insufficient to determine eligibility, so the European Cup Track and Field Event in 1967 trialed chromosome testing, which resulted in the disqualification of Polish sprinter Ewa Klobukowska (Harper,

2020; Heggie, 2010; Photopoulos, 2021). The chromosome test, known as the Barr body test, involves a cheek swab to determine if cells contain two X chromosomes, which is typically associated with women (Harper, 2020; Heggie, 2010; Photopoulos, 2021). This test was implemented by the IOC at the 1968 Olympics and resulted in the disqualification of Erik Schinegger, who was an Austrian skier living as a woman at the time, before he underwent gender-affirming surgery and was recognized as a man (Harper, 2020; Heggie, 2010; Photopoulos, 2021). After these two cases, no one officially failed the Barr body test again until the 1980s, although it is suspected that athletes quietly withdrew from future competitions, likely to avoid undergoing the test (Harper, 2020; Heggie, 2010). However, the 1970s was not without controversy as this decade ushered in the first high profile case of a transgender athlete (Harper, 2020; Pieper, 2017).

1970 – 1999

Renée Richards, a former professional men's tennis player, emerged as the first high profile case of a transgender athlete competing in women's sport after receiving gender-affirming medical care (Harper, 2020; Pieper, 2017). Richards started competing in women's tennis tournaments in 1976 and won a local women's tennis tournament in the same year in La Jolla, California (Harper, 2020; Pieper, 2017). However, a reporter quickly uncovered Richards's background, which "immediately raised eligibility questions and sparked protest" (Pieper, 2017, p. 13). Richards continued competing in tournaments and announced her plan to participate as a woman in the 1976 US Open; however, the U.S. Tennis Association (USTA) and Women's Tennis Association (WTA) refused to let Richards participate and implemented chromosome testing for athletes in the women's category to prevent her from competing (Harper, 2020; Pieper, 2017). Richards sued USTA and WTA for the right to compete in the women's category

and won the lawsuit in 1977, thus enabling her to compete in the 1977 US Open (Harper, 2020; Pieper, 2017). Although she lost in the first round of the US Open, she achieved success in doubles play, reaching the finals with her partner Betty Stuart (Harper, 2020; Pieper, 2017). Richards also found success in mixed doubles at the US Open, reaching the semifinals twice with her partner, Ilie Năstase (Harper, 2020; Pieper, 2017). At one point, Richards was ranked as a top 20 player by the WTA; however, she retired in 1981 after competing for four years (Harper, 2020; Pieper, 2017). Ultimately, Richards made history as the first high profile case of a transgender athlete competing in women's sport after receiving gender-affirming medical care (Harper, 2020).

Richards was not the only transgender athlete competing during the 1970s; both Caitlyn Jenner and Philippa York competed in the men's decathlon and cycling, respectively, but neither of them received gender-affirming care and came out as transgender women until the 2010s (Harper, 2020). Although "there were fears among sporting officials—and among female athletes—that Richards would be the first of a wave of transgender athletes who would take over women's sport," this fear did not matriculate, and there were few, if any, cases of openly transgender athletes until the 21st century (Harper, 2020, p. 78). After Richards, however, a Spanish hurdler by the name of María José Martínez-Patiño soon took center stage in the 1980s (Harper, 2020; Heggie, 2010; Photopoulos, 2021).

After Klobukowska and Schinegger failed the Barr body test in 1967 and 1968, respectively, Martínez-Patiño became the next athlete to publicly fail the test after refusing to quietly withdraw from the 1985 World University Games in Japan after her cells were found to have XY chromosomes, which are typically found in men; however, it is likely that others also failed the test before her but were encouraged to quietly withdraw from sport to avoid the failed

test being publicized (Harper, 2020; Heggie, 2010; Photopoulos, 2021). Further testing revealed that Martínez-Patiño has complete androgen insensitivity syndrome, meaning that her body is unable to process testosterone and instead outwardly developed as a "typical" female (Harper, 2020; Heggie, 2010; Photopoulos, 2021). Instead of retiring from sport as her coach and national federation suggested, Martínez-Patiño was fully disqualified from competition after participating in the 1986 Spanish Athletics Championships (Harper, 2020; Heggie, 2010; Photopoulos, 2021).

Along with a team of scientists, Martínez-Patiño protested her ban, arguing that the Barr body test was insufficient for determining who has a potential physiological advantage because her body cannot process testosterone, so World Athletics overturned her ban in 1988, thus undermining the use of Barr body testing (Harper, 2020; Heggie, 2010; Photopoulos, 2021). This ultimately led World Athletics to eliminate blanket, systematic sex testing in 1992 (Harper, 2020; Heggie, 2010; Photopoulos, 2021). The IOC also stopped using Barr body testing but instead started testing athletes in women's competitions in 1992 for the presence of the SRY gene, which is only found on the Y chromosome, as this was deemed a more "reliable" marker of an athlete's sex (Harper, 2020; Heggie, 2010; Photopoulos, 2021). Prior to the turn of the 20th century, the IOC decided to eliminate blanket, systematic sex testing (Harper, 2020; Heggie, 2010; Photopoulos, 2021).

The 21st Century

2000 – 2019

Although systematic, blanket sex testing was no longer used, both the IOC and World Athletics instead started sex testing athletes in the women's category whose sex and/or gender was questioned by competitors, coaches, media, and others (Heggie, 2010; Photopoulos, 2021). However, in 2004, the IOC adopted a new policy, the Stockholm Consensus, to address

transgender athlete inclusion (Harper, 2020; Love, 2017). To be eligible to compete in the Olympics, transgender athletes needed to undergo gender-affirming surgery, have their gender identity be legally recognized by their country of origin, live as their gender for at least two years, and take gender-affirming hormones for at least two years (Harper, 2020; Love, 2017). Following the Stockholm Consensus, no openly transgender athlete competed in the Olympics until 2021; despite this, the IOC updated its transgender athlete guidelines in 2016, which allowed transgender men to compete without restrictions, while transgender women needed to live as a woman for at least four years and have blood testosterone levels below 10 nanomoles per liter for at least one year prior to competing (Harper, 2020; Jones et al., 2017b). Other sport governing bodies also addressed transgender athlete inclusion during this time. For example, the National Collegiate Athletic Association (NCAA) in the U.S. adopted transgender athlete participation guidelines in 2011 allowing transgender men to compete on a men's team as long as they were diagnosed with gender dysphoria and received GAHT, while transgender women could compete on a women's team as long as they were diagnosed with gender dysphoria and received GAHT for at least one year (Jones et al., 2017b).

While the IOC developed policies regarding transgender inclusion in sport, World Athletics continued sex testing athletes whose sex and/or gender were questioned. Sex testing athletes based on suspicion is a harmful practice that commonly targets non-white competitors, as Swarr (2023) argued that "protecting white women from black and brown interlocutors is a familiar colonial trope used to justify violence" (p. 115). Through the imposition of the colonial/Eurocentric gender binary on colonized people, "colonized females got the inferior status of gendering as women, without any of the privileges accompanying that status for white bourgeois women" (Lugones, 2007, p. 203). Thus, non-white, colonized athletes in the women's

category are not extended the same privilege of competing without suspicion that white, non-colonized athletes in the women's category are afforded.

Arguably the most prominent athlete who has been subjected to sex testing based on suspicion is Caster Semenya, a Black South African runner who won multiple Olympic medals in middle-distance track events and was suspected of having hyperandrogenism, a type of DSD that causes a person to produce high levels of testosterone (Harper, 2020; Heggie, 2010; Photopoulos, 2021). After winning the 800-meter race at the 2009 World Athletics Championships, World Athletics announced that Semenya needed to undergo sex testing, thus leading her to withdraw from track events for 11 months until she was deemed eligible to compete by World Athletics in 2010 (Harper, 2020; Heggie, 2010; Photopoulos, 2021). Semenya was scrutinized because of "questions about her body raised by complaints from her racist rivals and sporting official's suggestions that her performance had improved too easily" (Swarr, 2023, p. 107). Semenya's continued success served as a catalyst for World Athletics to implement a new regulation in 2011 requiring women with hyperandrogenism to have blood testosterone levels under 10 nanomoles per liter to be eligible to compete as a woman, thus forcing these athletes to lower their testosterone through medical interventions to compete (Harper, 2020; Photopoulos, 2021). World Athletics argued that testosterone, typically produced in men at higher levels compared to women, is what gives men a significant competitive advantage, and men subsequently perform better than women (Photopoulos, 2021).

In 2014, World Athletics' hyperandrogenism regulation was contested by Dutee Chand, an Indian sprinter who was ineligible to compete in the 2014 Commonwealth Games because her blood testosterone levels were over the 10 nanomole per liter limit (Harper, 2020; Photopoulos, 2021). Like Semenya, Chand was the target of a colonial, racist belief that positions white, non-

colonized athletes in women's competitions as in need of protection from non-white, colonized athletes from the Global South (Swarr, 2023). In 2015, the Court of Arbitration for Sport (CAS) agreed with Chand and suspended World Athletics' regulation (Harper, 2020; Photopoulos, 2021). The CAS gave World Athletics two years to provide scientific evidence of a link between testosterone and improved athletic performance (Harper, 2020; Photopoulos, 2021). During this time, World Athletics conducted and funded a study, finding that elite women athletes with higher blood testosterone levels performed significantly better than those with lower testosterone levels in the 400-meter race, 400-meter hurdles, 800-meter race, hammer throw, and pole vault and arguing that this demonstrates that higher testosterone levels confer an advantage (Bermon & Garnier, 2017). Because of this, World Athletics implemented a new rule in 2018 requiring athletes competing in women's races between 400 meters and one mile long to have blood testosterone levels below five nanomoles per liter (Harper, 2020; Photopoulos, 2021). Despite Bermon and Garnier (2017) finding no correlation for the 1,500-meter race, the new regulations from World Athletics included this race yet excluded the hammer throw and pole vault, leading some to believe that World Athletics was specifically targeting Semenya and the races she competed in (Harper, 2020; Photopoulos, 2021). Semenya appealed to the CAS in 2018 but lost in 2019; thus, she is no longer able to compete in her events (Harper, 2020; Photopoulos, 2021).

2020 – 2024

With the start of the new decade came a wave of new sport policies aimed at regulating transgender athlete participation. In 2021, the IOC dropped its 2016 transgender athlete participation guidelines and implemented the Framework on Fairness, Inclusion and Non-Discrimination on the Basis of Gender Identity and Sex Variations (Martowicz et al., 2023). Rather than provide blanket guidelines for all transgender athletes and athletes with DSDs to

follow, the Framework is meant to guide international sport governing bodies to create "sport-specific, evidence-based and rights-respecting" guidelines for the participation of transgender athletes and athletes with DSDs (Martowicz et al., 2023, p. 26). The IOC's sport-specific policy was adopted by the NCAA on January 19, 2022, effective immediately (NCAA, 2022). This caused a wave of confusion because the policy was implemented in the middle of the 2021-2022 season during which Lia Thomas, a University of Pennsylvania women's swimmer, sparked controversy and became the first transgender athlete to win an NCAA Division I championship (Barnes, 2022). Despite the IOC's Framework, many international sport governing bodies, such as World Athletics, have instead tightened their restrictions, which outright ban transgender women from competing if they have gone through male puberty and require athletes with DSDs to have testosterone levels below 2.5 nanomoles per liter for at least two years prior to competing in the women's category (World Athletics, 2023). Although this brief history did not cover the full extent of the sex and gender binary in sport, it is an important backdrop to frame the current study.

Transgender Experiences in Physical Activity and Sport

A growing body of literature has centered transgender voices by exploring the lived experiences of transgender participants in both PA and sport (Afroozeh et al., 2023; Caudwell, 2014, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Elling-Machartzki, 2017; Fischer & McClearen, 2020; Hargie et al., 2017; Herrick et al., 2020; Holder et al., 2022; Jones et al., 2017a, 2017b; Klein et al., 2018, 2019; Love et al., 2009; Oliveira et al., 2022, 2023; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Storr et al., 2022; Teti et al., 2020; Travers & Deri, 2011; Zanin et al., 2023). Although public and media discourse about transgender people often relies on biological essentialism to enforce sex segregation and police transgender bodies

in PA and sport, this discourse does not always align with the lived experiences of transgender PA and sport participants (Afroozeh et al., 2023; Caudwell, 2014, 2020, 2022; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Fischer & McClearen, 2020; Love et al., 2009; Semerjian & Cohen, 2006; Travers & Deri, 2011; Zanin et al., 2023). In fact, Semerjian and Cohen (2006) found that transgender sport participants' narratives "portray a way of thinking about gender as a category that is transmutable, unstable, and constantly written and rewritten through embodied performances" (p. 40). Despite these narratives that reject the sex segregated nature of PA and sport, transgender sport participation is highly regulated through policies, which often serve as a barrier to participation that reinforces the sex and gender binary in PA and sport, particularly for transgender people who are in the process of transitioning to affirm their gender (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Fischer & McClearen, 2020; Hargie et al., 2017; Jones et al., 2017b; Klein et al., 2018, 2019; Love et al., 2009; Travers & Deri, 2011; Zanin et al., 2023).

As such, the gender-affirming transition process is at-odds with continued PA and sport participation for many transgender people (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Hargie et al., 2017; Jones et al., 2017a; Klein et al., 2018, 2019; Pereira-García et al., 2021; Travers & Deri, 2011; Zanin et al., 2023). Afroozeh et al. (2023) found that some transgender men continued playing sports on women's teams at the expense of beginning a medical transition, while others who began their medical transition but had not completed their legal transition were excluded completely from sport, "a clear barrier in a space where all people's identities are required to neatly fit within the confines of the gender binary" (p. 1234). Caudwell (2014), Elling-Machartzki (2017), Hargie et al. (2017), Jones et al. (2017a), Travers and Deri (2011), and Zanin et al. (2023) similarly reported that some

transgender people stopped participating in PA and sports during their gender-affirming transition process.

Although Elling-Machartzki (2017) found that two transgender people continued participating in sport throughout their gender-affirming transition process because they participated "in non-traditional, more recreational sports environments that provided them with a sense of belonging in an inclusive physical leisure space" (p. 263), they stopped participating after their gender-affirming transition because their bodies did not fit into societal expectations for their gender. Similarly, two narrative case studies, conducted by the same team of researchers with the same participant, reported the experiences of a transgender male athlete during the simultaneous process of both his gender-affirming transition and athletic transition from a women's to men's cross-country and track and field team; however, he ultimately decided to quit his sport because it was hindering his gender-affirming transition (Klein et al., 2018, 2019). In contrast, another transgender man demonstrated that it is possible to medically transition and athletically transition between teams while continuing to compete in synchronized figure skating, which is a mixed-gender team sport (Herrick et al., 2020).

Lastly, previous literature has identified several noteworthy barriers and facilitators to transgender sport participation, all of which were similarly identified in recent systematic reviews (Holder et al., 2022; Oliveira et al., 2022). Commonly cited barriers to PA and sport participation for transgender people include gendered facilities, the gender binary in sport, discrimination, and gender dysphoria and body image (Caudwell, 2020; DeChants et al., 2024; Jones et al., 2017a; Oliveira et al., 2023; Storr et al., 2022; Teti et al., 2020). Gendered facilities, such as locker rooms and bathrooms, were consistently mentioned as one of the top barriers to PA and sport participation for transgender people. Some transgender people felt uncomfortable

with showering in a locker room because they did not want other people to see that their physical body was inconsistent with their gender identity (Jones et al., 2017a; Oliveira et al., 2023). Along similar lines, transgender people found the gender binary system in sport to be a barrier to their participation. Some argued that their school would not allow them to participate on a sports team that aligned with their gender identity (DeChants et al., 2024), while others discussed how "there was not a team that aligned with their gender identity or a gendered team they would comfortably fit into" (Jones et al., 2017a, p. 233). Discrimination was also viewed by transgender people as a major barrier to PA and sport participation. Sexuality and gender diverse (SAGD) people "discussed sport as a place where heteronormative hyper-masculine behaviour was rife, and where explicit bullying and homophobia was prevalent" (Storr et al., 2022, p. 611). Lastly, transgender people avoided PA and sport because of feelings of dysphoria and body image struggles, as demonstrated by transmasculine people who "believed a particular body would help them feel better but because they felt uncomfortable in their body, they could not attend a gym" (Teti et al., 2020; p. 214).

Despite these barriers, transgender people's participation in PA and sport has been facilitated by gender affirmation, achieving an ideal body shape, physical and mental health benefits, and social connection and support (Caudwell, 2020, 2022; DeChants et al., 2024; Jones et al., 2017a; Oliveira et al., 2023; Storr et al., 2022; Teti et al., 2020). With respect to gender affirmation, Teti et al. (2020) found that transmasculine people viewed exercise not only as a way to prepare for gender-affirming surgery, but also as a substitution for gender-affirming surgery. Although similar to gender affirmation, achieving the ideal body shape was seen as a way for transgender and transmasculine people to meet societal, particularly Western, ideals of body image, such as a toned, thin body for women (Jones et al., 2017a) and a muscular, "Dorito

shape" for men (Teti et al., 2020, p. 213). Additionally, physical and mental health benefits were frequently cited as a reason for transgender people to participate in PA and sport. SAGD people and high school transgender girls turned to PA and sport to stay physically fit and healthy (DeChants et al., 2024; Storr et al., 2022). Mental health benefits were of particular importance to a Portuguese transgender boy who identified these benefits as their main facilitator PA participation (Oliveira et al., 2022). Lastly, transgender people discussed the importance of social connection and support in PA and sport settings. For example, transgender high school girls valued the relationships they formed in sport as this was a place where they felt accepted (DeChants et al., 2024). Overall, the existing body of literature provides insights into transgender sport participants' experiences; however, scholars have noted key areas that require further exploration.

Statement of the Problem

Despite the highly contested nature of transgender participation in PA and sport globally (Afroozeh et al., 2023; Caudwell, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Fischer & McClearen, 2020; Hargie et al., 2017; Herrick et al., 2020; Love et al., 2009; Oliveira et al., 2023), the voices of transgender people are often missing from the conversation, and when they are included, transgender people are often not treated as experts of their own lived experiences (Scovel et al., 2023). Although a growing body of research is centering the voices of transgender sport participants and their experiences, scholars have called for an expansion of the literature to provide a deeper, more nuanced understanding of transgender sport participants' unique experiences (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Hargie et al., 2017; Herrick et al., 2020; Oliveira et al., 2022). Current literature has predominantly explored the experiences of white, Western transgender sport participants (Caudwell, 2020,

2022; DeChants et al., 2024; Herrick et al., 2020; Klein et al., 2018, 2019; Love et al., 2009; Teti et al., 2020; Zanin et al., 2023), so there is a dearth of scholarship that centers non-Western participants who may experience intersecting structures of oppression (e.g., sexism, racism, classism). This issue has led numerous scholars to encourage future research that employs an intersectional approach with a larger, more diverse group of transgender sport participants (Afroozeh et al., 2023; Caudwell, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Herrick et al., 2020; Holder et al., 2022; Klein et al., 2019; Oliveira et al., 2023; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Teti et al., 2020; Zanin et al., 2023).

Along with other scholars (Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Herrick et al., 2020; Holder et al., 2022; Jones et al., 2017a; Klein et al., 2019; Oliveira et al., 2023; Pereira-García et al., 2021), Afroozeh et al. (2023) further argued that "the experiences of different groups categorised under the trans 'umbrella' are likely to differ" (p. 1237) and thus should be explored in future research. Furthermore, existing research has demonstrated that the gender-affirming and athletic transition process is wrought with challenges for transgender sport participants (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Hargie et al., 2017; Herrick et al., 2020; Jones et al., 2017a; Klein et al., 2018, 2019; Pereira-García et al., 2021; Travers & Deri, 2011; Zanin et al., 2023). Klein et al. (2018) poignantly described the need to better understand the experiences of transgender sport participants during their gender-affirming and athletic transition:

> While there are stories of athletes who delay their transition until they no longer are competitive athletes or who quit sport when they transition, many trans athletes will want to do both: be their authentic self and be an athlete. (p. 566)

Together, the gaps identified above served as the basis for the current study.

Purpose of the Study

The purpose of this study was to utilize an intersectional transfeminist lens to understand the experiences of adult transgender sport participants throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. This process included those who were considering transitioning, were in the process of transitioning, had successfully transitioned, or had unsuccessfully attempted to transition. For the purposes of this study, the term "sport participants" was used to be inclusive of any sport or level of play (e.g., recreational, collegiate, professional). Because of the dearth of literature exploring the athletic transition process of transgender sport participants, this study utilized a basic qualitative research design to understand this topic in an open-ended way (Ellis & Hart, 2023; Kahlke, 2014; Merriam & Tisdell, 2016).

Research Question

The following research question guided the current study:

1. What are the experiences of transgender sport participants throughout the athletic transition process?

Significance of the Study

To fill the identified gaps in previous literature, this study contributes to the existing scholarship on transgender sport participation by providing an enhanced understanding of the athletic transition process for transgender sport participants by building off research conducted by Klein et al. (2018, 2019). Although the athletic transition process was studied by Klein et al. (2018, 2019), this research team conducted case studies that focused on one white transgender male collegiate athlete's experiences in the U.S. As such, the current study is significant because I made a concerted effort to interview a larger, more diverse group of transgender sport

participants with varying identities. Additionally, Klein et al. (2018, 2019) documented the experiences of a transgender athlete who competed in cross-country and track field, which is a sport where the men's and women's teams typically practice and attend meets together, so the participant's experience of athletically transitioning from the women's to men's team was likely different from sports where the men's and women's teams are more fully segregated. Thus, the current study included participants from a variety of sports and levels of play. Lastly, though the studies conducted by Klein et al. (2018, 2019) are only a few years old, the backlash against transgender sport participants is different now than when the study took place, given that the first state in the U.S. banned transgender sport participation in 2020, anti-transgender legislation has only increased since (DeChants et al., 2024; Trans Legislation Tracker, 2024), and sport governing bodies started tightening restrictions for transgender athletes in 2021 (Martowicz et al., 2023; NCAA, 2022; World Athletics, 2023). Because of this, the current study provides an up-to-date account of transgender sport participants' experiences with the athletic transition process during a time of intensified anti-trans backlash.

Paradigmatic Commitments

The use of paradigms in qualitative research provides a framework of philosophical assumptions regarding ontology and epistemology that underpin and guide the entire research process (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). A critical paradigm best aligned with the current study because it seeks to critique power relations and social structures that uphold systemic oppression of marginalized populations, while also working toward transformative change to those structures, such as the sex and gender binary that is engrained in sports (Caudwell, 2014; Cho et al., 2013; Crenshaw, 1989; Creswell & Báez, 2021; Grzanka, 2019; Guba, 1990; Harding, 1987; Merriam & Tisdell, 2016). Because

paradigms inform the theoretical framework utilized in research (Creswell & Báez, 2021; Merriam & Tisdell, 2016), the theoretical basis for this critical research was transfeminism, complemented by both intersectionality and feminist science and technology studies (STS).

Transfeminism is a movement and theory that developed out of a need to position transgender people as "central, not marginal, to gender and women's studies" (Enke, 2012a, p. 2) and critique social structures that oppress transgender people by upholding biological essentialist and social constructionist views of sex and gender (Bettcher, 2007, 2014; Serano, 2024). Intersectionality, a key tenet of transfeminism (Bettcher, 2007, 2014, 2017; Enke, 2012a; Koyama, 2003; Serano, 2024), was first coined by Crenshaw (1989) as a concept to critique the treatment of racism and sexism as separate experiences, this undermining and erasing the experiences of Black cisgender women who exist at the intersection of multiple systems of oppression. Feminist STS is concerned with critiquing both positivist and social constructionist views of scientific knowledge construction; however, these scholars have also shown how science can contribute to and influence the commitments of transfeminist and feminist approaches to sex, gender, and the body through an understanding of how sex, gender, and the body are the product of both nature and nurture (Fishman et al., 2017). Together, transfeminism, intersectionality, and feminist STS informed my ontological and epistemological commitments, which are briefly mentioned below and are discussed in further detail in chapter three.

Ontology is concerned with the nature of reality (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). First, a transfeminist ontology "is a belief in, and commitment to, the legitimacy of transgender existence, trans being and being trans. Such ontology accepts self-definition, self-identification and the possibility that trans is not always fixed and stable; it has potential to be unclassifiable" (Caudwell, 2022). Second, a

transfeminist ontology posits that transgender people exist at the intersection of transphobia and sexism (Bettcher, 2007, 2014, 2017; Serano, 2024). Third, a transfeminist ontology is committed to an intersectional approach that acknowledges the reality that transgender oppression intersects with sexism, racism, classism, and other forms of oppression (Bettcher, 2007, 2014, 2017; Koyama, 2003; Serano, 2024). Lastly, a transfeminist and feminist STS ontology rejects a strictly biological essentialist and strictly social constructionist view of sex and gender because sex and gender are more complex than nature versus nurture (Fishman et al., 2017; Serano, 2024).

Epistemology is concerned with the nature of knowledge (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). The first epistemological commitment of transfeminism and feminist STS is the belief that knowledge is socially situated, meaning that knowledge construction is influenced by the identities and values of the researcher (Anderson, 2020; Bettcher, 2007, 2014; Enke, 2012; Haraway, 1988; Harding, 1992; Koyama, 2003). Second, maximizing objectivity can be secured through what Harding (1992) referred to as *strong objectivity*, which requires a critical analysis of how the researcher influenced the research process (Harding, 1987). Third, transfeminist and feminist STS epistemology is committed to seeking knowledge from marginalized populations because they are advantageously located in a position where they can provide a more critical view of knowledge than someone who occupies a privileged, dominant position (Anderson, 2020; Haraway, 1988; Harding, 1992).

Definition of Key Terms

Athletic transition: Involves an athlete moving from one gender category (e.g., men's, women's, mixed) in sport to another (Klein et al., 2019).

Biological essentialism: Views males and females as "two mutually exclusive and exhaustive categories" (Bettcher, 2007, p. 48) that are naturally different and biologically/naturally determined.

Cisgender: Someone whose gender identity aligns with their sex assigned at birth (Cheung et al., 2023; Coleman et al., 2022; Enke, 2012b; Serano, 2024).

Critical paradigm: Critiques social structures that uphold systemic oppression of marginalized populations and seeks transformative change to those structures (Caudwell, 2014; Cho et al., 2013; Crenshaw, 1989; Creswell & Báez, 2021; Grzanka, 2019; Guba, 1990; Harding, 1987; Merriam & Tisdell, 2016).

Differences in sex development (DSDs): Also referred to as *intersex*, DSDs are variations in sexual development that may result in ambiguous genitalia at birth and do not fall neatly into the male-female sex binary (Coleman et al., 2022; Enke, 2012b).

Feminist science and technology studies (STS): A discipline that critiques scientific knowledge construction regarding sex and gender (Fishman et al., 2017).

Gender: Typically used in conjunction with a person's sex assigned at birth and comes with cultural roles and norms that are tied to the expectations of a particular gender, typically man or woman (Coleman et al., 2022; Enke, 2012b; Serano, 2024).

Gender affirmation: Another term for transition, gender affirmation "refers to being recognized or affirmed in a person's gender identity" through social, medical, and/or legal processes (Coleman et al., 2022, p. S252).

Gender-affirming hormone therapy (GAHT): A type of gender-affirming care that transgender people may seek (Cheung et al., 2023; Coleman et al., 2022; Fein et al., 2017) and is required for some transgender people to participate in sports (World Athletics, 2023).

Gender dysphoria: According to Coleman et al. (2022), it is "a state of distress or discomfort that may be experienced because a person's gender identity differs from that which is physically and/or socially attributed to their sex assigned at birth" (p. S252).

Gender essentialism: Views gender as innate and determined by sex; thus, biology can explain differences between cisgender men and cisgender women (Serano, 2024).

Gender identity: Refers to someone's internal sense of their gender (Coleman et al., 2022; Enke, 2012b; Serano, 2024).

Intersectionality: First coined by Crenshaw (1989) as a concept to critique the treatment of racism and sexism as separate experiences, thus undermining and erasing the experiences of Black women who exist at the intersection of multiple systems of oppression.

Nonbinary: A term that can fall under the transgender umbrella and describes those whose gender identity does not conform to the gender binary (Cheung et al., 2023; Coleman et al., 2022).

Sex assigned at birth: Typically associated with a person's physical traits, which "are biological in origin (e.g., sex chromosomes, hormones, reproductive systems, genitals, and so forth)" (Serano, 2024, p. 24), sex assigned at birth refers to a person's designation as male, female, or intersex (Coleman et al., 2022).

Sex/gender binary: The belief that male/man and female/woman are the only two sexes/genders (Coleman et al., 2022; Enke et al., 2012b).

Sex segregation: The deliberate separation of people based on sex, which operates on the assumptions of biological essentialism and that sex exists on a male-female binary (Hargreaves, 1994; Martínková, 2020; Sailors & Weaving, 2022; Vertinsky, 1987).

Sex testing: A process of verifying the sex of athletes who participate in women's competitions. Examples of various types of sex testing include certificates of femininity, visual inspections, chromosome testing, and measurements of blood testosterone levels (Harper, 2020; Heggie, 2010; Photopoulos, 2021).

Testosterone: A naturally occurring hormone that is found in all human bodies, but higher levels are typically seen in people who are assigned male at birth (Cheung et al., 2023; Coleman et al., 2022; Photopoulos, 2021).

Transfeminism: A movement and theory that developed out of a need to position transgender people as "central, not marginal, to gender and women's studies" (Enke, 2012b, p. 2) and critique social structures that oppress transgender people by upholding biological essentialist and social constructionist views of sex and gender (Bettcher, 2007, 2014; Serano, 2024).

Transgender: An umbrella term that describes those whose gender identity does not align with their sex assigned at birth (Cheung et al., 2023; Coleman et al., 2022; Enke, 2012b; Serano, 2024).

Transition: A process of gender affirmation that may include social, medical, and legal facets (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019; Serano, 2024). A social transition may involve changing one's hairstyle, using a chosen name and/or pronouns, wearing different clothes, and other social markers of gender (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019). A medical transition may involve GAHT, gender-affirming surgical procedures (e.g., mastectomy, vaginoplasty), voice therapy, and other medical interventions (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019). A legal transition may involve changing one's name and/or sex/gender marker on government identification documents, such as a birth certificate (Coleman et al., 2022; Fein et al., 2017).

Organization of the Study

This dissertation is organized into five chapters. Chapter One served as an introduction to the current study. This chapter included historical context regarding the sex and gender binary in sport, relevant literature regarding transgender PA and sport participants' experiences, a statement of the problem, the purpose of the study, the research question, the significance of the study, my paradigmatic commitments, and the definition of key terms. Chapter Two provides a review of relevant literature that focuses on the physiological effects of GAHT on transgender people and the implications for athletic performance, as well as the lived experiences of transgender PA and sport participants, and it provides an overview of the theoretical framework guiding the current study. Chapter Three details the methodology, with a particular focus on my onto-epistemological and methodological assumptions, the research design and rationale, my positionality as the researcher, the sampling procedures, ethical considerations, and the data collection and analysis steps. Chapter Four presents the findings from the thematic analysis of the interviews with transgender sport participants about their experiences with the athletic transition process. Chapter Five discusses the findings in the context of previous literature, recommendations, limitations of the study, suggestions for future research, and final conclusions.

Chapter Two: Literature Review

The concept of *fairness* is seen as a fundamental aspect of sporting competitions and is used to justify sex and gender segregation in sports, which operates under two assumptions: (1) sex exists on a binary, meaning male and female are the only two "natural" sex categories, and (2) cisgender men are inherently superior athletes compared to cisgender women (Hargreaves, 1994; Martínková, 2020; Sailors & Weaving, 2022; Vertinsky, 1987). For example, the second assumption is reflected in research that argued that cisgender "women have major disadvantages against men who are, on average, taller, stronger, and faster and have greater endurance due to their larger, stronger muscles and bones as well as a higher circulating hemoglobin level" (Handelsman et al., 2018, p. 803). Because of these assumptions, sport governing bodies, specifically the IOC and World Athletics, began sex testing athletes in women's competitions as early as the 1930s to uphold and maintain sex segregation in sport (Harper, 2020; Heggie, 2010; Photopoulos, 2021). After employing various types of sex testing, sport governing bodies, in the early 2000s, turned to blood testosterone levels as the criteria for eligibility in women's sports (Harper, 2020; Photopoulos, 2021).

The rationale behind using testosterone as the criterion for eligibility in women's sports is that the physiological advantages that cisgender men hold over cisgender women are largely attributed to testosterone (Cheung et al., 2024; Handelsman et al., 2018; Hunter et al., 2023; Roberts et al., 2021; Senefeld et al., 2023). However, this begs the question as to where transgender men and women belong in sport, especially once they begin using GAHT. Transgender women who have gone through male puberty, in particular, have been the target of sports restrictions because of the belief that they hold a physiological advantage over cisgender women (Cheung et al., 2024; Hamilton et al., 2024; Handelsman et al., 2018; Harper, 2015;

Hilton & Lundberg, 2021; Senefeld et al., 2023). Oftentimes, we rarely see the voices of transgender people uplifted as experts of their own lived experiences in sport (Scovel et al., 2023). However, transgender people can offer a unique perspective regarding the challenges they experience in sport. As such, the purpose of this chapter is to summarize and critique the current state of scientific literature in terms of the effects of GAHT use on transgender people and the potential implications for athletic performance, review and identify the gaps in the literature that has explored the lived experiences of transgender PA and sport participants, and discuss the theoretical framework guiding the current study.

Gender-Affirming Hormone Therapy and Athletic Performance Implications

Transgender people may choose to undergo a transition, which is a process of gender affirmation that may include social, medical, and legal facets (Coleman et al., 2022; Fein et al., 2017; Klein et al., 2019; Serano, 2024). For some transgender people, GAHT is a medically necessary intervention that is used to align one's body with their gender identity (Cheung et al., 2023; Coleman et al., 2022; Fein et al., 2017). For example, transgender men may seek to increase their testosterone levels to those typically seen in people who are assigned male at birth, while transgender women may seek to increase their estrogen levels and decrease their testosterone levels to those typically seen in people who are assigned female at birth (Cheung et al., 2023; Coleman et al., 2022). Transgender men who receive testosterone GAHT tend to notice a variety of changes such as increased acne, increased hair growth on the face and body, increased muscle mass and strength, fat redistribution, a deeper voice, and other changes (Cheung et al., 2023; Coleman et al., 2022). Transgender women who receive estrogen and anti-androgen GAHT tend to notice softer skin, breast growth, fat redistribution, decreased muscle mass and strength, as well as other changes (Cheung et al., 2023; Coleman et al., 2022).

The changes that occur in transgender people using GAHT are of particular importance in the ongoing debate surrounding transgender inclusion in sports. Although not all GAHT-induced changes are particularly relevant in a sporting context, changes in musculature (i.e., muscle mass and volume, muscle cross-sectional area [CSA], muscular strength), hemoglobin, cardiorespiratory, and fitness performance (see Appendix A) all have implications on transgender people's athletic performance, which is discussed in greater detail below. Unless otherwise noted, the samples included in the literature consisted of non-athletes.

Musculature Changes

A multitude of scholars have examined the effect of GAHT on musculature changes in transgender people. The following sections discuss in detail the changes in muscle mass and volume, muscle CSA, and muscular strength that have been documented in transgender men and women, followed by a discussion of the implications of those changes on athletic performance.

Muscle Mass and Volume

Longitudinal studies have examined how muscle mass has changed over time in transgender men and women using GAHT compared to their baseline muscle mass prior to beginning GAHT. Overall, transgender men experienced an increase in total lean body mass, total lean body mass relative to total body mass (expressed as a percentage), total lean tissue volume, and total thigh volume after one year of GAHT use (Klaver et al., 2018; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015; Wiik et al., 2020). For transgender men, both Klaver et al. (2018) and Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al. (2015) reported a significant 10% increase from baseline in total lean body mass after one year of GAHT use. Expressed in terms of percent total body lean mass, transgender men experienced a 6.5% increase after one year of GAHT use compared to

their baseline levels (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015). With respect to total lean tissue volume, transgender men experienced a significant 13% increase after one year of GAHT (Wiik et al., 2020). Wiik et al. (2020) also found that transgender men experienced a significant 15% increase in total thigh volume. When compared to transgender women, transgender men had a significantly lower total thigh volume after one year of GAHT use, but this difference disappeared when adjusted for height (Wiik et al., 2020).

Overall, longitudinal studies reported a decrease in transgender women's total lean body mass, total lean body mass relative to total body mass (expressed as a percentage), and total thigh volume, as well as no significant change in total lean tissue volume after one year of GAHT (Klaver et al., 2018; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015; Wiik et al., 2020). Two studies cited a loss of total lean body mass in transgender women after one year of GAHT use, with one reporting a 3% decline (Klaver et al., 2018) and the other reporting a 4% decline (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015). Additionally, Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, and T'Sjoen (2015) found that after two years of GAHT use, transgender women's total lean body mass was similar to their pre-GAHT mass. However, when expressed as percent total lean body mass, transgender women experienced a 6% decline after one year of GAHT use and an additional 1% decline after two years of GAHT use, for a total 7% decline (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015). Although transgender women's total lean body mass appeared to decline (Klaver et al., 2018; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015), Wiik et al. (2020) observed no significant change in total lean tissue volume in transgender women after one year of GAHT, but they experienced a statistically significant loss of 5% total

thigh volume. Compared to transgender men, transgender women had a higher absolute total thigh volume after one year of GAHT use, but this difference disappeared when adjusted for height (Wiik et al., 2020).

Cross-sectional studies have compared muscle mass in transgender men and women using GAHT to cisgender men and women. Generally, transgender men had significantly less muscle mass compared to cisgender men, but they had a significantly greater increase in muscle mass compared to cisgender women over a one-year period (Hamilton et al., 2024; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015). Hamilton et al. (2024) observed that transgender men athletes using GAHT for an average of four years had 13% less fat-free mass than cisgender men athletes (47.8±5.6 vs. 55.2±4.7 kg, respectively), but this difference disappeared in terms of percent fat-free mass. After one year of GAHT use, Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al. (2015) found that transgender men experienced a 10% increase in absolute total lean body mass compared to their pre-GAHT levels, which was a significant change compared to that seen in the control group of cisgender women (+0.7%) over the one-year period. Expressed in terms of percent total body lean mass, transgender men experienced a 6.5% increase compared to their baseline levels, which was significant compared to the 1.3% decrease seen in cisgender women over the one-year period (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015).

With respect to transgender women using GAHT, cross-sectional studies have found that they had significantly greater fat-free mass and skeletal muscle mass than cisgender women but significantly less total lean body mass and skeletal muscle mass compared to cisgender men (Alvares et al., 2022; Hamilton et al., 2024; Lapauw et al., 2008). Although transgender women athletes using GAHT for an average of six years had 30% greater fat-free mass than cisgender

women athletes (52.4±7.6 vs. 40.3±3.8 kg, respectively), there was no difference when expressed in percent fat-free mass (Hamilton et al., 2024). Alvares et al. (2022) found that transgender women using GAHT for an average of 14.4 years had 28% higher skeletal muscle mass compared to cisgender women (30.7 ± 3.3 vs. 21.9 ± 2.4 kg, respectively) but 14% lower than cisgender men (36.0 ± 3.2 kg). Lastly, Lapauw et al. (2008) found that transgender women with an average of eight years of GAHT use had 17% less total lean body mass compared to cisgender men (51.2±8.4 vs. 61.8±7.9 kg, respectively).

In summary, three longitudinal studies found that transgender men experienced an increase in total lean body mass, total lean body mass relative to total body mass (expressed as a percentage), total lean tissue volume, and total thigh volume after one year of GAHT use, and two cross-sectional studies found that transgender men had significantly less muscle mass compared to cisgender men but a significantly greater increase in muscle mass compared to cisgender women over a one-year period (Hamilton et al., 2024; Klaver et al., 2018; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015; Wiik et al., 2020). Meanwhile, three longitudinal studies found that transgender women experienced a decrease in total lean body mass, total lean body mass relative to total body mass (expressed as a percentage), and total thigh volume, as well as no significant change in total lean tissue volume after one year of GAHT (Klaver et al., 2018; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015; Wiik et al., 2020). Three cross-sectional studies found that transgender women had significantly greater fat-free mass and skeletal muscle mass than cisgender women but significantly less total lean body mass and skeletal muscle mass compared to cisgender men (Alvares et al., 2022; Hamilton et al., 2024; Lapauw et al., 2008).

Muscle Cross-Sectional Area

Multiple longitudinal studies have examined how muscle CSA has changed over time in transgender men and women using GAHT compared to their baseline muscle mass prior to beginning GAHT. In general, transgender men's quadriceps, thigh, calf, and forearm muscle CSA significantly increased after a year of GAHT use (Gooren & Bunck, 2004; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015; Wiik et al., 2020). Wiik et al. (2020) found that transgender men experienced a 15% significant increase in quadriceps muscle CSA, while Gooren and Bunck (2004) observed a 19% increase in transgender men's thigh muscle area, which showed no statistical difference compared to transgender women's pre-GAHT thigh muscle area. After one year of GAHT use, transgender men's calf muscle CSA increased 13.6% compared to baseline, while their forearm muscle CSA increased 16.6% compared to their pre-GAHT measurement (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015).

Overall, longitudinal studies reported a significant decrease in quadriceps, thigh, calf, and forearm muscle CSA in transgender women after one year of GAHT use (Gooren & Bunck, 2004; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015; Wiik et al., 2020). Wiik et al. (2020) noted that transgender women experienced a statistically significant loss of 4% quadriceps muscle CSA after one year of GAHT use. Gooren and Bunck (2004) documented a 9% thigh muscle area decrease in transgender women after one year of GAHT; however, transgender women's thigh muscle area after one year of GAHT use was still significantly higher than transgender men pre-GAHT. After one year of GAHT use, transgender women's calf muscle CSA declined 2%, followed by another 2% decline after two years of GAHT use, for a total 4% decrease compared to pre-GAHT levels (Van Caenegem, Wierckx,

Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015). With respect to forearm muscle CSA, transgender women experienced an 8% loss after one year of GAHT use, but it appeared to increase again at the two-year mark, as there was only a 4% decrease compared to pre-GAHT levels (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015).

Cross-sectional studies have compared muscle CSA between transgender and cisgender people. After one year of GAHT use, transgender men experienced a 13.6% increase in calf muscle CSA compared to their pre-GAHT levels, which was a significant change compared to that seen in the control group of cisgender women (+1.2%) over the one-year period (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015). During this same time, transgender men's forearm muscle CSA increased 16.6%, which was a significant change compared to the 0.2% increase seen in cisgender women (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015). Lastly, Lapauw et al. (2008) observed that after an average eight years of GAHT use, transgender women's calf muscle CSA was 24% smaller than seen in cisgender men, and their forearm muscle CSA was 24% smaller than seen in cisgender men.

In summary, three longitudinal studies found that transgender men experienced a significant increase in quadriceps, thigh, calf, and forearm muscle CSA after a year of GAHT use, and a cross-sectional study found that transgender men had a significantly greater increase in calf and forearm muscle CSA over a one-year period compared to cisgender women (Gooren & Bunck, 2004; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015; Wiik et al., 2020). Meanwhile, three longitudinal studies found that transgender women experienced a significant decrease in quadriceps, thigh, calf, and forearm muscle CSA after a

year of GAHT use (Gooren & Bunck, 2004; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen, 2015; Wiik et al., 2020). One cross-sectional study found that transgender women had a smaller calf and forearm muscle CSA compared to cisgender men (Lapauw et al., 2008).

Musculature Strength

Longitudinal studies have explored changes in muscular strength experienced by transgender men and women from pre-GAHT to measurements after one year of GAHT use. Overall, transgender men significantly improved their hand grip, isometric knee extension, and isometric knee flexion strength after one year of GAHT use (Scharff et al., 2019; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015; Wiik et al., 2020). Both Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al. (2015) and Scharff et al. (2019) reported an 18% increase in their dominant hand grip strength. Interestingly, Scharff et al. (2019) found that transgender men's grip strength was positively associated with arm lean body mass, meaning that as grip strength increased by 1 kg, arm lean body mass increased by 0.010 kg. In transgender men, isometric knee extension strength significantly increased by 12% and isometric knee flexion strength significantly increased by 26% after one year of GAHT use (Wiik et al., 2020). However, transgender men's absolute and height-adjusted knee extension strength levels were still statistically lower than those in transgender women after one year of GAHT, but this difference was not present for knee flexion (Wiik et al., 2020).

A longitudinal study conducted by Scharff et al. (2019) found that after one year of GAHT use, transgender women's grip strength in their dominant hand decreased 4% compared to their grip strength prior to beginning GAHT (40±8.9 vs. 41.8±8.9 kg, respectively); however, there was no association between grip strength and arm lean body mass. Additionally,

transgender women maintained isometric knee extension and flexion strength after one year of GAHT use, and their absolute and height-adjusted knee extension strength levels were statistically greater than those in transgender men, but this difference was not present for knee flexion (Wiik et al., 2020).

Multiple cross-sectional studies have analyzed muscular strength of transgender people compared to muscular strength of cisgender people. In general, transgender men's hand grip, after using GAHT for at least one year, was stronger than cisgender women but weaker than cisgender men (Hamilton et al., 2024; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015). Hamilton et al. (2024) found that absolute right hand grip strength was significantly lower in transgender men athletes (average GAHT use of four years) compared to cisgender men (38.8±7.5 vs. 45.7±6.9 kg, respectively), but there was no difference statistically in absolute left hand grip strength. When accounting for fat-free mass and hand size, transgender and cisgender men athletes did not have significantly different right- or left-hand grip strength (Hamilton et al., 2024). After one year of GAHT use, transgender men's grip strength improved 18% compared to their pre-GAHT grip strength, which was a significant difference compared to the 1.2% decline seen in cisgender women over the same period (Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015).

Cross-sectional studies have reported that transgender women, after at least one year of GAHT, were generally stronger than cisgender women but weaker than cisgender men (Alvares et al., 2022; Hamilton et al., 2024; Lapauw et al., 2008). Alvares et al. (2022) observed that transgender women, after an average 14.4 years of GAHT use, had a 16% higher dominant hand grip strength compared to cisgender women (35.3 ± 5.4 vs. 29.7 ± 3.6 kg, respectively), but 27% lower than cisgender men (48.4 ± 6.7 kg). Lapauw et al. (2008) reported a 23% lower grip

strength in transgender women, with an average eight years of GAHT use, than cisgender men. When accounting for fat-free mass, however, Alvares et al. (2022) found that transgender women, with an average 14.4 years of GAHT use, had a similar hand grip strength compared to cisgender women, but lower hand grip strength compared to cisgender men. In a sample of athletes, Hamilton et al. (2024) found that right hand grip strength was significantly higher in transgender women (using GAHT for an average six years) than cisgender women (40.7±6.8 vs. 34.3±3.8 kg, respectively), but there was no significant difference in left hand grip strength. However, right- and left-hand grip strength relative to both fat-free mass and hand size were not statistically different between transgender and cisgender women athletes (Hamilton et al., 2024). Compared to cisgender men, transgender women with average eight years of GAHT use had 33% lower isokinetic biceps strength and 25% lower isokinetic quadriceps strength (Lapauw et al., 2008).

In summary, three longitudinal studies found that transgender men experienced a significant increase in hand grip, isometric knee extension, and isometric knee flexion strength after one year of GAHT use, while two cross-sectional studies found that transgender men had greater hand grip strength than cisgender women but less than cisgender men (Hamilton et al., 2024; Scharff et al., 2019; Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al., 2015; Wiik et al., 2020). Meanwhile, a longitudinal study found that transgender women experienced a decrease in hand grip strength after one year of GAHT use (Scharff et al., 2019), while another longitudinal study found that transgender women maintained isometric knee extension and flexion strength after one year of GAHT use (Wiik et al., 2020). Three cross-sectional studies found that transgender women had greater hand grip strength than cisgender

women but less hand grip, biceps, and quadriceps strength than cisgender men (Alvares et al., 2022; Hamilton et al., 2024; Lapauw et al., 2008).

Athletic Performance Implications

The findings regarding musculature changes in transgender men and women have important implications for athletic performance. Muscle mass, muscle CSA, and muscular strength are associated with improved performance in sports that rely on strength and power, such as track and field jumping events and weightlifting (Handelsman et al., 2018; Hilton & Lundberg, 2021; Hunter et al., 2023). Compared to cisgender women, cisgender men, on average, have greater muscle mass and larger muscle CSA, both of which contribute to greater muscular strength (Handelsman et al., 2018; Hilton & Lundberg, 2021; Hunter et al., 2023). Even when accounting for height and/or weight, these differences between cisgender men and women still persist (Handelsman et al., 2018; Hilton & Lundberg, 2021; Hunter et al., 2023).

However, Hamilton et al. (2024) found that differences in muscle mass between transgender and cisgender men and between transgender and cisgender women seemed to disappear when accounting for fat-free mass relative to total body mass. Similarly, differences in hand grip strength between transgender and cisgender men and between transgender and cisgender women were not significant when expressed relative to fat-free mass and hand size (Alvares et al., 2022; Hamilton et al., 2024). Even though the study conducted by Wiik et al. (2020) reported no to minimal changes in transgender women's musculature, the authors still noted that the participants were untrained, so "it is still uncertain how the findings would translate to transgender athletes undergoing advanced training regimens during the gender-affirming intervention," particularly as muscle mass and strength are "proxies for athletic performance" (p. e812). Furthermore, Gooren and Bunck (2004) argued that, based on their

findings regarding thigh muscle area, transgender men can compete fairly in the men's category. Although transgender women using GAHT for one year had larger thigh muscle area compared to transgender men pre-GAHT, there was a high degree of overlap (Gooren & Bunck, 2004). As such, Gooren and Bunck (2004) concluded that the inclusion of transgender women in women's sports can be justified because "there will always be an element of arbitrariness in the drawing of competitive lines" (p. 428).

However, a transfeminist-informed understanding of this literature helps us question the role, if any, that sport medicine and endocrinology research should have in discussions about transgender athlete participation. Out of the nine studies included in the review of literature regarding the effects of GAHT on musculature changes in transgender people, only one included a sample of transgender athletes. The transgender participants in the literature were overwhelmingly non-athletes with little to no other demographic information reported, yet this research is being used to justify the exclusion of transgender athletes of all demographics. Overgeneralization of findings is a cissexist approach to scientific inquiry that Johnson (2015) warned against. Instead, Johnson (2015) argued in favor of using a transfeminist methodology as a way to combat scientists' tendency to use a sample of select transgender people as universal for all transgender people, while not reporting other demographic information (e.g., race, socioeconomic status) that may affect or influence the findings because "the tendency to assume homogeneity and thus overgeneralize creates the conditions under which people are held accountable…to narrow ideas about what it means to be transgender" (p. 39).

Hemoglobin Changes

Several studies have measured hemoglobin changes associated with GAHT use in transgender men and women. Overall, longitudinal studies have found that transgender men's

hemoglobin levels increased with GAHT use compared to baseline levels, while transgender women's hemoglobin levels decreased with GAHT use compared to baseline levels (Gooren & Bunck, 2004; Vita et al., 2018). After one year of GAHT use, Gooren and Bunck (2004) found that transgender men's hemoglobin levels increased 15% compared to their baseline levels (9.4±0.8 vs. 8.2±0.7 mmol/L, respectively), while transgender women's hemoglobin levels decreased 14% compared to their baseline levels (8.0±0.7 vs. 9.3±0.7 mmol/L, respectively). After an average of 28.8 months using GAHT, Vita et al. (2018) observed that transgender women's hemoglobin levels decreased 9% compared to their baseline (136±10 vs. 150±10 g/L, respectively), while transgender men's hemoglobin levels increased 9% compared to their baseline (147±10 vs. 135±8.0 g/L, respectively).

In a cross-sectional study of non-athletes, transgender women, with an average 14.4 years of GAHT use, and cisgender women did not have statistically different hemoglobin levels; however, cisgender men had significantly higher hemoglobin levels than transgender women (Alvares et al., 2022). Interestingly, in a cross-sectional study of athletes, Hamilton et al. (2024) observed differences in hemoglobin concentration of transgender men using GAHT for an average of four years (143.3±19.5 g/L), transgender women using GAHT for an average of six years (131.3±14.2 g/L), cisgender men (142.8±12.5 g/L), and cisgender women (133.3±12.7 g/L); however, there were no differences statistically between all the groups.

Hemoglobin plays an important role in delivering oxygen to muscles, which is particularly important in endurance sports (Basset & Howley, 2000; Cheung et al., 2024; Hamilton et al., 2024; Handelsman et al., 2018; Hilton & Lundberg, 2021; Hunter et al., 2023). Cisgender men typically have higher levels of hemoglobin than cisgender women (Handelsman et al., 2018; Hilton & Lundberg, 2021; Hunter et al., 2023). Although Hamilton et al. (2024)

observed higher hemoglobin levels in transgender and cisgender men athletes compared to transgender and cisgender women athletes, these differences were not significant. This is interesting to note given that in this cohort, transgender men, transgender women, and cisgender women had no significant differences in VO_2 peak, but all had significantly lower VO_2 peak compared to cisgender men (Hamilton et al., 2024), which will be discussed further below. Even though this literature regarding the effect of GAHT on hemoglobin levels would appear to justify the inclusion of transgender athletes in sport, a transfeminist-informed perspective would not use this as evidence to justify inclusion because we should instead allow inclusion based on self-identification, rather than relying on an essentialist notion of sex and gender as a justification for inclusion (Caudwell, 2020, 2022; Klein et al., 2018, 2019).

Cardiorespiratory Changes

To date, there are only two studies that have measured the cardiorespiratory fitness of transgender men and women (Alvares et al., 2022; Hamilton et al., 2024). At the time the study was published, Alvares et al. (2022) were the first to report cardiorespiratory fitness levels of non-athlete transgender women who have been using GAHT long-term (14.4±3.5 years). Alvares et al. (2022) measured the "peak oxygen consumption (VO_2 peak) evaluated at the maximum exercise intensity" (p. 1295). At maximal effort, transgender women had a significantly higher VO_2 peak compared to cisgender women (2606 ± 416.9 vs. 2167 ± 408.8 mL/min, respectively) and significantly lower VO_2 peak compared to cisgender men (3358 ± 436.3 mL/min; Alvares et al., 2022). Expressed as a percent difference, transgender women had a 14% higher VO_2 peak compared to cisgender women and a 26% lower VO_2 peak compared to cisgender men (Alvares et al., 2022). When expressed relative to weight, there was no statistically significant difference between transgender women and cisgender women, but transgender women had a significantly

lower VO_2 peak/weight compared to cisgender men (Alvares et al., 2022). When expressed relative to fat-free mass, however, there were no statistically significant differences in VO_2 peak between transgender women and cisgender women, as well as transgender women and cisgender men (Alvares et al., 2022).

Hamilton et al. (2024), however, were the first to report cardiorespiratory fitness levels of transgender men and women athletes using GAHT. Transgender men used GAHT for an average of four years, while transgender women used GAHT for an average of six years (Hamilton et al., 2024). Hamilton et al. (2024) measured the maximum oxygen consumption (VO_2 max) at maximal effort. Transgender men had a significantly lower absolute VO_2 max compared to cisgender men (3635±644 vs. 4467±641 mL/min, respectively). There was no significant difference in absolute VO_2 max between transgender women and cisgender women (3682±551 vs. 3226±450 mL/min, respectively; Hamilton et al., 2024), which is important to note because Alvares et al. (2022) found that transgender women had a significantly higher VO_2 peak compared to cisgender women. However, Hamilton et al. (2024) argued that this difference may be attributable to the fact that their participants were athletes, while Alvares et al. (2022) observed untrained transgender and cisgender women. Additionally, Hamilton et al. (2024) observed that VO_2 max relative to fat-free mass resulted in no significant differences between transgender men and cisgender men, as well as transgender women and cisgender women, which aligns with the finding of Alvares et al. (2022). Interestingly, Hamilton et al. (2024) found that transgender women's VO_2 max relative to body mass was significantly lower compared to cisgender women.

These findings from both Alvares et al. (2022) and Hamilton et al. (2024) have important implications for athletic performance. VO_2 max is positively correlated with performance in

endurance sports, such as swimming, long-distance running, cycling, and others (Basset & Howley, 2000; Cheung et al., 2024; Hunter et al., 2023). Although studies report varying degrees of difference between cisgender men and cisgender women for both absolute VO_2 max and VO_2 max relative to body mass, on average, cisgender men outperform cisgender women in both measures (Cheung et al., 2024; Hunter et al., 2023). Differences in VO_2 max are largely attributed to differences in cardiac output, as well as hemoglobin (Alvares et al., 2022; Basset & Howley, 2000; Cheung et al., 2024; Hamilton et al., 2024; Hunter et al., 2023). Cardiac output is the product of heart rate and stroke volume, so cisgender men, on average, have a higher cardiac output because their larger heart size produces a greater stroke volume (Hunter et al., 2023). As previously mentioned, hemoglobin levels appear to decrease in transgender women using GAHT, but Hilton and Lundberg (2021) argued that the decrease in hemoglobin "is unlikely to completely close the baseline gap in aerobic capacity between males and females" (p. 208). This seems to be apparent in the findings from Alvares et al. (2022), which observed that transgender women had similar hemoglobin levels compared to cisgender women, yet a higher mean VO_2 peak level. However, the findings from Hamilton et al. (2024) seem to suggest that transgender women athletes do not retain a potential cardiorespiratory fitness advantage compared to cisgender women, thus calling into question the assumption that transgender women athletes have an unfair physiological advantage over cisgender women athletes. On the other hand, transgender men appear to have a disadvantage in cardiorespiratory fitness compared to cisgender men (Hamilton et al., 2024). Despite these findings, it is unknown how the cardiorespiratory fitness levels of transgender men and women using GAHT would translate to athletic performances in endurance sports (Alvares et al., 2022; Hamilton et al., 2024). Ultimately, a transfeminist-informed perspective would argue that "sport governing bodies

depend on medicalized demarcation of the body, specifically the sexed-body" (Caudwell, 2020, p. 3) to classify athletes into gender categories, but the effect of GAHT on athletic performance in endurance sports should not be used to classify athletes. Instead, sport governing bodies must allow transgender athletes to self-identify (Caudwell, 2020, 2022; Klein et al., 2018, 2019).

Fitness Performance Changes

To date, there are two studies that have examined fitness performance changes in transgender people. These studies retrospectively examined the average fitness test scores of transgender men and women in the U.S. Air Force across multiple time points and compared the scores with those of cisgender men and women in the Air Force (Chiccarelli et al., 2023; Roberts et al., 2021). The Air Force fitness test consists of three measures: the number of push-ups completed in one minute, the number of sit-ups completed in one minute, and the time it takes to complete a 1.5-mile run (Chiccarelli et al., 2023; Roberts et al., 2021). Using the average scores of cisgender men and women under the age of 30 collected between 2004 and 2014 as controls, Roberts et al. (2021) compared the average test results of 29 transgender men and 46 transgender women at four time points: pre-GAHT, up to one-year post-GAHT initiation, one to two years post-GAHT initiation, and two to 2.5 years post-GAHT initiation. Roberts et al. (2021) sought "to examine the effect of gender affirming hormones on body composition and athletic performance among transgender individuals to help improve future guidelines for transgender inclusion in sporting competition" (p. 577). Chiccarelli et al. (2023) expanded the Roberts et al. (2021) study by increasing the number of participants to 146 transgender men and 228 transgender women and collecting test results for a longer time (up to four years post-GAHT initiation), while also using more recent test scores compared to the average scores of cisgender men and women in 2022. Unlike Roberts et al. (2021), Chiccarelli et al. (2023) did not aim to

"contribute to the ongoing discussion of the inclusion criteria for transgender athletes in cisgender sporting competition" (p. e1594), so the findings may not have implications for athletic performance.

Interestingly, Roberts et al. (2021) and Chiccarelli et al. (2023) found some differing results. Prior to beginning GAHT, Roberts et al. (2021) found that transgender men completed 43% less push-ups and ran 15% slower than cisgender men, with no significant difference in sit-ups. Within one to two years, though, transgender men closed the gap with cisgender men in both push-ups and the 1.5-mile run time and outperformed cisgender men in the sit-ups by 10% (Roberts et al., 2021). Chiccarelli et al. (2023) similarly found that transgender men, before GAHT initiation, performed poorer in push-ups (-31%), sit-ups (-4%), and 1.5-mile run time (-15%) compared to cisgender men. However, transgender men had no significant difference from cisgender men in sit-ups after one year of GAHT use, while it took three years of GAHT use to close the gap with cisgender men in push-ups and the 1.5-mile run and four years to outperform cisgender men in push-ups and sit-ups (Chiccarelli et al., 2023).

With respect to transgender women prior to GAHT initiation, Roberts et al. (2021) found that they outperformed cisgender women by 31% in push-ups, 15% in sit-ups, and 21% in the 1.5-mile run. After two to 2.5 years of GAHT use, transgender women performed similarly to cisgender women in push-ups and sit-ups, but they still outperformed cisgender women in the 1.5-mile run by 12% (Roberts et al., 2021). Chiccarelli et al. (2023) observed that prior to using GAHT, transgender women performed 66% more push-ups, performed 28% more sit-ups, and ran 18% faster than cisgender women. Unlike Roberts et al. (2021), Chiccarelli et al. (2023) noted that transgender women outperformed cisgender women in push-ups by 18% after four

years of GAHT use, while having no statistical difference in sit-ups after four years and 1.5-mile run time after two years.

Overall, Roberts et al. (2021) and Chiccarelli et al. (2023) found that transgender men's athletic performance in push-ups, sit-ups, and 1.5-mile run improved as the time using GAHT increased. Meanwhile, the opposite effect occurred in transgender women as their athletic performance declined while their time using GAHT increased (Chiccarelli et al., 2023; Roberts et al., 2021). Despite these trends, it appears there are discrepancies in the time it takes for transgender men's assumed physiological disadvantage and transgender women's assumed physiological advantage to disappear. These discrepancies may be related to several limitations seen in both studies (Chiccarelli et al., 2023; Roberts et al., 2021). For example, neither study accounted for other factors that may have influenced transgender people's performance, such as their exercise habits (Chiccarelli et al., 2023; Roberts et al., 2021). Moreover, the results observed by Chiccarelli et al. (2023) may be skewed because these researchers experienced a high dropout rate that left only 28 participants' scores for analysis by the four-year mark. Nevertheless, Roberts et al. (2021) suggested that their results, compared to other studies, may provide more utility for sport governing bodies because the fitness measures "capture differences in both endurance and strength rather than just strength and probably have more relevance to sports that require sustained effort over time rather than single explosive efforts like power lifting" (p. 580). As such, Roberts et al. (2021) recommended that transgender women, specifically, should be required to use GAHT for longer than a year to be eligible to compete in women's sporting competitions. Although Chiccarelli et al. (2023) explicitly stated that their purpose was "to provide evidence to guide commanders and policymakers about transgender airmen's fitness assessments during gender transition" (p. e1589), Roberts et al. (2021)

overgeneralized their findings regarding transgender Air Force members to argue that transgender women should not be allowed to compete in the women's category unless they have been using GAHT for over a year, which does not align with a transfeminist-informed approach to research (Johnson, 2015).

Athletic Performance Changes

To date, there are a limited number of studies that have specifically researched the athletic performance changes of transgender athletes. The first known study to document athletic performance changes collected self-reported and self-selected 5k, 10k, half-marathon, and marathon race times from eight transgender women pre-GAHT and post-GAHT initiation (Harper, 2015). The transgender women's race times worsened in all events compared to their times prior to beginning GAHT, except for one transgender woman whose training changed drastically and led to improved race times (Harper, 2015). However, when taking into consideration the average and peak age-graded performances of transgender women pre- and post-GAHT initiation, their scores were not significantly different, meaning that they performed similarly in the men's category pre-GAHT as they did in the women's category post-GAHT when accounting for their age (Harper, 2015). Nevertheless, these data and findings must be viewed with caution because the race times were self-reported and self-selected and did not take into consideration time of GAHT use (Harper, 2015). Additionally, Harper (2015) "noted that these results are only valid for distance running" (p. 7). In other words, transgender women may not have an advantage in distance running, but these findings cannot extend to other sports (Harper, 2015).

Senefeld et al. (2023) used a case study approach to analyze the personal best swim times in the 100-yard, 200-yard, 500-yard, and 1,650-yard freestyle of a transgender woman who

competed in both the men's and women's categories in the NCAA. When she competed in the men's category in the 2018-2019 NCAA season prior to beginning GAHT, the transgender woman was unranked in the 100-yard freestyle, 551st in the 200-yard freestyle, 65th in the 500-yard freestyle, and 32nd in the 1,650-yard freestyle (Senefeld et al., 2023). After using GAHT for approximately two years, this swimmer competed in the women's category in the 2021-2022 season and had an average 5% decline in performance across all events, with the smallest decline being 0.5% in the 100-yard freestyle and the biggest decline being 7.3% in the 1,650-yard freestyle (Senefeld et al., 2023). However, Senefeld et al. (2023) observed that "the transgender woman swimmer experienced improvements in performance for each freestyle event (100 to 1,650 yards) relative to sex-specific NCAA rankings" (p. 1034). In other words, this swimmer improved her rankings in each event to 13th in the 100-yard freestyle, 3rd in the 200-yard freestyle, 1st in the 500-yard freestyle, and 13th in the 1,650-yard freestyle (Senefeld et al., 2023). When compared to the percent difference between the top 200 male performances and top 200 female performances in the world in each of the four events, it appeared that the transgender woman performed better than expected when comparing her differences in performance from pre-GAHT to two years post-GAHT use (Senefeld et al., 2023). Senefeld et al. (2023) argued that these results demonstrate the physiological advantage that trained transgender women athletes seem to retain after at least two years of GAHT use, particularly in the "shorter event distances (100, 200, and 500 yards), which are closely associated with anthropometrics, maximal skeletal muscle strength and power, and less dependent on hemoglobin concentrations" (p. 1036). However, this case relied strictly on swim times for a single transgender woman swimmer and did not have data for other important factors that may have influenced her performance, like her exercise training regimen (Senefeld et al., 2023).

Critique of the Literature

The body of research evaluating the effects of GAHT on transgender people relies upon a biological essentialist notion of sex by viewing it as "an objective, specific biological state, a term with distinct, fixed facets, notably genetic, chromosomal, gonadal, hormonal, and phenotypic (including genital) sex, each of which has a characteristic defined binary form" (Handelsman et al., 2018, p. 804). However, sex is not as cut and dry as the quote from Handelsman et al. (2018) seems because people cannot all be neatly classified as either male or female (Fausto-Sterling, 2020; Serano, 2024). Sex designations are socially and culturally constructed, meaning that, for example, our current culture assigns sex at birth based on a baby's genitalia (Fausto-Sterling, 2020; Serano, 2024), but we could instead choose to assign a baby's sex based on their chromosomes. As such, scientific knowledge regarding "natural" sex differences has been "used specifically to construct social ideas about gender and to defend inequalities between men and women in sports" (Hargreaves, 1994, p. 43). Because of this, the body of literature regarding the effects of GAHT on transgender people must be viewed critically as it may be used as a tool to maintain existing power structures (Fishman et al., 2017; Haraway, 1988) and exclude transgender women from women's sports under the guise of fairness.

While the body of literature may provide some evidence that transgender women hold certain physiological advantages over cisgender women and that transgender men hold certain physiological disadvantages compared to cisgender men, Chiccarelli et al. (2023) argued that "it is impossible to say how these changes translate to real-life athletic performance over time given the lack of research on this topic" (p. e1589). These studies have largely been conducted with non-athletic samples, meaning that the findings may not be applicable to justifying the exclusion of transgender women from women's sports (Alvares et al., 2022). Athletic performance is

influenced by more than just physiology and hormones; factors such as nutrition, access to coaches and training equipment, exercise training, and many others all play a role. However, these studies fail to report other relevant demographic information of participants that may provide insight into these other factors influencing athletic performance, like race or socioeconomic status. Ultimately, relying heavily on physiological evidence to justify mainstream narratives of an unfair physiological advantage or disadvantage that transgender sport participants may hold does not align with a transfeminist-informed perspective. Using physiological evidence to justify the inclusion/exclusion of transgender sport participants relies upon biological and gender essentialism to hold transgender people to a cisgender, colonial/Eurocentric understanding of sex and gender as a binary (Bettcher, 2007, 2014; Johnson, 2015; Serano, 2024). However, this does not mean that this type of research is not worthwhile; rather, it is not useful in discussions surrounding transgender sport participation because there are many forms of potential advantage that we do not regulate. Instead, transfeminist-informed research prioritizes the lived experiences of transgender people and seeks knowledge from transgender sport participants to interrogate the ways in which they experience intersecting structures of oppression in sport (Anderson, 2020; Bettcher, 2007, 2014, 2017; Cho et al., 2013; Crenshaw, 1989; Enke, 2012a; Grzanka, 2019; Haraway, 1988; Harding, 1987, 1992; Johnson, 2015; Koyama, 2003; Serano, 2024).

Experiences of Transgender Sport Participants

Previous literature has investigated the experiences of transgender participants in PA and sport (Afroozeh et al., 2023; Caudwell, 2014, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Elling-Machartzki, 2017; Fischer & McClearen, 2020; Hargie et al., 2017; Herrick et al., 2020; Holder et al., 2022; Jones et al., 2017a, 2017b; Klein et al., 2018, 2019; Love et al.,

2009; Oliveira et al., 2022, 2023; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Storr et al., 2022; Teti et al., 2020; Travers & Deri, 2011; Zanin et al., 2023). The following sections outline scholarship that has explored the overall experiences of transgender sport participants, as well as scholarship that has specifically explored transgender people's experiences of barriers and facilitators of PA and sport participation.

Overall Experiences

Exploratory studies examining the narratives of transgender athletes' sport experiences have particularly focused on the participants' gender identities as they relate to the sex and gender binary in sport settings. Although much of this research is recent, earlier studies provide important context regarding how this line of research has developed over recent years. For example, Cohen and Semerjian (2008) found that the sex and gender binary in sport is not always compatible with the lived experiences of transgender people as Angela found that her experiences as a transgender woman "challenged her identity as an athlete. Her struggle with her dual identity as female and athlete required a renegotiation of what both athlete and female meant to her" (p. 145). Semerjian and Cohen (2006) similarly found that transgender participants used their gender identities to "disrupt the gender binary," while also acknowledging that their "gender identity was informed by, and influenced [their] sport participation" (p. 40).

Other studies from scholars in the field explored transgender sport participants' experiences in North American lesbian softball leagues (Travers & Deri, 2011), Mianne Bagger's experiences as a transgender woman competing in professional women's golf (Love et al., 2009), and two transgender young men's experiences in school sports (Caudwell, 2014). The research conducted by Travers and Deri (2011) offered a unique perspective of transgender people who participated in lesbian softball leagues with "radical transinclusive policies [that] include

transwomen and transmen of all variations and stages of transition (in terms of surgery and hormones) as well as transgender individuals whose gender identities lie between or outside the gender binary" (p. 493). The transgender men received encouragement and support from their teams; however, even in space with radical transinclusive policies, some of these men were accused of gaining male privilege through transitioning while also remaining in women-only spaces (Travers & Deri, 2011). One of the transgender men participants in Caudwell's (2014) study expressed a similar situation in which he shared his identity with some of his teammates who told him that he should not play on the women's team anymore. Sport policies about transgender athlete participation "may put on a guise of being a progressive measure," but in reality, they "may act to reinforce their status as 'others,' or as Bagger says, 'complete freaks'" (Love et al., 2009, p. 74). These policies often serve as a barrier to participation that reinforces the gender binary in sport, particularly for transgender people who are in the process of transitioning (Caudwell, 2014; Love, 2009; Travers & Deri, 2011).

Recent scholarship has built off previous literature by exploring transgender sport participants' experiences with transitioning in the sense of both their process of receiving gender-affirming care and their process of athletically transitioning from one gender category in sport to another (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Hargie et al., 2017; Jones et al., 2017a; Herrick et al., 2020; Klein et al., 2018, 2019; Pereira-García et al., 2021; Travers & Deri, 2011; Zanin et al., 2023). For example, Pereira-García et al. (2021) found that the gender binary in sport was a barrier for a transgender person who "was forced to withdraw from his female sports team for testosterone consumption, while he could not compete in a male team either, due to the legal prerequisite of changing his National Identity Card sex category to participate in this team as a man" (p. 9). Afroozeh et al. (2023)

similarly reported how transgender men who revealed their transgender identity to their women's team experienced discrimination and were told they did not belong on a women's team, even if they had not begun their gender-affirming transition. Transgender participants either chose or were forced to drop out of PA and sport participation during their gender-affirming transition process (Caudwell, 2014; Elling-Machartzki, 2017; Hargie et al., 2017; Jones et al., 2017a; Travers & Deri, 2011; Zanin et al., 2023).

Klein et al. (2018, 2019) and Herrick et al. (2020) employed case studies to explore the experiences of transgender sport participants during their gender-affirming and athletic transitions. While a transgender man participating in synchronized figure skating was able to successfully compete throughout his gender-affirming and athletic transitions (Herrick et al., 2020), this was not the case for a transgender cross-country and track and field athlete highlighted in both case studies by Klein et al. (2018, 2019). Ultimately, the transgender cross-country and track and field athlete decided to quit because "being an athlete and having to fit into strict binary categories" hindered his gender-affirming transition (Klein et al., 2019, p. 635). The gender-affirming and athletic transition processes highlight some of the barriers that transgender sport participants may face.

Barriers

Barriers to PA and sport refer to anything or anyone that has prevented or increased the difficulty of transgender participation. Within existing literature, commonly cited barriers to PA and sport participation experienced by transgender people include gendered facilities, the gender binary in sport, discrimination, and gender dysphoria and body image (Caudwell, 2020; DeChants et al., 2024; Jones et al., 2017a; Oliveira et al., 2023; Storr et al., 2022; Teti et al., 2020). Gendered facilities refer to facilities that are separated based on the binary gender system,

such as locker rooms and bathrooms. Gendered facilities were a barrier for high school transgender girls who worried that they would be required to "use a facility that does not align with their gender identity" (DeChants et al., 2024, p. 64). Other transgender people discussed how gendered facilities placed them under the scrutiny of the cisgender gaze (Caudwell, 2020; Jones et al., 2017a; Storr et al., 2022). This led to feelings of unsafety out of "fear of visual and verbal surveillance" (Caudwell, 2020, p. 6), especially because their physical bodies did not conform to expected gender norms (Jones et al., 2017a; Oliveira et al., 2023).

Transgender people viewed the gender binary system, which often divides sport participants into men's and women's categories, as a barrier to sport participation. Transgender people discussed their discomfort with participating in the gender category that did not align with their gender identity; however, some mentioned that they would not be eligible to participate in the gender category that aligned with their gender identity, while others argued that their gender identity did not align with the gender binary system in sport at all (DeChants et al., 2024; Jones et al., 2017a; Oliveira et al., 2023; Storr et al., 2022). SAGD people discussed their discomfort with participating in PA and sports in the men's category because sex and gender segregation "led to misogynist views about women's sports" (Storr et al., 2022, p. 612). Storr et al. (2022) argued that sport is "informed by masculinist ideals of toughness, stoicism, and competition" (p. 612), which contributed to cisgender boys' misogynist comments about women's teams being inferior and less popular than men's sports.

Discrimination based on their gender identity was a barrier to PA and sport participation for transgender people. Transgender people described how they have been called slurs and avoided PA and sport out of fear of physical violence or other potential discrimination (DeChants et al., 2024; Jones et al., 2017a; Storr et al., 2022; Teti et al., 2020). For example, Jones et al.

(2017a) reported that transgender people "discussed avoiding changing facilities during their social and medical transition as they anticipated or experienced overt transphobia" (p. 231).

Transgender people's gender dysphoria and body image struggles operated as a barrier to PA and sport participation. Gender dysphoria is "a state of distress or discomfort that may be experienced because a person's gender identity differs from that which is physically and/or socially attributed to their sex assigned at birth" (Coleman et al., 2022, p. S252). High school transgender girls avoided PA and sport "because participating made them feel more dysphoria or discomfort about their bodies or their assigned sex at birth" (DeChants et al., 2024, p. 65). These feelings of dysphoria were tied into transgender people's body image as some people avoided participating in certain physical activities and sports because the clothing/uniforms worn revealed too much of their body (Caudwell, 2020; Jones et al., 2017a; Oliveira et al., 2023). Despite these barriers, many transgender people also experienced facilitators of PA and sport participation.

Facilitators

Facilitators of PA and sport refer to anything or anyone that has helped make transgender participation easier or has encouraged transgender participation. Scholars have found that transgender people's participation in PA and sport was facilitated by gender affirmation, achieving an ideal body shape, physical and mental health benefits, and social connection and support (Caudwell, 2020, 2022; DeChants et al., 2024; Jones et al., 2017a; Oliveira et al., 2023; Storr et al., 2022; Teti et al., 2020). Gender affirmation "refers to being recognized or affirmed in a person's gender identity" through social, medical, and/or legal processes (Coleman et al., 2022, p. S252). Transmasculine participants discussed how exercise affirmed their masculinity, particularly by building big, strong arms (Teti et al., 2020). Interestingly, DeChants et al. (2024)

found that two high school transgender girls "noted that playing sports—even not on a team that aligned with their gender identity—actually affirmed their gender identity" (p. 64). For example, one participant said that shaving body hair is a common practice in swimming, which helped affirm their identity as a transgender girl by giving them an opportunity to shave their body hair, despite competing in the boys' category (DeChants et al., 2024). Jones et al. (2017a) found that young transgender adults "recognized the importance of being in good physical health and achieving a specific weight prior to gender-confirming surgeries" (p. 234).

Transgender people viewed PA and sport as a way to achieve their ideal body shape. For example, transmasculine people explained how the ideal body shape they wanted to attain was influenced by media depictions of transgender men (Teti et al., 2020). Another transgender person similarly discussed how PA offered a way to build the body they wanted (Oliveira et al., 2023). Transgender people engaged in PA and sport because they "were striving to meet body ideals emphasized in Westernized culture (i.e., women are curvaceous but thin and men are a V-shape and muscular)" (Jones et al., 2017a, p. 234). For example, one transgender female wanted a slim, yet toned body, something that she could achieve via a combination of PA and GAHT use (Jones et al., 2017a).

Transgender people participated in PA and sport because of the physical and mental health benefits. PA and sport offer physical health benefits, such as disease prevention and overall fitness (Caudwell et al., 2022; DeChants et al., 2024; Oliveira et al., 2023). DeChants et al. (2024) found that transgender high school girls received mental health benefits because "sports gave them an outlet to process their stress, a place to take their mind off worries, and a distraction from unhealthy or challenging thoughts" (p. 63). One SAGD participant mentioned

the life-saving potential of PA and sport, “which is of great importance in a community over-burdened with mental ill-health stemming from discrimination” (Storr et al., 2022, p. 610).

For transgender people, PA and sport participation offered an opportunity to find social connection and support. For example, Storr et al. (2022) found that sport provided an opportunity for SAGD people to “receive social support and establish peer networks and friendships with other young people similar to themselves, though not exclusively SAGD” (p. 610). A transgender swimming group, formed by members of a transgender social group, resulted in “the collective understanding and appreciation of each other that enabled successful participation as well as helping some members to gain confidence” (Caudwell, 2020, p. 6). Overall, current literature provides insight into the experiences of transgender sport participants; however, the current study seeks to address key gaps in the literature, as discussed below.

Gaps in the Literature

Scholars have identified key areas that future research should address. One area of particular importance is the need for a larger, more diverse group of transgender participants, including those with different identities under the transgender umbrella, as well as those who hold multiple marginalized identities; therefore, necessitating an intersectional analysis of their experiences (Afroozeh et al., 2023; Caudwell, 2020, 2022; Cohen & Semerjian, 2008; DeChants et al., 2024; Herrick et al., 2020; Holder et al., 2022; Klein et al., 2019; Oliveira et al., 2023; Pereira-García et al., 2021; Semerjian & Cohen, 2006; Teti et al., 2020; Zanin et al., 2023). Because of the challenges that the gender-affirming and athletic transition processes pose (Afroozeh et al., 2023; Caudwell, 2014; Cohen & Semerjian, 2008; Elling-Machartzki, 2017; Hargie et al., 2017; Herrick et al., 2020; Jones et al., 2017a; Klein et al., 2018, 2019; Pereira-García et al., 2021; Travers & Deri, 2011; Zanin et al., 2023), these processes need to be further

explored. These gaps in the literature influenced the theoretical framework chosen to guide the current study.

Theoretical Framework

The theoretical framework of the current study was transfeminism, complemented by both intersectionality and feminist STS. Transfeminism is a movement and theory that emerged in the U.S in response to the feminist movement, which has historically excluded and marginalized different groups of women who are not middle class, white, cisgender women (Bettcher, 2007; Crenshaw, 1989; Koyama, 2003; Serano, 2024). Transfeminism is not only concerned with centering transgender women but also extends "to other queers, intersex people, trans men, non-trans women, non-trans men, and others who are sympathetic to the needs of trans women and consider their alliance with trans women to be essential for their own liberation" (Koyama, 2003, p. 245).

Because transfeminism explores the intersection of transgender oppression with other types of oppression (e.g., sexism, racism, classism), intersectionality (Cho et al., 2013; Crenshaw, 1989; Grzanka, 2019) serves as a key tenet of transfeminism (Bettcher, 2007, 2014, 2017; Enke, 2012a; Koyama, 2003; Serano, 2024). Through a critique of U.S. anti-discrimination law that utilizes a single-axis understanding of sexism and racism as separate experiences, Crenshaw (1989) first introduced *intersectionality* as a concept to account for the unique experiences of Black cisgender women who are oppressed through intersecting "structures of inequality" (Cho et al., 2013, p. 797). A single-axis understanding of oppression erases "the experiences of people who routinely experience inequality as the perverse amalgamation of multiple systems of domination" (Grzanka, 2019, p. 6), thus ignoring and marginalizing their lived realities.

Lastly, transfeminism critiques both biological essentialist and social constructionist views of sex and gender because sex and gender are more complex than nature versus nurture (Bettcher, 2007, 2014; Serano, 2024), which aligns with a feminist STS understanding of sex and gender (Fishman et al., 2017). Although transfeminist and feminist STS scholars critique strictly essentialist or social constructionist views of sex and gender, these critiques do not serve to undermine scientific investigation and knowledge construction (Fishman et al., 2017; Serano, 2024). Rather, these critiques serve to shape a new understanding of sex, gender, and the body that is informed by the lived standpoint of marginalized populations (Fishman et al., 2017). As such, Klein et al. (2018) argued that a transfeminist approach to research "provides a framework for understanding and critiquing transgender inclusion in sport" (p. 555). Because of this, recent literature examining the experiences of transgender sport participants has employed transfeminism as a theoretical framework (Caudwell, 2020, 2022; Klein et al., 2018, 2019). Therefore, the current study sought to contribute a transfeminist, intersectional, and feminist STS analysis of transgender sport participants' experiences of the athletic transition process, thus constructing "knowledge that can be *for* marginalized people (and those who would know what the marginalized can know) rather than *for* the use only of dominant groups in their projects of administering and managing the lives of marginalized people" (Harding, 1992, p. 56). The philosophical assumptions associated with the theoretical framework are discussed in detail in chapter three.

Chapter Summary

This chapter outlined and critiqued recent scholarship that has investigated the effects of GAHT use on transgender people and the potential implications of those effects on athletic performance, reviewed existing literature exploring the experiences of transgender PA and sport

participants and identified the gaps in the literature, and developed the theoretical framework guiding the current study. Based on the review of the literature, the purpose of this study was to utilize an intersectional transfeminist lens to understand the experiences of adult transgender sport participants throughout the athletic transition process. The next chapter describes the methodology utilized for the current study.

Chapter Three: Methodology

The purpose of the current study was to utilize an intersectional transfeminist lens to understand the experiences of adult transgender sport participants throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. To accomplish this, the following chapter details the paradigmatic framework and methodology guiding the current study.

Paradigmatic Framework

Qualitative research is guided by a paradigm, which is a set of beliefs defined by philosophical assumptions regarding ontology, epistemology, and methodology (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). A critical paradigm best aligned with the current study because it "encourages a critique of the ways social structures and cultural practices arrange gender and produce dominant gender norms" (Caudwell, 2014, p. 400). Therefore, the theoretical framework that was used "to critique and challenge, to transform, and to analyze power relations" (Merriam & Tisdell, 2016, p. 59) in the current study was transfeminism, complemented by both intersectionality and feminist STS. Together, the critical paradigm and theoretical framework informed the ontological, epistemological, and methodological commitments of the current study.

Ontological Commitments

Ontology is concerned with the nature of reality (Creswell & Báez, 2021; Guba, 1990; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). First, a transfeminist ontology "is a belief in, and commitment to, the legitimacy of transgender existence, trans being and being trans. Such ontology accepts self-definition, self-identification and the possibility that trans is not always fixed and stable; it has potential to be unclassifiable" (Caudwell, 2022).

Second, a transfeminist ontology posits that transgender people exist at the intersection of transphobia and sexism (Bettcher, 2007, 2014, 2017; Serano, 2024). Third, a transfeminist ontology is committed to an intersectional approach that acknowledges the reality that transgender oppression is intimately linked with sexism, racism, classism, and other forms of oppression (Bettcher, 2007, 2014, 2017; Koyama, 2003; Serano, 2024). Together, these transfeminist ontological commitments critique a focus on the biological essentialism versus social constructionism debate of sex and gender because sex and gender are more complex than nature versus nurture (Bettcher, 2007, 2014; Fishman et al., 2017; Serano, 2024). Instead, Serano (2024) argued "that certain aspects of femininity (as well as masculinity) are natural and can both precede socialization and supersede biological sex" (p. 6).

A colonial/Eurocentric ontology of sex and gender has historically been based in biological essentialism and gender essentialism (Bettcher, 2007, 2014; Serano, 2024). Biological essentialism is the view that males and females are "two mutually exclusive and exhaustive categories" (Bettcher, 2007, p. 48) that are naturally different and biologically/naturally determined. Gender essentialism is the view that gender is innate and determined by sex, and biology can explain differences between cisgender men and cisgender women (Serano, 2024). In reaction to biological essentialism and gender essentialism, some feminists have argued that gender is not innate or determined by sex; instead, gender is socially constructed (Enke, 2012a; Koyama, 2003; Serano, 2024). Although a social constructionist view of gender has been useful for cisgender women to combat a colonial/Eurocentric gendered hierarchy that places cisgender women as subordinate to cisgender men, such a view still leaves room for sex to be seen as essential and does not accommodate transgender people who have a self-defined sex that does not match their sex assigned at birth (Enke, 2012a; Koyama, 2003; Serano, 2024). Therefore, the

transgender movement adopted a model that rejected the colonial/Eurocentric gender binary, meaning that the movement rejected compulsory identification within the binary and the norms associated with it because transgender people do not fit into the binary (Bettcher, 2014; Serano, 2024). However, this is not the reality for all transgender people, some of whom identify within the colonial/Eurocentric gender binary, and thus, does not allow for people to self-define their sex and gender (Bettcher, 2014; Johnson, 2015; Koyama, 2003; Serano, 2024). Instead, this led to a hierarchical arrangement within the transgender community that prioritized transgender people who lived outside of the gender binary, while transgender people "who unapologetically identified as women or men were often dismissed as 'reinforcing' that binary" (Serano, 2024, p. xiii).

Colonial/Eurocentric understandings of transgender reality operate within a strictly essentialist or constructionist notion of sex and gender; however, both views delegitimize transgender identity (Bettcher, 2007, 2014; Serano, 2024). Transfeminists dispute the notion of a "real" or "biological" sex because the determination of a person's sex assigned at birth is historically and culturally specific, and this invalidates transgender people who undergo gender-affirming medical procedures by labeling their sex as "artificial" (Bettcher, 2007, 2014; Serano, 2024). Furthermore, there is no such thing as "a 'real' woman or a 'real' man" (Koyama, 2003, p. 246) because this reinforces the view that some gender identities are more "valid" than others, based on a transgender person's ability to "pass" as cisgender and conform to the colonial/Eurocentric gender binary (Bettcher, 2007, 2014; Koyama, 2003; Serano, 2024). As such, Bettcher (2007, 2014) argued that an essentialist notion of sex and gender can be dangerous, particularly for transgender people who are seen as *deceivers*, meaning there is an appearance/reality contrast between their gender presentation (appearance) and sexed body

(reality). To combat this and transphobic oppression, some transgender people argue that they are "trapped in the wrong body," meaning that their sex is a biological error, and their gender is innate; however, this still reinforces an essentialist, colonial/Eurocentric notion that sex and gender should naturally align (Bettcher, 2007, 2014; Koyama, 2003; Serano, 2024). The issue, Bettcher (2014) argued, is that both views position transgender people's realities within or marginal to the existing, dominant, colonial/Eurocentric view that sex and gender operate on a binary.

Therefore, a transfeminist ontology argues that reality exists as "a multiplicity of trans worlds in relation to a multiplicity of dominant ones" (Bettcher, 2014, p. 390). Feminist STS scholars similarly maintained that reality is not singular and transcendent; it is a multitude and embodied (Haraway, 1988; Harding, 1987). This lends itself to a queer Native American and Indigenous studies and decolonial feminist critique of the colonial/Eurocentric nature of the gender binary, "introduced through slow, discontinuous, and heterogenous processes that violently inferiorized colonized women" (Lugones, 2007, p. 201). For example, Michi Saagiig Nishnaabeg scholar Simpson (2017) described how Indigenous Two-Spirit and queer people (2SQ) challenged the colonial/Eurocentric gender binary:

> 2SQ bodies and the knowledge and practices those bodies house as Indigenous political orders were seen as an extreme threat to settler society, sovereignty, dispossession, and the project of colonization, colonialism, and assimilation. The powerful relationships queer bodies house—consent, diversity, variance, spiritual power, community, respect, reciprocity, love, attachment—were the very first thing colonizers sought to eliminate. (p. 126)

Because of the diverse realities of transgender and Native 2SQ ways of being across different cultures, transfeminism is committed to respecting an individual's right and authority to self-define their sex and gender (Bettcher, 2007, 2014; Caudwell, 2020, 2022; Enke, 2012a; Koyama, 2003; Serano, 2024). This allows for a deeper understanding of transgender reality that accommodates multiple meanings, ways of resisting essentialist and constructionist colonial/Eurocentric views of sex and gender, and the intersection of multiple forms of oppression (Bettcher, 2007, 2014, 2017).

However, transfeminism acknowledges that people's views and perceptions, either from a biological essentialist or social constructionist perspective, have real consequences for all people, not just transgender people (Bettcher, 2007, 2014; Koyama, 2003; Serano, 2024). Although the intersection of transphobia and sexism "would appear to centralize trans women, since trans men are also vulnerable to sexism, transphobia, and the interblending thereof, trans feminism would be ill-advised to exclude them from its purview" (Bettcher, 2017, Preliminaries section, para. 2). Nevertheless, transfeminism recognizes that this reality operates differently for transgender people based on their specific gender identity, as transgender women may experience transphobic and sexist oppression in different ways than transgender men (Bettcher, 2007, 2014, 2017; Serano, 2024). For example, Serano (2024) argued that transgender women may specifically be the targets of a unique form of oppression described as *trans-misogyny*, which is "when a trans person is ridiculed or dismissed not merely for failing to live up to gender norms, but for their expressions of femaleness or femininity" (p. 14).

Although transfeminism recognizes that transgender people exist at the intersection of transphobia and sexism, it simultaneously acknowledges that these forms of oppression are intricately linked with other forms of oppression (e.g., racism, classism) and therefore requires

an intersectional approach (Bettcher, 2007, 2014, 2017; Serano, 2024). An intersectional approach is useful in accounting for the oppression experienced by, for example, Black transgender women in the U.S. In response to the Black Lives Matter movement that utilized a single-axis framework for understanding police violence against Black cisgender men and boys, Crenshaw et al. (2015) used Say Her Name to draw attention to the erased realities of Black cisgender and transgender women experiencing police brutality. Crenshaw et al. (2015) described how Black transgender women are "routinely subjected to transphobic verbal harassment and abuse, unlawful and degrading searches to assign gender based on anatomical features, and dangerous placement in police custody" (p. 24), as was the case for Kayla Moore, who was in the midst of a mental health crisis when police killed her, called her transphobic slurs, and exposed her body. Using Black transgender women as an example, an intersectional approach demonstrates how transphobic violence is intimately linked to and intersects with sexism and racism (Bettcher, 2007; Crenshaw et al., 2015).

Together, these ontological commitments have been informed by feminist STS scholars who have utilized science to contribute to and influence the commitments of transfeminist and feminist STS approaches to sex, gender, and the body by showing how these all intersect "as material, embodied, *and* discursive sites in and through which power and power relations coalesce" (Fishman et al., 2017, p. 379). This ontological view arose out of a critique of scientific knowledge that has framed ideas about sex, gender, and the body as either objective or subjective (Fishman et al., 2017).

Epistemological Commitments

Epistemology is concerned with the nature of knowledge (Creswell & Báez, 2021; Guba, 1990). Transfeminist epistemology is influenced by and aligns with a feminist STS

understanding of knowledge (Anderson, 2020; Haraway, 1988; Harding, 1987, 1992; Johnson, 2015). The first epistemological commitment of transfeminism and feminist STS is the belief that knowledge is socially situated (Anderson, 2020; Bettcher, 2007, 2014; Enke, 2012a; Haraway, 1988; Harding, 1992; Koyama, 2003). Second, maximizing objectivity can be secured through what Harding (1992) referred to as *strong objectivity*, which "requires that the subject of knowledge be placed on the same critical, causal plane as the objects of knowledge" (p. 69). In other words, the researcher's values, beliefs, and social situations need to be critically analyzed in the same way that data collected from participants is critically analyzed (Harding, 1987, 1992). Third, transfeminist and feminist STS epistemology is committed to seeking knowledge from marginalized populations because they are advantageously located in a position where they can provide a more critical view of knowledge than someone who occupies a privileged, dominant position (Anderson, 2020; Haraway, 1988; Harding, 1992).

Colonial/Eurocentric claims about knowledge have historically been positivistic in nature, meaning that knowledge is viewed as objective and can be discovered through value-free, scientific reasoning and inquiry (Guba, 1990; Haraway, 1988; Harding, 1992). However, this relies upon a sexist and androcentric view, which is a partial, male-centered viewpoint that is touted as objective (Crenshaw, 1989; Haraway, 1988; Harding, 1987, 1992). A positivist epistemology has been used to justify a colonial/Eurocentric essentialist notion of sex and gender (Bettcher, 2007; Serano, 2024). For example, Oudshoorn (1990) described how endocrinology research in the 1930s designated certain hormones as "male" and "female" sex hormones, thus reinforcing the colonial/Eurocentric gender binary and essentialist view of sex. Endocrinologists labeled male sex hormones as "androgens," meaning masculinization; however, "endocrinologists did not specify the meaning of masculinity" (Oudshoorn, 1990, p. 258).

Meanwhile, endocrinologists labeled female sex hormones as "estrogens," referring to the cyclic nature of reproduction; therefore, "the meaning of femininity *as* cyclicity became associated with the negative connotation of instability, thus creating the cultural image of the unstable woman" (Oudshoorn, 1990, p. 261). As Fausto-Sterling (2020) explained, endocrinologists labeled female sex hormones "using the word *estrus* (meaning 'gadfly,' 'crazy,' 'wild,' 'insane) as the root" (p. 196). In other words, by redefining femininity but not masculinity, endocrinologists reinforced sexist and androcentric views by positioning masculinity as central and an unspoken norm, while positioning femininity as outside of the unspoken norm (Oudshoorn, 1990). In contrast, a social constructionist epistemology takes a subjectivist view of all knowledge (Guba, 1990), arguing that scientific knowledge is socially constructed as a tool to gain power (Haraway, 1988). Although feminist STS scholars have critiqued both positivist and social constructionist views of scientific knowledge construction, these scholars have also shown how science can contribute to and influence the commitments of transfeminist and feminist approaches to sex, gender, and the body through an understanding of how sex, gender, and the body are the product of both nature and nurture (Fishman et al., 2017).

Science can continue to contribute to and influence the commitments of transfeminist and feminist approaches to sex, gender, and the body through the construction of socially situated knowledge. Specifically, transfeminist epistemology is concerned with "the *site* of knowledge production" and how it "actively contributes to assumptions about what knowledges matter, how they matter, and to whom they matter" (Enke, 2012a, p. 10). Knowledge reflects how the researcher, or knower, is socially situated in relation to the known (Anderson, 2020). In other words, the view that knowledge is socially situated is an acknowledgment that values play a role in knowledge construction (Anderson, 2020; Fishman et al., 2017; Harding, 1992).

Although socially situated, experiential knowledge is typically thought to be subjective (Harding, 1992), Haraway (1988) posited that an embodied, "feminist objectivity means quite simply *situated knowledges*" (p. 581). As such, this can be maximized through what Harding (1992) called *strong objectivity*, also known as strong reflexivity, which requires a critical analysis of how "the class, race, culture, and gender assumptions, beliefs, and behaviors of the researcher" influence every aspect of the research process (Harding, 1987, p. 9). This means objectivity can be maximized by focusing on how my roles and social situations as a researcher intersect to influence knowledge construction because this leads to transparency in the research process (Cho et al., 2013; Haraway, 1988; Harding, 1987, 1992; Johnson, 2015). To maximize objectivity, this requires beginning the research process from the standpoint of marginalized populations (Harding, 1992).

Recognizing that knowledge is socially situated lends credence to including the experiences of people other than those in privileged, dominant positions in scientific investigations of sex, gender, and the body (Bettcher, 2014; Enke, 2012a; Haraway, 1988; Harding, 1987, 1992; Serano, 2024). This is particularly important in transfeminist research as transgender people, particularly transgender women, are not treated as experts of their lived experiences and "are instead treated more like research subjects: Others place us under their microscopes, dissect our lives, and assign motivations and desires to us that validate their own theories and agendas regarding gender and sexuality" (Serano, 2024, p. 12). As such, Johnson (2015) argued that a transfeminist epistemology "should do the methodological work of engaging with the multiplicity of lived experiences of transgender people in order to offer a more accurate understanding that does not impose and reproduce cissexist authority over transgender experience" (p. 36).

Although feminism has been particularly concerned with cisgender women's exclusion from knowledge production, feminist STS scholars seek a multitude of experiences because there is not one universal experience for all women (Anderson, 2020; Crenshaw, 1989; Fishman et al., 2017; Grzanka, 2019; Harding, 1987, 1992). Similarly, transfeminist scholars have articulated that we cannot strictly rely on a single understanding of sex and gender because people's experiences are influenced by other types of structural oppression such as racism and classism, which must be accounted for through an intersectional lens that interrogates how intersecting structures of oppression further subordinate marginalized populations (Bettcher, 2007, 2014, 2017; Cho et al., 2013; Crenshaw, 1989; Grzanka, 2019; Koyama, 2003; Serano, 2024). Because knowledge about sex and gender is socially situated, Bettcher (2007) raised "deep concerns about transgender as a potentially colonizing discourse" (p. 61) and emphasized the need for an intersectional analysis of transgender experiences. Consequently, Johnson (2015) argued that science can contribute to and influence the commitments of transfeminist and feminist approaches to sex, gender, and the body through "the pursuit of transgender equality while engaging earlier transgender scholarship, challenging cissexist knowledge claims, and undermining cissexist power structures" (p. 36).

Methodological Commitments

Harding (1987) defined methodology as "a theory and analysis of how research should proceed" (p. 2). In other words, my methodological commitments were informed by the theoretical framework of the current study (Harding, 1987; Johnson, 2015). This section details how transfeminist, feminist STS, and intersectional values can be incorporated into scientific investigations that rely on certain notions of sex, gender, and the body. First, a key methodological commitment of both feminist STS and transfeminism is the concept of strong

objectivity or reflexivity, which aligns with the epistemological commitment to view knowledge as socially situated (Haraway, 1988; Harding, 1987, 1992; Johnson, 2015). Reflexivity involves "the acknowledgment of unequal power dynamics within the research process, the troubling of objectivity, and the interrogation of the researcher's own motivation" (Johnson, 2015, p. 36). As a transfeminist researcher, this requires a recognition of my positionality in relation to the research participants to increase objectivity through transparency (Haraway, 1988; Harding, 1987, 1992; Johnson, 2015). Additionally, this requires an understanding of how my intersectional lenses influence the knowledge constructed through the current study (Cho et al., 2013; Harding, 1992).

Second, transfeminist and feminist STS scholars are committed to intersectionality as a basis for research (Anderson, 2020; Bettcher, 2007, 2014, 2017; Crenshaw, 1989; Grzanka, 2019; Harding, 1987, 1992). Because traditional, colonial/Eurocentric scientific investigations are androcentric and sexist in nature, simply including cisgender and transgender women in feminist research without an intersectional framework perpetuates a universal, colonial/Eurocentric understanding of cisgender women's experiences that is incomplete and erases the experiences of transgender women (Crenshaw, 1989; Grzanka, 2019; Harding, 1987). Therefore, Crenshaw (1989) argued "that placing those who currently are marginalized in the center is the most effective way to resist efforts to compartmentalize experiences and undermine potential collective action" (p. 167). In other words, the research process must begin from the standpoint of the marginalized population of focus (Harding, 1992). Methodologically, this requires a commitment to an intersectional analysis, which "is inextricably linked to an analysis of power" and "emphasizes political and structural inequalities" (Cho et al., 2013, p. 797).

Lastly, transfeminism is committed to a reality that exists as "a multiplicity of trans worlds in relation to a multiplicity of dominant ones" (Bettcher, 2014, p. 390), rather than positioning transgender people's experiences within or marginal to the dominant, colonial/Eurocentric view of sex and gender as operating on a binary. To do so, Johnson (2015) argued that a transfeminist methodology must be committed to avoiding the following cissexist approaches to scientific inquiry: (1) ciscentricity, (2) cissexist double standards, (3) objectification, and (4) overgeneralization.

Like avoiding an androcentric view of sex and gender, a transfeminist methodology must avoid ciscentricity, which is "the centering and privileging of cisgender rather than transgender understandings of sex and gender" (Johnson, 2015, p. 37). For example, scientific research regarding gender-affirming surgical procedures tends to focus solely on transgender people's ability to "pass" as cisgender, rather than understanding transgender people's feelings and experiences after undergoing gender-affirming care (Johnson, 2015; Serano, 2024).

Cissexist double standards refer to holding transgender people to the dominant understanding of sex and gender as a binary, while not doing the same for cisgender people (Johnson, 2015). Johnson (2015) provided an example of cissexist double standards in a research article that "highlighted the moments at which transgender individuals knew they were men or women" (p. 43), while cisgender people are never asked to justify their cisgender identity in the way that transgender people are.

Objectification is the process of reducing transgender people to a step in their transition process, such as when researchers refer to transgender people based on whether they have undergone gender-affirming surgical procedures and/or begun GAHT (Johnson, 2015; Serano, 2024). As such, a transfeminist methodology is committed to respecting a transgender person's

right to self-identification (Bettcher, 2007, 2014; Caudwell, 2020, 2022; Johnson, 2015; Koyama, 2003; Serano, 2024).

The final cissexist approach to avoid in transfeminist methodology is overgeneralization, which involves treating a transgender person's experience as universal for all transgender people (Johnson, 2015). Johnson (2015) found that researchers engaged in overgeneralization "through the use of either transgender men or transgender women as research participants while speaking of experiences of transgender people as a group" (p. 44). Together, these methodological commitments show how transfeminist, feminist STS, and intersectional values can be incorporated into scientific investigations of sex, gender, and the body.

Research Design and Rationale

The current study employed a basic, also known as generic, qualitative research design (Ellis & Hart, 2023; Kahlke, 2014; Merriam & Tisdell, 2016). A basic qualitative research design aims "to *understand* how people make sense of their lives and their experiences" (Merriam & Tisdell, 2016, p. 24). This type of research design aligned well with this study and is advantageous for the following three reasons: (1) it offers flexibility, (2) it has an open-ended, exploratory nature, and (3) it creates an opportunity for new theoretical and methodological approaches (Ellis & Hart, 2023; Kahlke, 2014).

The first strength of a basic qualitative research design is its flexibility, meaning that it does not place boundaries on different aspects of the research process, such as the types of research questions that can be asked or the paradigmatic and theoretical framework that must be used (Ellis & Hart, 2023; Kahlke, 2014). A basic qualitative research design "can draw on the strengths of established methodologies while maintaining the flexibility that makes generic

approaches attractive to researchers whose studies do not fall neatly within a particular established methodology" (Kahlke, 2014, p. 39).

The second strength of a basic qualitative research design is that it has an open-ended, exploratory nature that is particularly useful when there is limited research on a topic (Ellis & Hart, 2023; Kahlke, 2014). The openness of this research design allows for "representation of a broad range of ideas, beliefs, and experiences" (Ellis & Hart, 2023, p. 1759).

The last strength of a basic qualitative research design is that it creates an opportunity for new theoretical and methodological approaches, particularly in areas that are less researched (Ellis & Hart, 2023; Kahlke, 2014). Because traditional methodologies, such as phenomenology, have a prescribed approach to research, these methodologies do not offer much flexibility (Ellis & Hart, 2023; Kahlke, 2014). However, "if researchers are to think in new ways or examine new things, then it becomes necessary to work outside of existing methodologies in order to support new theoretical approaches" (Kahlke, 2014, p. 47). This strength was particularly useful for the current study because transfeminist theory is not widely used in transgender sport research.

Despite the advantages of a basic qualitative research design, this type of research design has been criticized for the following weaknesses: (1) it is too flexible, and (2) it lacks quality criteria (Ellis & Hart, 2023; Kahlke, 2014). Although flexibility is a strength of a basic qualitative research design, some critics argue that "because epistemological and theoretical allegiances are not necessarily prescribed by the methodology, these aspects of the research framework are often poorly articulated and poorly thought through" (Kahlke, 2014, p. 42). However, the lack of a prescribed paradigm or theory attached to a basic qualitative research design does not mean that this type of research is atheoretical and lacks cohesion; rather, it encourages the researcher to choose a framework that best fits the research questions and to

engage in critical thinking at all stages of the research process to ensure that the paradigmatic and theoretical commitments, methodology, and method(s) are in alignment (Ellis & Hart, 2023; Kahlke, 2014).

Additionally, because a basic qualitative research design lacks quality criteria, some critics have questioned "how rigour might be implemented outside of methodology-specific criteria" (Kahlke, 2014, p. 38). However, this concern was addressed by applying data quality criteria that aligned with my paradigmatic and theoretical commitments (Cain et al., 2023; Ellis & Hart, 2023; Kahlke, 2014), and these criteria are discussed in greater detail later in this chapter. Even though there are challenges to implementing this type of research design, a basic qualitative research design best aligned with the current study.

Positionality

As previously mentioned, one of the epistemological commitments of transfeminism and feminist STS is the belief that knowledge is socially situated, meaning that knowledge reflects how the knower, or researcher, is socially situated in relation to the known (Anderson, 2020; Bettcher, 2007, 2014; Enke, 2012; Haraway, 1988; Harding, 1992; Koyama, 2003). One way to address how a knower's identities and values play a role in knowledge construction is through a positionality statement that discusses how a researcher's identities are positioned in relation to the study's participants, as well as how those identities influence each stage of the research process (Anderson, 2020; Cain et al., 2023; Harding, 1987, 1992).

My interest in the topic of transgender sport participation arose from my experiences of discrimination in sport as a member of the LGBTQ+ community. I believe that all people deserve to participate in a safe, inclusive, diverse, and equitable sporting environment. Currently, I identify as a gay, nonbinary former athlete; however, during my time as a collegiate softball

player, I identified as a gay, cisgender woman. As a college softball player, I experienced discrimination because of my sexual orientation, being called “Gay Jess” by the head coach and some players, as well as being told by the head coach to not “flaunt your sexuality.” As a result, I left the team and ended my athletic career. Even though I am in an outsider position with respect to the study participants’ experiences of athletically transitioning as transgender sport participants, I now share an insider status with the study participants because my gender identity falls under the transgender umbrella.

As a gay, nonbinary, middle-class, white American, colonial settler researcher, I shared none, some, or all these identities with the study participants, especially because this study was international in scope. My identities may have influenced those who chose to participate in the study because those who share certain identities with me may have been more likely to participate. During the data collection process, the study participants may have been selective with the information they shared depending on our shared identities, and the questions I asked the participants were influenced by my identities. Because the current study adopted an intersectional lens to analyze the data, I have biases and blind spots that needed to be constantly interrogated, particularly because I held power and privilege related to my social class and racial identities, my position as a colonial settler, and my role as a researcher. As a researcher, I held power in the quotations from participants I chose to include in the findings and the findings I chose to report. Throughout the study’s progression, my identities, values, and biases have influenced the research process and the quality of the data. Therefore, I implemented data quality measures that are discussed later in this chapter.

Sampling Procedures

The sample for this study consisted of adult transgender people ages 18 or older who were current or former (within the past 10 years) sport participants. To be included in the study, participants needed to hold a gender identity other than cisgender man or woman (e.g., transgender, nonbinary). Participants also needed to self-identify as a current or former sport participant, inclusive of any sport or level of play (e.g., recreational, collegiate, professional, Olympic). Additionally, participants in this study needed to be considering athletically transitioning, be in the process of athletically transitioning, have successfully athletically transitioned, or have unsuccessfully attempted to athletically transition from one gender category (e.g., men's, women's, mixed) in sport to another. Lastly, the sample was inclusive of sport participants from any country who were comfortable participating in an interview in English.

Once the proposed study was approved by the Institutional Review Board (IRB), both purposive and snowball sampling were utilized to recruit participants (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). Purposive sampling involves choosing participants who meet the inclusion criteria and consists of "a sample from which the most can be learned" (Merriam & Tisdell, 2016, p. 96). Snowball sampling involves asking study participants to identify others who meet the inclusion criteria (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014).

Various LGBTQ+ sport organizations (e.g., Athlete Ally, transathlete.com, Outsports) were contacted via email or a website contact form (see Appendix B) to request the organizations' help with distributing the recruitment material (see Appendix C). One LGBTQ+ sport organization agreed to help and shared information about recruitment via a blog post and by posting a link to the blog on Instagram. The recruitment material was also used to recruit

participants via posts on social media (i.e., Facebook, Instagram), along with a caption for the posts (see Appendix D). Participants signed an informed consent document (see Appendix E) prior to participating in the study. Those who agreed to participate in the study were asked to distribute the recruitment material to other transgender sport participants who met the inclusion criteria. The total number of participants depended on those who met the inclusion criteria and the point at which data saturation was reached (Merriam & Tisdell, 2016; Skinner et al., 2021; Smith & Sparkes, 2017). Data saturation is the point at which data becomes redundant, meaning that the participants' data "no longer contributes any new information" (Skinner et al., 2021, p. 65). To determine when data saturation was reached, data collection and data analysis occurred simultaneously (Merriam & Tisdell, 2016; Smith & Sparkes, 2017). Ultimately, 14 participants agreed to take part in the study and were interviewed.

Ethical Considerations

Prior to initiating the proposed study, I first sought approval from the IRB to ensure the study met the requirements for ethical research with human participants; however, centering ethical considerations in research required going above and beyond the guidelines laid out by the IRB (Cain et al., 2023; Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). Cain et al. (2023) argued that "it is the researcher's responsibility to anticipate any ethically challenging situations that could arise throughout the researcher process and have contingency plans in place," as well as "maintain ethics throughout project conception, data collection, analysis, and reporting results" (p. 338). Ethical considerations were of particular concern in the current study because the participants consisted of members of a vulnerable, marginalized population, and the international scope of the study required global cultural awareness and competency (Creswell & Báez, 2021). When conducting research with an

international sample of transgender participants, the following ethical considerations are of the utmost importance: (1) privacy, (2) transparency, and (3) language (Bush & Blackwell, 2022; Creswell & Báez, 2021; Johnson, 2015; Vincent, 2018).

Privacy concerns can arise throughout the research process and require ethical considerations (Bush & Blackwell, 2022; Creswell & Báez, 2021; Vincent, 2018). Privacy may be of particular importance for transgender participants who have not disclosed their gender identity for various reasons, such as fearing familial rejection or fearing criminal repercussions because being transgender may be illegal in their country of origin. Participant recruitment via social media poses a risk to privacy if participants or potential participants engage with a publicly available post without realizing that other social media users can see who engaged with the post (Bush & Blackwell, 2022). However, this privacy risk can be mitigated, and respect can be gained by asking permission to join LGBTQ+ or transgender-specific private social media groups before posting about participant recruitment for the study (Bush & Blackwell, 2022; Vincent, 2018). Because the proposed study employed semi-structured interviews, anonymity was not possible; however, confidentiality of the participants' identities was of paramount importance. Each participant's signed informed consent document, interview recording, and transcript, as well as the key that matches each participant to their pseudonym, was stored on my university-protected Microsoft OneDrive account, and the information was destroyed once the research process was complete. Any identifying information will not be used in the disseminated findings. However, Vincent (2018) cautioned against assuming that all participants will want to remain confidential as "this can deny agency to participants who may wish to be recognisable" (p. 107). Although some transgender people may not disclose their gender identity to family, employers, and/or the government, participants may want their chosen name used in the research

to remain identifiable to some people but not everyone (Vincent, 2018), so participants were given the option to choose a pseudonym or use their chosen name.

Because "trans people have received ethically dubious, or even outright traumatic treatment in research contexts," there is a history of mistrust between the transgender population and researchers (Vincent, 2018, p. 103). To alleviate concerns of mistrust, transparency must be prioritized throughout the research process (Creswell & Báez, 2021; Vincent, 2018). One way I demonstrated transparency with the study participants was by disclosing information about myself (e.g., my insider position as a nonbinary former sport participant, my values/beliefs) to build rapport and gain trust (Vincent, 2018). Vincent (2018) argued that transparency "may also involve considering what not to say, as much as what to share" (p. 105). For example, if I chose to exclude certain data in the findings because they may have caused harm to the transgender participants, I would have been transparent in the written report about this decision (Vincent, 2018). Vincent (2018) also recommended sharing the findings with transgender participants prior to using or publishing the data because it "allows them to prevent their misrepresentation or misinterpretation" (p. 106).

Language also requires particular attention throughout the research process (Creswell & Báez, 2021; Johnson, 2015; Vincent, 2018). Incorrect or inappropriate language use demonstrates a lack of respect for participants and can cause distrust between the researcher(s) and participants (Creswell & Báez, 2021; Vincent, 2018). To address ethical concerns regarding language, researchers must stay up to date on terminology, meanings attached to certain language, and pronoun use (Vincent, 2018). For example, the informed consent, recruitment materials, interview questions, and written findings utilized accepted terms (e.g., transgender), avoided the use of problematic terms that objectify transgender people (i.e., reduce their identity to whether

they take hormones or have undergone surgical procedures), avoided treating cisgender people as the norm (i.e., labeling them as cisgender men and women rather than using men and women as the norm), and referred to participants using their correct pronouns (Johnson, 2015; Vincent, 2018). However, researchers must also be ethically committed to respecting a transgender person's right to self-identification (Bettcher, 2007, 2014; Caudwell, 2020, 2022; Johnson, 2015; Koyama, 2003; Serano, 2024; Vincent, 2018), so participants' self-described identities were reflected in the written findings. Lastly, there are cultural implications for the language used throughout the research process as other cultures may utilize different terminology or terminology that is considered problematic in the U.S., especially as English may not be the first language of some transgender participants (Creswell & Báez, 2021; Vincent, 2018). In this case, Creswell and Báez (2021) recommended seeking help from community members to ensure culturally appropriate language is utilized throughout the research process.

Data Collection

The current study employed semi-structured interviews via Zoom to collect data. Semi-structured interviews are guided by a pre-written interview protocol that includes a list of open-ended questions to ask participants, but the semi-structured nature of the interview allows the researcher to probe participants for more information by asking questions that are not listed on the interview guide (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Smith & Sparkes, 2017). Interviews are advantageous because the researcher can establish rapport and build trust with participants, which is helpful because participants from a vulnerable population may be more reluctant to share information (Creswell & Báez, 2021; Smith & Sparkes, 2017). This can, in turn, yield in-depth, rich data about the topic of interest (Merriam & Tisdell, 2016; Skinner et al., 2021; Smith & Sparkes, 2017). Conducting the interviews via Zoom

was advantageous because Zoom is inexpensive, accommodated participants who lived outside of Knoxville, Tennessee, allowed participants to join the interview from a place of their choosing, and were recorded and transcribed (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Smith & Sparkes, 2017).

Although there are many advantages to interviews, they do not come without limitations. It may be challenging to get the participants to share information if trust and rapport are not established, and this may lead to responses that are unreliable (Creswell & Báez, 2021). Additionally, complications may arise from conducting interviews via Zoom, such as Internet connection issues, audio cutting, and lack of access to reliable Internet or a computer (Creswell & Báez, 2021; Merriam & Tisdell, 2016; Smith & Sparkes, 2017). Despite these limitations, semi-structured interviews via Zoom were the most useful data collection method for the proposed study.

To guide the interview, I used an interview protocol (see Appendix F) with a list of questions and probes to ask participants about the topic of the study. The beginning of the interview focused on introducing myself, describing the purpose of the study, and discussing what to expect from the interview. Early in the interview, I obtained the participants' self-described demographic information (e.g., age, gender identity, racial/ethnic identity). To establish rapport and ease into the interview, I began with an open-ended question to learn initial information about the sports that the participant has played. This led to more in-depth questions regarding their experiences with the process of athletically transitioning (e.g., the steps of the process, the feelings associated with the process, challenges, facilitators). Because the interview was semi-structured, I asked additional questions not listed on the interview protocol when I deemed them helpful. With the participants' permission, all the interviews were recorded and

transcribed using Zoom's transcription software. The interview recordings were stored on my university-protected Microsoft OneDrive account and were only used to clean the interview transcripts.

Each participant was asked to participate in one interview lasting approximately 60 minutes. Except for one participant who needed to participate in the second half of the interview at a later time and date because of time constraints, the other 13 participants were able to participate in one interview. The length of the interviews ranged from 38 minutes to 82 minutes long, with an average length of 59 minutes.

Data Quality

In quantitative research, data quality is typically assessed via reliability and validity; however, there is no such standard consensus of data quality measures in qualitative research (Cain et al., 2023; Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021; Veal & Darcy, 2014). Instead, data quality criteria in qualitative research are dependent upon a researcher's "theoretical, ontological, epistemological, and methodological decisions and commitments" (Cain et al., 2023, p. 337). As such, I utilized the following data quality criteria that best aligned with my paradigmatic and theoretical commitments: reflexivity, voice, and member checking (Cain et al., 2023).

Reflexivity involved the active process of acknowledging my identities, positionality, biases, and values and analyzing how my identities, positionality, biases, and values influenced the research process (Cain et al., 2023; Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021). The self-reflexive practice of journaling was used during data collection, data analysis, and written findings compilation to continually interrogate how my identities,

positionality, biases, and values influenced these stages of the research process (Cain et al., 2023; Creswell & Báez, 2021; Skinner et al., 2021).

Voice is of the utmost importance when research participants are members of a marginalized population because researchers must "ensure that our work does not silence or further marginalize them" (Cain et al., 2023, p. 347). As a researcher, my role was not to give a voice to these participants but rather to uplift their voices (Cain et al., 2023; Creswell & Báez, 2021). This means that each participant's voice was included and well-represented throughout the written findings by including many quotes from the data (Cain et al., 2023).

The last data quality measure that was utilized in the current study is member checking. Member checking is the process of sharing the written findings with the participants for feedback to ensure that the findings are representative of the data they shared during the interviews (Cain et al., 2023; Creswell & Báez, 2021; Merriam & Tisdell, 2016; Skinner et al., 2021). This process aligns with voice as a data quality measure because it allows the researcher "to share power with the participants by allowing them to control how their stories are presented" (Cain et al., 2023, p. 342). Based on the recommendation from Cain et al. (2023), each participant was invited to review the written transcript of their interview for accuracy and/or to make revisions/additions for accuracy and clarity. Additionally, each participant received a copy of the entire written findings, as well as a copy of the findings that are specific to each participant. Each participant had two weeks to review the findings and provide any feedback regarding the findings. Out of the 14 participants, three provided minor revisions on their interview transcripts, and none provided revisions on the findings.

Procedures

As previously mentioned, the study proposal, recruitment material, informed consent document, and interview protocol were sent to the University of Tennessee's IRB for approval. Once the study was approved, I began recruiting participants by contacting various LGBTQ+ sport organizations to distribute the recruitment material and posting the recruitment material on social media. Those who expressed interest in participating in the study were sent an informed consent document via email to sign and return to me. I scheduled an interview with each participant on the day and at the time of their choosing. With the participants' permission, all the interviews were recorded and transcribed using Zoom's transcription software. After conducting the interview, I asked my participants to distribute the recruitment material to other people who may have been interested in participating in the study. After each interview, I engaged in self-reflexive journaling. The signed informed consent documents, interview recordings, transcripts, and code key matching the participants' names and pseudonyms were stored on my university-protected Microsoft OneDrive account. While data collection was ongoing, I analyzed the data to determine when data saturation was reached, at which point I stopped recruiting participants and collecting data.

Data Analysis

Data analysis was informed by Braun and Clarke's (2006) thematic analysis, which "is a method for identifying, analysing and reporting patterns (themes) within data" (p. 79). Although Braun and Clarke (2006) originally discussed its use in psychology research, the flexible nature of thematic analysis lends itself to a variety of ontologies, epistemologies, and research designs and is, therefore, applicable to sport studies research (Braun et al., 2016). Braun and Clarke (2006) outlined six steps of thematic analysis: (1) data familiarization, (2) initial coding, (3)

theme development, (4) theme refinement, (5) theme description and naming, and (6) written report compilation. Although thematic analysis consists of six steps, Braun and Clarke (2006) emphasized that it "is not a *linear* process," but rather a "*recursive* process, where movement is back and forth as needed, throughout the phases" (p. 86). The thematic analysis process was conducted using Atlas.ti, a qualitative data analysis software.

The first step of thematic analysis is data familiarization, which involved transcribing the data, reading the data multiple times, and taking notes of initial thoughts and ideas (Braun & Clarke, 2006; Braun et al., 2016). Although the collected data were transcribed via Zoom's transcription software, the transcripts were checked for accuracy by listening to the recording of the interviews (Braun & Clarke, 2006). As an additional data quality measure, each participant was invited to review the written transcript of their interview for accuracy and/or to make revisions/additions for accuracy and clarity. Ultimately, three participants provided minor revisions. Reading and re-reading the transcripts required actively engaging with the data, "looking for ideas and concepts that can help you address your research question, and reading it in a *curious and questioning* way" (Braun et al., 2016, p. 196).

Data familiarization prepares the researcher for the second step of thematic analysis, which is initial coding (Braun & Clarke, 2006; Braun et al., 2016). Saldaña (2021) defines a code as "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (p. 5). Because Braun and Clarke (2006) do not provide a detailed description of coding techniques, this step was supplemented by Saldaña's (2021) coding manual, which offers a plethora of coding techniques to choose from depending on the purpose of the research. The initial coding step of thematic analysis aligns with what Saldaña (2021) calls first-cycle coding. In-vivo coding was the method

best suited to the current study because the codes are constructed using the participants' words to "prioritize and honor the participant's voice" (Saldaña, 2021, p. 138). However, Saldaña (2021) also recommended using multiple coding methods in concert with in-vivo coding, so I also supplemented in-vivo coding with process coding and emotion coding. Process coding involves applying action codes that end in "-ing" (Saldaña, 2021), which was useful for the current study because the participants discussed their experiences with the athletic transition process. Lastly, emotion coding involves applying codes that "label the emotions recalled and/or experienced by the participant" (Saldaña, 2021, p. 160). This coding method was appropriate for this study because the participants described their feelings surrounding the athletic transition process.

The third step of thematic analysis is theme development, which involved organizing the codes from the previous step into initial themes (Braun & Clarke, 2006; Braun et al., 2016). Braun and Clarke (2006) recommended using visual representations, like tables or mind maps, to help with organizing the codes. During this step, some codes did not fit in the initial themes, but it was important to retain these codes as they may have become useful later in the thematic analysis process (Braun & Clarke, 2006; Braun et al., 2016).

The fourth step of thematic analysis is theme refinement, which involved reviewing the themes in two phases (Braun & Clarke, 2006; Braun et al., 2016). The first phase of theme refinement "involves reviewing at the level of the coded data extracts" (Braun & Clarke, 2006, p. 91). In other words, each coded data extract for each theme needed to be read to ensure that they were representative of the theme (Braun & Clarke, 2006). If they were not representative of the theme, this required reevaluating the theme (Braun & Clarke, 2006). The second phase of theme refinement required rereading all the data "to ascertain whether the themes 'work' in relation to

the data set," as well as "to code any additional data within themes that has been missed in earlier coding stages" (Braun & Clarke, 2006, p. 91).

The fifth step of thematic analysis is theme description and naming, which involved writing a definition for each theme and naming each theme (Braun & Clarke, 2006; Braun et al., 2016). Each theme had a brief definition that "succinctly captures the 'essence' of each theme (its central organizing concept), and its scope and boundaries" (Braun et al., 2016, p. 200). The name of each theme similarly captured its essence (Braun & Clarke, 2006; Braun et al., 2016).

The last step of thematic analysis is the written report compilation, which involved finalizing the written themes with a balance of quotes from the data and analysis of the themes (Braun & Clarke, 2006; Braun et al., 2016). The quotes included in the written themes were "vivid examples, or extracts which capture the essence of the point you are demonstrating" (Braun & Clarke, 2006, p. 93). At this point, the written findings were sent to the research participants to engage in member checking; however, none of the participants provided revisions.

Chapter Summary

This chapter outlined the paradigmatic assumptions and methodology guiding the current study. A basic qualitative research design was used to explore the experiences of transgender sport participants throughout the athletic transition process. Participants were recruited using purposive and snowball sampling. Data were collected using semi-structured interviews via Zoom and then analyzed using thematic analysis. The next chapter presents the findings from the thematic analysis of the interviews with transgender sport participants about their experiences with the athletic transition process.

Chapter Four: Findings

The purpose of this chapter is to describe the demographics of the participants and discuss five prominent themes regarding the experiences of adult transgender sport participants throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. These themes include: (a) Discrimination, (b) Policies, (c) Social Connection, (d) Importance of Support, and (e) Athletic (In)Ability.

Participant Demographics

A total of 14 participants were interviewed and provided their self-described demographic information, including a variety of gender identities and sexual orientations (see Appendix G). The participants' self-described gender identities are reflected in the written findings. Participants' ages ranged from 22 to 42 years, with a mean age of 28.8 years. The most common self-described racial and/or ethnic identity of the participants was white (n = 10), with one person also describing himself as Jewish. Other self-described racial and/or ethnic identities included Vietnamese (n = 1), Scandinavian (n = 1), African American/Black and white (n =1), with another person describing their racial and/or ethnic identity as complicated. Of the 14 participants, the majority were from the U.S. (n = 10), followed by Canada (n = 3), and the Netherlands (n = 1). All the participants previously played or were playing a variety of sports, with soccer (n = 7) and ice hockey (n = 4) being the two most common sports. Other sports included softball (n = 2), baseball (n = 2), volleyball (n = 2), swimming (n = 2), powerlifting (n = 1), Dance Dance Revolution (n =1), whitewater rafting (n =1), ultimate frisbee (n = 1), dodgeball (n =1), golf (n = 1), artistic roller skating (n =1), ice skating (n = 1), bouldering (n = 1), cycling (n = 1), and sledge hockey (n = 1). Additionally, participants competed at various levels of play, from recreational social leagues to elite-level sports (i.e., professional, Olympic).

Discrimination

Throughout the process of athletically transitioning, many participants described how their (a) fears of discrimination acted as a barrier to sport participation. Further, when they did participate, many participants reported actual discrimination in the form of having their identities (b) delegitimized.

Fears of Discrimination

Many participants were fearful of experiencing potential discrimination. This often stemmed from a concern for their safety. Alice (she/her), a woman who was competing in co-ed and women and nonbinary Dance Dance Revolution (DDR) tournaments, said that she would not participate in DDR tournaments anymore if she had to disclose her gender identity because of the potential repercussions:

> I mean, I don't think it's an actual safety concern, like, I don't think anyone would actually hurt me. But if I was to disclose that, then I would feel like... Okay, I would personally feel, like, a lot. I might lose some friends because I've met some people who would, would not be accepting of that, and, so far, because no one's questioned me just yet, I feel safe knowing that, and if I were to lose that safety, I would, I would probably not participate anymore.

Aaron (he/him), a trans man who was participating in men's soccer, recounted his decision to seek out an LGBTQ+ friendly team to join:

> I know that, like, men are dangerous and toxic, and so, if I can try to find men that are, at least, like, have something in common with me, I felt like I would be maybe more safe that way.

Alexis (she/they), a self-described female who was participating on a co-ed queer soccer team and in a co-ed queer dodgeball league, delayed coming out to her soccer team and participating with the women because she did not want to experience discrimination while being "clockable as trans." She discussed her concerns about her safety:

> I think that safety comes from a perspective of if somebody, like, if somebody is transphobic on the other team, do they, if they, like, clock me as transgender, are they going to be more physical playing with me? Will they do chip shots on me? Will they verbally abuse me? Will they, I don't know, do some sort of, like, violence after the game? I don't know. Like, there's the risk of all those things when it comes to a safety perspective.

Despite these concerns, Alexis had never experienced discrimination, and she attributed it to her ability to pass as a cisgender woman.

N (they/them), a nonbinary, human who was participating in mixed ice skating, bouldering, and cycling, similarly had not disclosed their identity to their ice skating group because of the potential repercussions:

> I haven't talked enough with people really who do it, but it is a bit more traditional environment. Like, also, you have these, like, massive beer parties and more of, uh, almost fraternity vibes. So, I would feel less comfortable, but that's also my own stereotypes placed on people because maybe they will be super accepting. But yeah. I'm the only person who has to deal with the consequence.

Alison (she/her), a self-described female ice hockey player, described her fears when she was trying out for a professional women's ice hockey team:

> I had, like, when I was doing that tryout, like, I was, definitely had to be very prepared for, I'm very aware of what happens in politics and the rhetoric both here and in the US. And I think at the time, I was like, I knew people like Tucker Carlson were going nuts about, like, trans athletes, and I was like, if I ever made pros, I have to be prepared to be plastered everywhere and demonized, and, like, this is scary thought.

Although he was interested in participating in high school baseball, Malcolm (he/him), a self-described male who previously participated in girls' ice hockey and boys' roller hockey, ultimately decided not to pursue baseball:

> I was worried about things, like, you know, how coaches would respond. I was worried about how, obviously, my classmates and teammates would respond, hypothetically. I wasn't necessarily worried about anything physically happening. It was more of, like, the comments I was afraid of, which, you know, probably shouldn't have been something I was, that altered my decision making, but I think in hindsight, it was just maybe the better option.

Charlie (they/he), a nonbinary former softball and baseball player, was fearful of a different type of discrimination from their sporting community:

> I repressed, like, the Black side of me because, like, I didn't want to be called, "Oh, you're too hood. You're too ghetto. You're too trashy. You're too, you're too thug," or, like, whatever that would come in with, like, the Black demographic back in the day.

For many participants, their fears of potential discrimination stemmed from a concern for their safety, so they chose not to disclose or chose to delay disclosing their gender identity in sporting environments. One participant ultimately decided to stop sport participation because of his fears of potential discrimination, while another participant was fearful of racial discrimination.

Delegitimized

Many of the participants experienced discrimination by having their transgender identities delegitimized and invalidated. For some participants, their identities were delegitimized when they were misgendered by others. Lukas (he/him), a trans man who formerly competed on an NCAA Division III men's volleyball team, told a story about how he and a friend from the women's team were having fun at a spring practice where the men's and women's teams were practicing together, and his coach "looks at both of us and goes, 'Girls, stop!' And I went, 'Oh!'" He argued that this coach "saw me not as a men's player, but as a women's player filling in."

Glenn (he/they), a nonbinary, transmasculine, former whitewater rafting athlete, recounted how he was constantly misgendered despite passing as a man and using only he/him pronouns in the women's and men's rafting communities. They described how being misgendered hurt his chances when they were attempting to try out for the U.S. women's and men's Olympic rafting teams:

> I would say, kind of another challenge in it is that people that then would have to advocate for me in those spaces could not gender me correctly. So, if I had a supervisor that was sponsoring me or kind of approving my application or going through as a referral or whatever, even if they are an ally to me, right? Even if they, like, wanted to see me do well and wanted to see me succeed, if they're on the phone with a gender division, and they're talking about my work, and they can't use a set of pronouns, and they just keep switching between, he, they, it, and she, like, I'm fucked, you know?

Glenn also explained that he tried not to disclose his gender identity if possible because they worked in commercial whitewater rafting and knew that disclosing his identity could affect his job security.

Interestingly, two participants described how they were misgendered by LGBTQ+ people. Victoria (she/her), a self-described female softball player and former artistic roller skater, discussed her experience of being misgendered when playing in a non-LGBTQ+ mixed softball league:

> My first ever game in my social fall ball league, I had the other team that was, like, an all-Pride team, which was really weird to me, that, like, openly, like, was misgendering me to the point where my coach almost reported her to, like, the entire organization. But I was like, don't do that. So, that hurt a little bit.

Sammy (they/them), a trans multi-sport athlete who was competing in strength sports, explained that they were misgendered while previously participating in gay co-ed kickball, but they let it happen because they wanted to continue participating. They further elaborated by saying:

> Gay communities are not necessarily trans-inclusive. Especially, you know, at the time I hadn't had top surgery yet. So, to all of our siblings, who, right, for whatever reason, look the way that people don't expect them to look, gay spaces are not necessarily safe spaces.

Other participants had their identities delegitimized in ways that often reinforced a biological and gender essentialist notion of sex and gender. A few participants had been told that they do not belong to a gender category in sport because of their gender identity. Wren (they/them), a trans, transmasc, genderqueer soccer and ice hockey athlete, was competing in women's leagues, some of which were inclusive of transgender people and others that were not. They said, "I definitely

got told multiple times on a soccer field, like, while shaking hands that, like, I shouldn't be there by, like, opposing players."

When discussing sport organizations' policies regarding transgender participation, Jed (he/him), a trans male former co-ed ultimate frisbee player, argued:

> But they also don't really care about me competing in a sport because they don't think I could ever compete at a level with cis men in the same sport at the same level as a trans woman outcompeting every cisgender female athlete they're competing with.

After coming out to her artistic roller skating community, people who had been supportive of Victoria still delegitimized her identity:

> Like, they almost wanted to dictate, like, the clothes I wore to practice to coach. They were like, "Can you wear one of your old shirts?" Instead of, like, one of the, like, athletic shirts that I now have, that I'm like, oh, maybe fit my body a little bit more that it's been, like, growing. And "Can you wear like a coat over it, so that, like, any sort of body changes aren't so visible? Can you maybe, at this point, like, keep it low on makeup?" And I'm like, I'm just gonna put on my softball makeup because that's what I put on before, like that's what I'm gonna put on now, which is probably less than what I have on right now. But, and then they were like, "Oh, also, like, what kind of pants are you gonna bring?" And it was like, "Don't be, don't do, like, colored leggings. Like, they should just be black leggings because that's what people know."

For Victoria, wearing makeup provided her comfort in the softball setting, something that was policed by her artistic roller skating community.

Another participant experienced an ableist form of delegitimizing their gender identity. Ryder (they/he), a transmasc, nonbinary sledge hockey (i.e., para ice hockey) athlete on a mixed

team, explained that “a lot of people assume if you're disabled, you can't be trans too. I don't know why they think that, but this is what they think. And I'm like, ‘No. Hi. Like, I exist.’” Many participants experienced actual discrimination when others delegitimized their transgender identities by misgendering them and reinforcing an essentialist notion of sex and gender. One participant interestingly was delegitimized at the intersection of transphobic oppression and ableism.

Policies

Every participant discussed the impact that sport organizations’ policies had on their ability to athletically transition, which included (a) completing administrative tasks, (b) restricting participation, and (c) enabling participation.

Completing Administrative Tasks

Some participants discussed spending a lot of time and energy learning about sport organizations’ policies and contacting sport organizations to be able to athletically transition. A few of the participants conducted research to determine what teams they could join and the steps they needed to take to athletically transition. For example, Aaron said that he “Google searched, like, LGBT-friendly soccer team and that's how I found the team that I'm playing on right now.” Sammy described the steps they took to be able to compete in the men’s category in a Strongman event:

> Yeah, so it's, it's a lot of, like, just admin-, boring administrative work, sending emails, right? Making the case. In the case of the Strongman one, close reading their policies, sending an email to the race organizer, and then following up four times because I hadn't heard back from her. And, and having to do this thing or, or choosing, let me be more agential about it, choosing to do this thing that's like, “Hi, I haven't heard from you, just

following up on this email," in a way that feels, like, really demoralizing, right? "Just here, begging to be included, just let me know."

Sammy also discussed how these administrative tasks give "bad gender feels" because they need to disclose their gender identity and private health information, like their hormone usage.

Alexis explained the steps she took before deciding to come out to her team, starting with contacting the owner of her soccer club:

> So, like, when I originally, like, was thinking about coming out and changing sides, like, I talked to [redacted name] first because I know that [redacted name] had, he has contacts in, in the club, and he's been running the club for, like, a long time. And so, I asked him, first of all, just, like, if there's any other trans people who have come out while playing and if I could, like, get in contact with them, and he sent me in contact with another trans woman who had transitioned while playing in the [redacted name] club before, and, like, I talked to her a little bit and kind of got her experience and how she felt.

Ryder similarly had to go through multiple administrative tasks to athletically transition. On their previous sledge hockey team, Ryder explained that athletically transitioning required "getting my gender marker changed. And, like, getting my name changed because they wouldn't respect my pronouns with the, what they call, [start air quotes] female name [end air quotes]." They further elaborated that the team manager was in charge of this process, but it was challenging to get the team manager to do it:

> Like, from one side of it, it's not always a bad reason that they want, they don't want to do it. I think it's more of just because of how much work it takes. Like, it takes a lot of work.

Ryder argued that this process is important because it is "one of those things where it's like, it shouldn't matter how much work it takes because at the end of the day, you're, like, validating

somebody's identity by doing it." Overall, some of the participants reported that the process of athletically transitioning required the completion of administrative tasks, like researching sport organizations' policies and contacting members of sport organizations for assistance.

Restricting Participation

Many of the participants experienced restrictions on their participation. Glenn explained that he was not allowed to try out for the men's Olympic whitewater rafting team because he disclosed his gender identity, and there was no policy regarding transgender participation. They further described the challenges surrounding policies regarding transgender participation:

> We see this happen in sport often, but like, it's kind of two things. It's, like, the trans, your transness then makes you an exception to the rule. These rules that protect other people, these rules that keep other people safe. These rules that we hold other people, like, and standards that we hold other people to. They don't actually apply to you. You don't have those, like, you don't meet the requirements, even though you do meet all the requirements, just because you're trans, right? And then there's kind of the other side of it, which is, like, if we don't have a specific policy for you, then, like, there's nothing we can do, right? And so that's, like, frustrating. Because then suddenly, you aren't allowed to be included in kind of the generalized policy, and then you're also not allowed to be included unless there's a specialized policy, when, in fact, you should just be included. You know what I mean? Like, regardless of the presence of either of those things, right?

However, Glenn also struggled when they chose not to disclose their gender identity: "I felt very guilty if I entered a competition and didn't disclose because I've been made to feel like being trans is not fair, and so that they should like know."

Victoria, meanwhile, stopped competing in artistic roller skating when she decided to begin GAHT because she looked up the rules for transgender participation:

> I looked up a bunch of the rules, and they were like, “If you want to switch gender categories, it's a two-year waiting period and then to, like, test the right levels or whatnot.” Like, I think your hormone levels for that. And I was like, okay, I could probably get away with it, since I'm just, like, in, doing adults and not, like, the hardcore competitive world class stuff like I used to. I could have been like, oh, I could get away with it and compete as, like, a man at that point. But at the point I committed, like, I couldn't mentally do that, even if I wasn't fully out yet, like, I knew where I was going.

Charlie had a unique experience in that they were barred from playing baseball before coming out as nonbinary:

> I tried to, like, play baseball in high school, but, you know, this was back in like 2011 to 2015, with, like, my school year, and they wouldn't allow [start air quotes] females [end air quotes] to play on, like, the baseball team. So, I, I basically, like, stopped at, like, the end of, like, my 8th grade. And then, like, that was it.

Although Wren and N are allowed to participate in their respective sports, they have both experienced other policy challenges. Wren described the challenges they experienced in an indoor soccer league:

> I was, like, allowed to be in the space, like, I was allowed to play. But yeah, just, like, you know, being targeted in games and, like, only our team being told that we, like, had to use the change rooms to change because I, like, took my shirt off to put a jersey on and, like, people complained. And then, like, only our team gets an email that says, “You

know, just a reminder because of the rules that you signed, you have to use the change room." But then, like, no other team ever got an email saying that they have to use them.

N explained their partial challenge with participating in ice skating in the Netherlands:

> So, in the ice skating association, they gave me the sign-up form with two gender categories, and I just made myself a new one. But then that does mean I'm not able to participate in any of their tournament or matches, which I'm kind of fine with. Like, I'm very beginner anyway, and their, their practice groups are mixed anyway as well.

In general, many participants found that sport organizations' policies restricted their ability to athletically transition and created challenges in their ongoing participation.

Enabling Participation

Most of the participants were participating on teams or in leagues with inclusive policies regarding transgender participation or with policies that did not affect their ability to participate. Alice explained the rules for competing in DDR tournaments:

> I don't think there's, like, actual rules in place to, like, double check, you know, oh, you have to show your ID to show you're female before you can play. So, for the, for the most part, I think they do just allow self-identification to, to be able to participate in.

Interestingly, Alison experienced inclusive policies in ice hockey at the professional level and did not need to have her testosterone levels regulated:

> They had a policy written within their, like, rules, regulations, or mission statement, or whatever it was, but it, it was very inclusive. It kind of said, like, basically, as long as your identity is female or, like, as long as you're not, you're not, like, male, like, from an identity perspective, like, how you identify, that they, like, you were accept-, accepted and, like, encouraged.

Because Jed was not on testosterone when competing in ultimate frisbee, he did not experience any challenges with competing:

> And in the rules and regulations of ultimate frisbee, it's actually very open about how you identify, allowing trans people to play within the league. There are certain points of, yes, still having to pass if you're playing in a level that is being tested for, you know, performance-enhancing drugs in any way, you do have to submit stuff.

Both Malcolm and Lukas were not affected by policies because their gender on legal documents was listed on female. For example, Malcolm said, “Fortunately, there wasn't many regulations on the male side as far as my participation at that point because I was still going as female at the time.” Despite identifying as a trans man and being on testosterone, Lukas did not have his participation in men’s volleyball in the NCAA regulated:

> I was technically, legally a woman competing in a man's category. And yet, because of that, I faced literally no roadblocks. I thought I was going to have to have my testosterone monitored. I thought that I was going to have to change my gender. I thought that I was going to be forced back onto a woman's team. Like, there's all of these things that I was afraid of.

Overall, some of the participants were involved with sport organizations that enabled their participation by having inclusive policies regarding transgender participation, while others were not affected by policies because they were not using gender-affirming hormones or did not have their gender legally changed, thus allowing them to compete in boys’ and men’s sports.

Social Connection

Throughout the athletic transition process, all the participants discussed their experiences of social connection, which included moments of (a) exclusion and (b) inclusion.

Exclusion

Most of the participants described experiences of feeling excluded from the social dynamic of their teams. Malcolm provided an interesting perspective on his feelings of exclusion because he was participating in girls' ice hockey and boys' roller hockey simultaneously in middle school. Although he was not out as transgender when participating, he was presenting as male, so he felt "this general sense of not fitting in and being viewed as an anomaly in some sense." He remembered feeling uncomfortable in girls' ice hockey, but in boys' roller hockey, he said, "I think the one thing that sticks out to me the most was kind of a general disregard for me. Like, I was, I was definitely not integrated on the team. Like, I was, it felt almost like charity." Ultimately, Malcolm stopped playing sports, explaining that he prioritized his "self-identity, and I didn't feel like I could really accomplish that through sport."

Glenn described his feelings of upset and grief surrounding his challenges with competing in whitewater rafting:

> It was like, this was my community, and it did not matter how hard I worked or how good or bad I was or how many hours I was on the clock or how many miles I had paddled or how many broken ribs I incurred, or whatever, like. I was never going to be fully included.

Wren, meanwhile, was considering athletically transitioning to men's ice hockey, but they explained why they had not transitioned yet:

> I don't know what the space is really like. Like, you know, I use the men's washroom now. The gym, like, occasionally I'll use the men's room, the men's change room. Like, I'll kind of switch back and forth between using the men's one or, like, the gender neutral one. But yeah, there's just, like, a whole culture, and, like, yeah, codes, and, you know,

> unwritten rules that I, I feel like I don't know. And, like, sure, I, I have, like, some people that I could, like, ask but not a ton, and so I feel like not knowing what that's like holds me back. Not knowing, like, you know, would I pass in that space? I don't know. Do I wanna pass in that? Like, I don't, like, I don't know.

Although Charlie felt socially included with their teammates, they struggled with feeling socially excluded by the parents of their teammates. While playing boys' baseball, Charlie was not out as nonbinary, so he would hear parents make "snide comments like, 'Oh, why is a girl playing on, like, the Little League team? Why's the girl playing baseball? Like, she's, like, she's just gonna, just, like, distract the boys and stuff.'" He also felt excluded as the only Black kid on his baseball and softball teams. The parents would all stare at Charlie and his family when they arrived at baseball games because Charlie and his sisters were adopted by their white mom and dad. They explained, "I repressed, like, my Black side because, like, I wanted to fit in with, like, my white friends, with, like, my white teammates and stuff."

Lukas gave an interesting perspective about how his masculinity and Jewishness impacted his social inclusion on the men's volleyball team:

> I think that my Jewishness in, in, helped kind of with my own acceptance of my masculinity and of something that was a little bit left of center in a lot of ways. Like, I know that I will never want to be, like, a cis, you know, Christian guy, like, straight guy, like. And I think that being in a community that is a little bit more queer in terms of flipping the gender binary on its head as tradition...I think that that really played into an acceptance of myself as not being like my teammates or not being exactly... Like, I knew that going into this, that I was going to be the black sheep, not just because I was trans, but because I was also, my, like, I was not striving for the same ideal of masculinity.

Aaron also felt socially excluded for reasons other than just his gender identity before he came out as a trans man and was still participating in girls' soccer and golf. He explained, "I always kind of felt like an outsider. Not just because, I mean, I didn't really feel like a girl, but also because I'm autistic. So, that also kind of others me a lot." Because he is autistic, Aaron said, "I feel like it mostly just, like, affects my ability to, like, connect with other people, like, socially." Some of the participants felt socially excluded from their teams because they felt like they did not fit in and were not accepted; however, one participant was considering athletically transitioning but had not yet done so because they were concerned about feeling socially excluded. For one participant, their feelings of social exclusion were tied to their gender and race, while another participant described how his feelings of social exclusion were tied to both his gender and autism.

Inclusion

Many participants also described experiences of feeling included in sports. Jed explained how his ultimate frisbee teammates were accepting of him, and even though he was not on testosterone and occasionally lined up as one of the two "females" on the field, "it was still so cool that, like, I was, like, I'm just one of the guys out here playing this sport."

Alice recounted a story from a previous tournament about the camaraderie and friendship that she built with another competitor prior to competing against each other:

> I didn't know that I was going to be competing against her. But because we got to build that bond before I even participated, when the time, we go up together, it was just fun. Like we were just, oh, yeah, good job, you know, like we, we fist bumped each other. We talked to each other, and it didn't matter what the result was. She actually beat me still, to be clear. But we were just having fun, and we connected on social media afterwards, and

now I'm going to see her, actually, in two weeks. I'm flying off for another tournament, and I'm going to be seeing her again. But it'll be fun.

Despite Aaron's feelings of social exclusion, he also felt socially included on his LGBTQ+ friendly men's soccer team:

> But to be honest, like, when I'm playing soccer, I feel like that's when I can connect to other people the most, so it's been very nice in, in that regard. When I play soccer with other people, like, I don't know, it just, it feels like we can all get on the same page to, like, go towards a similar goal.

Victoria explained the changes she noticed in terms of social inclusion since coming out and competing as a woman in softball:

> I think also just generally, people are a lot nicer. Like, the expectations are lower, but also, like, people just come up to me, and they're more than happy to talk to me, and they're, like they're asking me how I did something or tell me that, like, they're so impressed, or, like, good job, or, like, say good game. Like, sportsmanship has gone up substantially in softball from at least what it was in my baseball, which I have, like, as a reference. Um, but I think that's just true of anything though. Like, even outside of sports, I feel like people just talk to me more than I used to be, than I used, than they used to.

Multiple participants discussed the importance of LGBTQ+ friendly spaces and teams that are specifically for transgender people. For example, Alexis was competing in a co-ed social dodgeball league for LGBTQ+ people:

> I don't really think about, like, the idea of, like, passing in this environment or the idea of, like, toning down my level of play or, like, sitting out because everyone is queer. Everyone has so many different identities. And I don't really have to, like, think about

> that because it's a, it's, like, a known safe space and, like, I also really enjoy that, like, since it's a social league, like, I feel like my queer community, and we go out and get drinks and, like, hang out after. And having that community is very, very, like, uplifting in importance because I don't even have to think about safety as a trans player.

Both Alison and Ryder discussed their experiences with competing on teams that only have transgender participants. Alison described her experience with an all-transgender ice hockey team:

> I've played in, like, [redacted city]. We did one this past summer, and then we had one in [redacted city] here. So, some members local to [redacted city], like, we were invited to help do, like, the flag ceremony at the start of the game and everything. And so, I was part of that, and it was really cool to, like, be on the ice and, like, lots of players come out and everything. I'm in my [redacted name] jersey and knowing in my head at the time, I'm like, internally I'm like, next time I step on this ice, like, I want to be wearing that logo, like. That's, that's what I told myself. And funny enough, I actually ended up keeping that promise.

Ryder explained how they became involved with an all-transgender sledge hockey team:

> Yeah, so [redacted name], they had always had stand-up teams, but then they didn't have any para ice hockey teams. And then one of the people on the board actually is, played on [redacted name], like, quite a few times. And they were like, “Let's build a para hockey team to go play once” because it's mostly, like, a drop-in tournament kind of team. So, they're like, “Why don't we have [redacted name] do, like, a para hockey thing of it?” So, we did. We got a bunch of able-bodied players to come play, and I think it was just me

> and another person that was disabled. We actually have the same condition, which is really cool.

Both Sammy and N described moments of social inclusion during which they also felt uncomfortable. Sammy detailed their experience of competing in the men's category at a Strongman event:

> And yeah, everyone was really friendly, and, and it feels like, uh, I don't have a sense of, like, what gender I look like to people outside of the queer and trans community. Like, you know? And so it, like, felt, also felt really weird, right? Where it's like, are they being nice to me because they think I belong, or because they know I don't or like...?

They elaborated:

> I expected people to be, like, super assholes, and they were really friendly, and at that meet was law enforcement, military, conservative, rural folks. And then I think part of it, too, was it because everyone was so nice? I think, like, I expected to feel comfortable and relieved. Right? But I was still kind of uneasy.

N described their experience of competing in a cycling race that starts in Canada and ends in the U.S., which takes participants weeks or months to complete. It is a self-supported race during which competitors can accept help from locals along the route:

> For me, it was also a lot about meeting the people. Like, because I was traveling so slowly, I had a lot of time to talk to people I met along the way, and I met a lot of very inspiring, cool people, but it could also be awkward. Like, sometimes I would, like, have to ask for water because I was in some suburb, and I did not see the end of it. Then, you come to, like, some super conservative Christian family, and, like, "Hi, I'm [redacted name]," and they're like, "This is a really strange name that ends on a [redacted letter].

> We're gonna ignore this and give you water and food and a place to sleep." And it's like, people are so nice, but it was really hard to get over that judgment of me too, of, like, daring to trust these people.

Ultimately, many participants felt socially included on their teams and in their leagues, with multiple participants specifically discussing the importance of LGBTQ+ friendly spaces and all-transgender teams. Despite feeling socially included in sporting spaces, two participants highlighted their feelings of discomfort.

Importance of Support

Every participant spoke about their support system throughout the athletic transition process. For some, this support came from their partners/spouses. Alice found support from her husband and explained:

> He just wants me to be happy, and there are times when I have self-doubt, and I have to vent to him somehow, and if I don't, I won't, don't participate, and you know, it would make you unhappy. But I will say in general, like, he, he will support me regardless. So, if I want to participate, and I think it's good for me, then he'll, he will, he will do it.

Sammy found their wife as a source of emotional support when discussing complex topics surrounding sport participation and fairness. Additionally, their wife was a competitive weightlifter and weightlifting coach, so she was a source of support for Sammy in training for powerlifting competitions because they have "a really good coach at home to help me get stronger."

Aaron discussed the support he received from his partner who encouraged him to join an LGBTQ+ friendly men's soccer team:

> I would say my partner helped me a lot because he encouraged me to show up in the first place. I don't know if I would have without that support, to be honest, because I am just hesitant to interact with people in general. So, he was a big help.

When N was living in the U.S., they similarly received support from a past partner, as well as their roommate:

> So, for bouldering, my partner at the time was really into bouldering, so that's how I started as well. And he was quite supportive. Like, also, because I wasn't able to go to many of these places myself, so had to drive around, and then later borrow his car to be able to access the actual bouldering gym. And my housemate also joined in support of me.

Wren found their partner to be an important part of their support system because "having a partner who has, like, very similar experiences is also very, very helpful. Someone to, like, talk to about it and, like, you know, gets it is, like, really, really helpful too."

Other participants discussed how they have received support from their parents. Victoria, for example, found support from her mom who had "been ultra supportive, and we've been talking a lot more since, like, I came out to her." Although Charlie was not out as nonbinary when he was interested in joining a Little League baseball team, their parents fought for him to join the team. Charlie explained that "my mom and my dad both were all like, 'Just let her, like, like, just let them, like just let them play. Like, gender shouldn't matter about whether or not you can, like, hit a baseball.'" Their parents were also supportive of him when Charlie came out as nonbinary.

Alison recounted a story from when she was invited to a prospect camp for a professional women's ice hockey team but received an email a week prior to the camp saying that she was

ineligible. When explaining how difficult this situation was, Alison described the importance of her dad's support in the moment:

> I was actually luckily at my sister's place, and my parents were in town actually. And I'm actually really happy that, cause my dad, he, like, my parents are really supportive. And my dad was, he's, he's, like, practically my biggest fan towards this stuff. And he was, he was angry, and I remember, like, it, it was actually a very, like, sweet moment because I kind of felt like a little, like, like a teenager a little bit at the time. I was just like, like a girl, like, chasing her dreams, and here's my dad, like, being like, "How, like, how dare these people upset my daughter," and, and whatnot.

A few participants were supported by their friends during the athletic transition process. Glenn found support from friends when he attempted to transition to men's whitewater rafting:

> They were very sweet to me and, like, being, like, excited for my wins and sad for my losses with me and kind of holding a level of empathy for me, and whether that was actually helpful towards me moving through that process, or it was just helpful for me, as a person that desperately needed, like, friendship and camaraderie and desperately wanted to be accepted and seen by my community, those little pieces that I did have, like, man, really kept me going.

After being rejected from trying out for the men's Olympic team, they still showed up to the men's tryout and raced, despite not being allowed to:

> I would not have even attempted to, like, do anything with the men's division, much less, like, show up to the event and actually try to compete, even though I'm not, like, allowed to, like, put my boat on the water. I think that's such a brazen thing to do. And, like, I was encouraged by other people that were like, "Yo, fuck that, like you should go anyway,

> dog," and I was just like, "Fucking right, man," and I did, and, like, I, I proved something to myself in doing that. But, like, I don't know if I would have done that if it weren't for, like, kind of my, like, the, you know, it certainly came from a place of, like, being egged on, but it was like, you know, the, the motivation, the support, right? Was certainly, like, the biggest help…

Malcolm also explained, "I got into the programs through friends, and I was friends with all boys at that point. So, it was kind of just the way of starting out in boys' hockey."

In addition to family and friends, multiple participants were supported by their teammates throughout the process of athletically transitioning. Jed discussed his experience with returning to his undergraduate university to participate in alumni ultimate frisbee games:

> They, they were really great cause when I came out, they respected that. They used my pronouns when I was still in college, but with the alumni games, it was, I was like, hey, I'm part of the five. I am part of the five guys lining up. You gotta find other girls on the team to line up on the line, and they, they supported that. And even, there were times, you know, when I still was newly on testosterone, not passing as well, and they, they would stand up for me, be like, no, no, no, he's one of the guys. Because they'd kind of be like, the other team would be counting down the line, and some of them aren't from our school, they're from other colleges or just people in the community who are coming out. They don't know who I am, so some of my teammates, like, I requested to be with them, and they stood up, and they're like, no, no, he's with us. He's one of the five. Here's our two. Or, you know, we're going six, one, actually, this time. So, they were just, you know, great allies and saying, like, all right, you're one of the five, like, here we go.

Alexis was supported by her teammates as soon as she came out to her soccer team:

> So, when I came out to my team, my team was all very supportive, obviously, and it wasn't that hard of a transition, I'd say. It was, everyone, like, immediately, like, I, I think I literally came up to my team at halftime of the game because I don't know. I just, like, felt it was the right time, and they all, like, were very supportive, like, I think they literally, like, clapped for me. And then, I think, literally, like, during the second half, I started playing on the women's side, just like that.

Wren, meanwhile, discussed the importance of their teammates who had done the work to support them:

> I definitely have, like, a number of teammates, like, specifically, like, soccer, and one of them plays on my hockey team too, who, yeah, like, do the learning, like, you know, put pronouns on the back of their jerseys and asked if I wanted them on mine. You know, ask, like, continue to check in and ask, like, you know, "Can I do anything, like, when, if an incident happens?" Like, check in, like, you know, "Do you want me to write to the collective? Do you want me to write to the board?" Like, so just having, like, one or two people in my corner is awesome.

The last source of support for many of the participants was from coaches and other sport managers. Ryder received support from their sledge hockey coach, as well as their swimming coach. When they were experiencing discrimination on their former sledge hockey team, Ryder said, "My coach literally stuck up for me and everything, and he went to, like, the head people of, of hockey in our area and was like, 'Hey, this is what's going on.'" When Ryder participated in swimming, their "coach literally asked me what gender category I wanted to be in." Ryder elaborated, "And the thing is, like, each competition, he didn't assume that I wanted to be in the

same category each swim meet that we had. He, like, literally would ask me before every swim meet."

Charlie also had the support of the high school head baseball coach when they wanted to participate:

> And surprisingly, like, the, like, the head baseball coach for my whole high school tried to vouch for me to, like, the principal to try, but she was all like, "Not gonna hear it, won't see it. No, that's not gonna happen."

Lukas said that he felt supported by his former collegiate volleyball coach because he "a hundred percent believes in me." Additionally, he received support from the athletic director (AD) at his college when the NCAA released the 2022 guidelines regarding transgender athlete participation:

> When the ruling first came out, my AD came up to me and was like, "Look, like, we're gonna fight for you to be on this team, no matter what. Like, you know, we, you have, like, you know, we've done this. Like, we've, we've had trans athletes before. Like, we've done this," whatever. I was very much supported in terms of, like, you know, and part of me was like, I, Lukas, wasn't supported, but I, transgender athlete, was supported…

Similarly, when Alexis came out to the owner of her soccer club, he offered her support:

> And he, he's always been supportive of me in terms of asking, like, what gender I want to play as. Like, as soon as I, like, told him I was, like, trans and, like, transitioning, like, he was immediately, like, very, very supportive and very, very open to, like, me changing gender sides as long as, like, I felt comfortable with it and, like, reaching me out to other people to, to make sure I was, I had the resources that I needed.

Overall, every participant received support from their partners/spouses, parents, friends, teammates, coaches, and other sport managers throughout the athletic transition process.

Athletic (In)Ability

Most of the participants (n =10) discussed the impact that their athletic (in)ability had throughout the process of athletically transitioning. For some, their athletic (in)ability served as a (a) barrier, and for others, it served as a (b) facilitator.

Barrier

For many participants, their athletic (in)ability was a barrier for their participation during the athletic transition process. Alice said she was not winning when competing in DDR tournaments, but she explained her struggles with competing in the women's category:

> But now, playing on the women's team in DDR, I still have some, like, negative feeling about it, like, sometimes I feel like I'm not supposed to be here. And even if I'm, even if I'm not, like, tall, even though I'm not winning, I still feel like, well, yeah, you know. It just means I'm just bad at this, and even if I work hard and I still don't win, then it just means I don't have any skill to show for it because I already have the advantage from being born a boy and yet still losing anyway. So, I just suck at this game.

She went on further to say that she had limited her ability to compete well by not gaining muscle because "I just can't feel like I, I can do my best. I cannot put my best foot into the sport if I'll fear that I can't participate anymore."

Glenn discussed the struggles that he faced as a transgender athlete competing in both women's and men's whitewater rafting:

> I think that, yeah, it's really hard as a trans athlete to not be allowed to train, to be able to dominate in a territory because we are afraid of trans dominance in sport. I think that, like, not being allowed to, to raft at, like, my full potential, to be able to train at my full potential, or compete that way because I'm afraid of being kicked out of a space that I feel

> safe in is, like, sad. And like, once that happened, it was like the opposite as well, right? And being like, well, now, I have to train three times as hard, and I have to do things almost unsafe just to even be considered part of the group.

Wren similarly faced challenges with competing in ice hockey and soccer because they did not feel like they could compete to their full ability:

> Yeah, I think, like, hon-, like, the biggest challenge, I feel like is I think, like, people, again, like, equating, like, my, like, ability to my transness. Like, they're kind of like, almost, like, policing, like, you know, "Tone it down. You're being too rough." Like, and then, like, not feeling like I can play, like, to my, like, capacity or, like, my ability because I have to tone it down.

They even received an email from their ice hockey collective about their participation:

> Like, even when I signed up this year, like the email I got back from, like, the collective was like, "Just a reminder, this is a rec league, if you could tone it down." I'm like, you're not telling, like, the other people to tone it down.

Alison and Lukas both faced challenges with their athletic (in)ability. Alison explained that she came from a different pipeline than the cisgender women ice hockey players because she did not compete in ice hockey in college. Rather, she competed in men's long track speed skating, so she did not have the "privilege of training at that level in the previous two years. I was doing everything on my own, trying to just, like, crack through a barrier." She elaborated:

> But that is something that I think is very unique to, like, trans' experiences of, like, we have so many potholes in our journey through sports that, like, if they, if people are not given the opportunities that they're gonna develop in a different way, in a non-typical

way, uh, atypical way. So, it's easy to look past them, I think, because, like, why are we gonna take a chance on that skater? Like, she plays funny or something like that.

Lukas recounted a story from his senior year of college when he was moved from his starting position in volleyball because there was another player who took the position. Lukas was upset about this happening and had a realization:

> It was more like, wow, by not being able to participate in this game or in men's sports for a long enough time, I missed out on some really important coaching that I think would have made me a better player now. Again, because I also didn't play sports for, like, three years of my life and for, like, the three very formative years of my life, you know, leading into college. So, yeah, I was, I was definitely at a disadvantage.

Victoria shared her experience with being a highly valued and sought after softball player who received praise, but she found the praise jarring. She explained:

> And as much as I hate to admit it, like, I feel like there might be, I don't know if it's, it's probably unfounded guilt, but, like, early in it where it's like, am I, am I, like, do I have some crazy advantage? Like, even if I don't think I do, like, I'm just like, oh. That, like, blatant, like, stuff you heard from so long when it became there, like, it is something that, like, I had to fight on with my therapist where I'm like, it feels, like, am I lying about this, like, not identifying as a trans woman? Like, that's why. Like, like, all that, it's almost, like, a very guilty feeling in a weird way. Even if I don't feel like I should be guilty about it, since I've been doing, like, my best to only ever participate in things that, like, I fit the guidelines for and could defend myself, like. Even with that, I think just getting the praise feels like, oh, do I have to? Am I, like, having some sort of thing? Like, that, I don't love that I have those thoughts, but I think they're, I would be lying if I said they weren't very

> real at times. I wish I could say I didn't have it, and that, like, you get it out, but you think you hear it enough that, like, it seeps in just a little bit, even if you try not to.

For some participants, they felt like, as transgender sport participants, they could not compete to their full capacity because they feared being kicked out of sport. One participant was even reprimanded by their sport organization for their level of play. Another participant received praise for her athletic ability, but she felt guilty because the praise made her wonder if she had a potential advantage. Two other participants argued that their athletic (in)ability served as a barrier after athletically transitioning because they did not receive the same type of training as their cisgender counterparts.

Facilitator

Some of the participants found their athletic (in)ability to be a facilitator of the athletic transition process. Malcolm explained that "with a sport like hockey, it's a very masculine, very aggressive sport, inherently, which really attracted me as someone who was kind of going from one end to the other." He further went on to describe how he played positions in hockey that are stereotypically masculine, something that was alluring to him as a male:

> Like, I was always in those defensive roles, like, just more of that, what you would expect more of a masculine role to be, and I really performed well in defensive roles, too. Like, if I played hockey today, I would still maintain my defensive position.

For Jed, he enjoyed the competitive nature of co-ed ultimate frisbee because it "allows for more diversity just in the play and seeing who, who's putting in the work and who, who's maybe not having the best game day." He went on to say that he would have thoughts about wanting to be taller, faster, and stronger:

> But it was out of, again, my competitive spirit of, I wanna play more. I wanna be better at this. So, not so much as a gender comparison, just, like, this is how I identify, so these are the athletes I'm comparing myself to. How can I hit that? How can I be better? How can I be more like the best player out there on the field?

Alexis explained that sports are one of her favorite hobbies and felt like competing in sports as an adult has been easier for her:

> I think I'm in a fortunate standpoint that I grew up playing a lot of competitive sports, and so I feel very comfortable going and playing in those sports because I, at least for soccer, like, I'm just a generally pretty athletic person, and I can kind of, like, hop into any sport and do well.

For Charlie, they loved playing baseball because he had the skillset to perform well, leading to their coach's acceptance of him on the team, regardless of gender:

> Like, I was one of, like, the best sluggers and the best, like, outfielders they ever had because, like, not only was, because I was, again, like, in middle school, I did track, and, and I did, and I did sprints. So, I was a sprinter. So, I did, like, the four by one and, like, the 400-meter and, like, the 400-meter and the 100-meter dash and stuff. So, I was, like, a sprinter, and I could, and I could bat and bunt both left and right. So, I was a valuable asset to, I think, the team and, like, and my coach didn't even care, like, what I went by or anything like that. I was one of, like, the most, like, valuable players on, like, the team and stuff.

Despite recognizing that he lost his starting position because of having an athletic disadvantage, looking back, Lukas saw the benefit of that experience:

> I mean, and in many ways, it sucked, but looking back on it now, I was like, wow, I mean, that's what it's like to be an athlete, and that's empowering on its own. Like, you know, you have to fight for your spot, and you have to, like, if you can't get in one way, then you get in another way. So, instead of, you know, I was like, look, I don't have enough time in my career to become really good at fast reactions, but I can really make sure my serve receive is perfect, and my serving is phenomenal. And I did. And, and, you know, I was, I was, like, the best passer on the team, and I, like, was a good defensive player, and, like, you know, whatever.

Overall, some participants found that their athletic (in)ability helped them with the athletic transition process because it affirmed their gender identity, emphasized their skill regardless of gender, made the process easier, and empowered them as an athlete.

Chapter Summary

This chapter presented the participants' self-described demographic information and the five prominent themes regarding the experiences of adult transgender sport participants throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. These themes included: (a) Discrimination, (b) Policies, (c) Social Connection, (d) Importance of Support, and (e) Athletic (In)Ability. The next chapter discusses the findings in the context of previous literature, recommendations, limitations of the study, suggestions for future research, and final conclusions.

Chapter Five: Discussion and Conclusion

The purpose of this study was to utilize an intersectional transfeminist lens to understand the experiences of adult transgender sport participants throughout the process of athletically transitioning from one gender category (e.g., men's, women's, mixed) in sport to another. To do so, I utilized a basic qualitative research design and employed semi-structured interviews to collect data. Using thematic analysis to analyze the data, transgender sport participants' experiences of the athletic transition process centered around the following five themes: (a) Discrimination, (b) Policies, (c) Social Connection, (d) Importance of Support, and (e) Athletic (In)Ability. This chapter first includes a discussion of the findings in the context of previous literature, followed by a discussion of recommendations, limitations of the study, suggestions for future research, and final conclusions.

Discussion

The major themes regarding transgender sport participants' experiences of the athletic transition process included: (a) Discrimination, (b) Policies, (c) Social Connection, (d) Importance of Support, and (e) Athletic (In)Ability. Although the athletic transition process has not been widely studied (Klein et al., 2018, 2019), the findings from the current study largely align with what has been reported in previous research, while also contributing some novel findings.

Discrimination

In the literature, it is widely acknowledged that transgender sport participants fear the possibility of experiencing discrimination and are the targets of discriminatory behaviors (Afroozeh et al., 2023; Caudwell, 2014; DeChants et al., 2024; Jones et al., 2017a; Storr et al., 2022; Teti et al., 2020). Jones et al. (2017a) reported that a major barrier to participation for

transgender people is anxiety about how others will react. Many participants in the current study similarly expressed their fear of experiencing potential discrimination because of their gender identity. One participant specifically sought out an LGBTQ+ friendly men's soccer team because of fears surrounding heterosexual, cisgender men's toxic masculinity and the danger that some cisgender men pose. Previous literature also found that transgender men were not interested in joining a non-LGBTQ+ friendly men's team because of the fear surrounding heterosexual, cisgender men's homophobic and transphobic sporting culture (Caudwell, 2014). Another participant chose not to pursue high school baseball because he feared potential responses from his teammates and coaches. His decision to discontinue sport participation during the time of his gender-affirming transition process because he felt like he could not accomplish his self-identity aligns with previous literature that found that some transgender people stopped participating in PA and sports during their gender-affirming transition process (Caudwell, 2014; Elling-Machartzki, 2017; Hargie et al., 2017; Jones et al., 2017a; Klein et al., 2019; Travers & Deri, 2011; Zanin et al., 2023).

One interesting finding to note is that one of the participants in the current study, Charlie, expressed their fear of racial discrimination, leading them to ultimately repress their "Black side" and embraced their "white side." As a nonbinary person who experienced barriers to participating in baseball, he was socially excluded by the parents of his teammates for his sex, gender, and race. From an intersectional perspective, Charlie experienced oppression at the intersection of racism, sexism, and transphobia. However, their experiences are distinct from those of Fallon Fox, a former women's mixed martial arts competitor whose identities "as a mixed-race Black trans woman" (Fischer & McClearen, 2020, p. 153) subjected her to racist and transphobic beliefs that situated her as a danger to cisgender woman. Charlie's experiences are

also distinct from those of a trans, male figure skater who received support from the mothers of his teammates (Semerjian & Cohen, 2006). Semerjian and Cohen (2006) provided an explanation of this that best describes the intersectional nature of transphobic oppression and racism:

> It is interesting that in the White upper middle class world of figure skating there was safety, and the mother's felt they were protecting one of 'their own.' The ways that class and race function to provide protection to some individuals, and alienation to others, is an important facet of considering the lives of transgender individuals, which always occur within raced and classed contexts. (p. 39)

As the only "Black kid" on his "all-white" baseball and softball teams, Charlie's race alienated them, and he was ultimately not extended the same protection from their teammates' parents that was afforded to the trans, male figure skater in the research by Semerjian and Cohen (2006).

Many of the participants had their gender identities delegitimized, like one participant who was told they did not belong in a trans-inclusive women's league. This experience was previously reported by Afroozeh et al. (2023) who found that transgender men had their masculinity policed in women's sports. Caudwell (2014) similarly shared that a transgender man was also told that he should not be on a women's team. Some of the participants recounted stories of when they were misgendered in the sporting environment, a discriminatory act that delegitimizes transgender people's identity, which has been reported in previous literature (Elling-Machartzki, 2017; Herrick et al., 2020; Zanin et al., 2023). In the current study, two participants were misgendered by other LGBTQ+ people, an issue that was raised by Caudwell (2014) who found that a transgender man was concerned about how his gender would be perceived in an LGBTQ+ sporting environment. A transfeminist lens allows us to see that misgendering is an extension of gender essentialism, which is the view that gender is innate and

determined by sex (Serano, 2024). This delegitimizes transgender people's identities by reinforcing an essentialist notion that sex and gender should naturally align (Bettcher, 2007, 2014; Koyama, 2003; Serano, 2024). Serano (2024) argued that misgendering is rooted in *cissexual gender entitlement*, which is when cisgender people "consider themselves to be the ultimate arbiters of which people are allowed to call themselves women or men" (p. 166).

Another interesting finding to note is that one of the participants in the current study is a transmasc, nonbinary, disabled athlete whose identity was delegitimized by people who assumed that being disabled and being transgender are mutually exclusive. They explained that as a disabled athlete, they had less options of teams to choose from when they experienced discrimination because there was a limited amount of sledge hockey teams in their area. Like Charlie, Ryder's experience can also be analyzed from an intersectional perspective because they experienced oppression at the intersection of transphobia and ableism. However, the experiences of transgender disabled athletes have not been previously researched.

Policies

With respect to the Policies theme, an interesting finding from the current study that has not been reported in previous literature was that transgender sport participants discussed the time-intensive administrative tasks they needed to complete to athletically transition. One potential reason for this is that policies regarding transgender sport participation have been changed multiple times by major sport organizations, such as the IOC and NCAA, in recent years. Previous studies likely took place before the rapid change in policies since 2021. With recent efforts by the President of the U.S. to ban transgender women from sports and the NCAA immediately bowing to the whims of anti-trans conservative politicians in the U.S., transgender sport participants who want to athletically transition may be unable to do so.

For many participants, policies regarding transgender sport participation were restrictive because the policies enforced an essentialist view of sex and gender. For these participants, their restricted sport participation often stemmed from their inability to fit neatly into the gender binary in sport, which has previously been reported as a barrier to participation for transgender people (DeChants et al., 2024; Oliveira et al., 2023; Pereira-García et al., 2021). One participant stopped competing in artistic roller skating because she would have to compete in the men's category for two years while actively going through her gender-affirming transition. Caudwell (2014), Elling-Machartzki (2017), Hargie et al. (2017), Jones et al. (2017a), Klein et al. (2019), Travers and Deri (2011), and Zanin et al. (2023) similarly found that the athletic transition process is at odds with the gender-affirming transition process.

Despite the rampant uptick in exclusionary transgender sport participation policies, multiple participants in the current study were competing on teams and in leagues with trans-inclusive policies. Interestingly, one participant experienced challenges in leagues with trans-inclusive policies; however, they identify as trans, transmasc, and genderqueer. Travers and Deri (2011) found that trans-inclusive policies in lesbian softball leagues more positively favored transgender women, while transgender men were not supported in that space, which is something that the participant from the current study may have experienced.

Social Connection

The theme of Social Connection included moments of both exclusion and inclusion for participants. Most of the participants reported feeling socially excluded on their teams, a barrier that has kept others from participating "in sports because they felt uncomfortable around peer athletes" (DeChants et al., 2024, p. 65). One participant discussed feeling excluded by the parents of their baseball teammates when playing baseball prior to coming out as nonbinary. This

experience aligns with research conducted by Elling-Machartzki (2017) who found that transgender sport participants expressed "feelings of alienation and exclusion" (p. 261) in sporting environments prior to beginning their gender-affirming transition process. These feelings of alienation were similarly reported by Hargie et al. (2017) and Pereira-García et al. (2021). Another participant discussed their feelings of concern about athletically transitioning to the men's category because they were unfamiliar with the culture in men's locker rooms, a feeling that was similarly expressed in the Hargie et al. (2017) and Pereira-García et al. (2021) findings.

For some participants, they felt socially included by their teammates and other competitors, which is a commonly cited facilitator of sport participation for transgender people (Caudwell, 2020; DeChants et al., 2024; Storr et al., 2022). Of particular importance for some of the participants in the current study were LGBTQ+ friendly spaces and teams that were specifically for transgender people, something that was discussed by Jones et al. (2017a) and Pereira-García et al. (2021), as well as Caudwell (2020) who found that a transgender swimming group that formed from another social group allowed participants to feel accepted and safe. However, one participant from the current study had a challenging time in a gay sporting space as they were constantly misgendered, which serves as a counter-narrative to LGBTQ+ spaces being a safe space for transgender sport participations. This was similarly found by Caudwell (2014) who reported that cisgender members of the LGBTQ+ community "fail to imagine the transgendered body," arguing that "the refusal to grasp Ed's gender and sexual identity operates to deny him legitimate subjectivity within the LGBT community" (p. 407).

Importance of Support

As previously mentioned, every participant discussed the importance of having a support system, with some finding support from their teammates, coaches, and other sport managers in moments when they were discriminated against or barred from participating. For example, one participant in the current study was not allowed to participate in high school baseball but received support from the head coach who vouched for them, while another participant received support from his athletic director when the 2022 NCAA guidelines regarding transgender athlete participation threatened his participation in sport. Cohen and Semerjian (2008) reported that a transgender woman who was banned from competing in women's hockey similarly received support "from her team, teams in her district that had skated against her all year, as well as teams from across the country" (p. 144). Storr et al. (2022) and Zanin et al. (2023) also reported that teammates and coaches provided support for transgender people.

In the current study, a participant was offered support by the owner of her soccer club during her gender-affirming and athletic transition process. The owner supported her decision to athletically transition and made sure she had the resources needed to facilitate the process. According to Elling-Machartzki (2017) and Herrick et al. (2020), this support was also felt by some transgender people who participated in sport during their gender-affirming transition process. For example, the coaches of a transgender man competing in synchronized figure skating "met before the season began to discuss how they would incorporate not only their first male skater, but their first transgender skater, into their team" (Herrick et al., 2020, p. 430) as a way to discuss how to best support him. Two participants in the current study also discussed the support they received from teammates during their gender-affirming and athletic transition process. For example, one participant reported that his teammates stood up for him when he was

early in the gender-affirming transition process to ensure that he was counted as one of the men on the field. This echoes the research conducted by Klein et al. (2019) who reported that a transgender man received support from his teammates and coaches during the simultaneous gender-affirming and athletic transition process.

Athletic (In)Ability

The theme of Athletic (In)Ability as a barrier to participation was discussed by participants in the current study, specifically related to the idea of "toning down" their athletic abilities. For some, this stemmed from a place of internalized essentialist notions of sex and gender. This was particularly challenging for Alice, who struggled with the thought of even gaining muscle as a reinforcement of masculinity. Victoria similarly struggled with feelings of guilt surrounding her sport participation, saying that she internalized the anti-transgender and biological and gender essentialist rhetoric. A colonial/Eurocentric ontology of sex and gender has historically been based in biological essentialism and gender essentialism (Bettcher, 2007, 2014; Serano, 2024), making it difficult for some transgender people to avoid internalizing something they have experienced from the moment they were conceived. For others, the idea of "toning down" their athletic abilities stemmed from a fear of not being allowed to participate anymore. Cohen and Semerjian (2008) similarly reported that a transgender woman's high level of play made her fearful of being barred from competing in women's hockey; however, competing in women's hockey also made her feel like she was reinforcing her masculinity, leading her to feel like she was cheating by being in women's hockey. Other participants felt like their athletic ability was hindered because they missed out on crucial coaching and athletic development, something that was expressed by Pereira-García et al. (2021) and Semerjian and Cohen (2006). Although the body of literature evaluating the effects of GAHT on transgender people may

provide some evidence that transgender women hold certain physiological advantages over cisgender women and transgender men hold certain physiological disadvantages compared to cisgender men, the findings from the current study demonstrate that other factors, like missing out on crucial coaching and internalizing essentialist notions of sex and gender, influence athletic performance.

For others, the theme of Athletic (In)Ability served as a facilitator for sport participation. Although not widely discussed in previous literature, some participants in the current study saw their display of athleticism as a facilitator for sport. For example, Jed enjoyed the competitive nature of co-ed sport and strived to be the best player he could possibly be, while Lukas recognized that losing his starting position was an empowering experience because it pushed him to become a better athlete in other ways to earn back a starting position. This was similarly discussed by a transgender woman who participated in sports "because of the competition and to demonstrate her physical prowess" (Semerjian & Cohen, 2006, p. 33). One possible reason that this theme is not more prevalent in previous research is that transgender people's athletic performance is under constant surveillance, so they may not feel like they can display athletic prowess without fear of being barred from sport participation, which is something that was discussed by multiple participants in the current study who saw their athletic (in)ability as a barrier to their participation.

Recommendations

Based on the findings from this study, as well as from recommendations provided by the participants, there are changes that need to be made to encourage transgender inclusion in sport. My first recommendation is to make transfeminist-informed policy changes. One way of implementing this is by seeking alternatives to sex segregation. Lukas said that sport

organizations need to change the sex-segregated culture and pursue the idea that "human beings can perform to the same level as each other because we're human beings," rather than holding different genders to different standards. Numerous scholars have called for non-sex segregated alternatives to sport to improve transgender inclusion (Caudwell, 2014; Hargie et al., 2017; Herrick et al., 2020; Oliveira et al., 2023; Semerjian & Cohen, 2006; Storr et al., 2022). For example, Herrick et al. (2020) suggested "that the binary division of competitive sports be called into question through the further investigation of mixed-gender sports" (p. 443). Storr et al. (2022) recommended that sport organizations "offer opportunities which are not based around sex or gender, but inclusive and affirming spaces which celebrate diversity" (p. 615). An additional approach to implementing transfeminist-informed policy changes is by no longer relying on physiological research and evidence to justify the inclusion/exclusion of transgender sport participants; instead, this body of literature should be taken at face value as research that demonstrates the effects of GAHT on transgender people.

If sport continues to be sex segregated, another way of implementing transfeminist-informed policy changes is by allowing self-identification, so sport participants can join the category that best works for them, which is something that has previously been recommended by other scholars who seek to improve transgender inclusion in sport (Caudwell, 2020; Hargie et al., 2017; Klein et al., 2018). Ryder helped implement self-identification on their sledge hockey team by building the registration form to ask for participants' gender identity, pronouns, and preferred name. This information gets added to an app that is used for "all our hockey needs, so, like, the preferred name will be the one that will go in that app and not your birth name, which is really good. So, it means that nobody gets misgendered. Nobody gets deadnamed." A third approach to implementing transfeminist-informed policy changes, as recommended by Wren, is to put anti-

discrimination policies in place to support transgender sport participants who may experience discrimination. This echoes previous scholars who have similarly called for anti-discrimination policies to protect transgender sport participants (DeChants et al., 2024; Holder et al., 2022; Storr et al., 2022; Teti et al., 2020). A final way to implement transfeminist-informed policy changes is by focusing on inclusion rather than exclusion. Alexis said that "having no regulations is very helpful for trans people." To further improve transgender sport participation, Alexis recommended offering more beginners adult sports leagues, particularly for transgender people who may not have played sports growing up because of the barriers they experienced. Wren said that they want organizations to be more explicit with inclusivity policies because they "don't want to see, like, a woman and then a plus sign." However, they argued that policy changes are not enough because sport organizations need to be doing the work to support LGBTQ+ people in sport. As Wren succinctly put it, "policy does not equal culture." Scholars have previously suggested that sport organizations need to promote inclusion, which can come in the form of gender-neutral locker rooms or gender-neutral clothing (Herrick et al., 2020; Jones, 2017a; Klein et al., 2019; Oliveira et al., 2023; Teti et al., 2020). Ultimately, sport organizations need to take a bottom-up approach by implementing these transfeminist-informed policy changes at the youth level because it is difficult to make sustainable changes when they are implemented at the elite level with athletes who have been competing for decades.

Another recommendation, as suggested by Alexis, Alison, Wren, and Victoria, is that sport organizations need to openly support LGBTQ+ people in sport and LGBTQ+ organizations. Alison argued that sport organizations need to stop being worried about boycotts or other issues and should stand firm on their beliefs. Wren said that organizations need to do a better job of "recognizing their fan base instead of having, like, one Pride night." For example,

sport organizations can give more explicit support by posting on social media and using their platform to bust misinformation about transgender sport participants. However, Wren argued that sport organizations need to also do work within the organization to support LGBTQ+ people, like having health benefits in place that "include gender-affirming care." Victoria suggested that support can also come in the form of "connection groups" for transgender sport participations, as well as by "educating our allies." Many scholars, such as Hargie et al. (2017), Herrick et al. (2020), and Klein et al. (2019), have similarly called for sport organizations to support LGBTQ+ people in sport "by seeking LGBTQ+-cultural competence training, talking about LGBTQ issues with their athletes, and using youth's names and pronouns correctly" (DeChants et al., 2024, p. 66). Holder et al. (2022), in line with Victoria's suggestion, recommended that sport organizations provide peer support groups for transgender participants.

A final recommendation is that transgender representation needs to be brought to the forefront of sports. Alexis argued that "having and seeing other trans people playing in sports, especially, like, competitive-level sports, sports that are on TV" is important. As Alexis said, this representation is important because of "the general political climate and having so many politicians and other things openly making advertisements demonizing trans people in sports." Alison believes that "the trans community needs a, needs a champion in sport that can take this and be that beacon, that shining example." Alison said that a documentary following a transgender person playing sport can help humanize transgender people and fight back against the dehumanization of transgender people that is prevalent within the current political climate, particularly in the U.S. Scholars, such as Jones et al. (2017a), have similarly suggested that there needs to be "increased public awareness of transgender issues" (Hargie et al., 2017).

Limitations

Although this study contributed to the literature by providing a more detailed understanding of the athletic transition process for transgender sport participations, it is not without its limitations. One limitation is that the group of participants was not as diverse as I hoped for. This could be for several reasons. In terms of recruitment, only one LGBTQ+ organization agreed to share the recruitment material, and this organization is based in the U.S., so it may have had a limited international reach. Additionally, by posting on social media, I relied on my followers to share the post and encourage their followers to share the post. Again, this likely had a limited international reach as my followers are largely based in the U.S. Another possible reason is that some eligible participants may not have felt comfortable participating in the study because as a gay, nonbinary, middle-class, white American, colonial settler researcher, I may not have shared these identities with them. One other possible reason is that my participants needed to feel comfortable enough to be interviewed in English, so this also limited the number of eligible participants. Ultimately, the participants' limited diversity impacted the utility of intersectionality as part of the theoretical framework, so the findings were largely consistent across the participants except for two participants who described how race and disability affected their experiences.

A second limitation is that I was the sole coder for data analysis. Although I engaged in reflexivity, my positionality as a gay, nonbinary, middle-class, white American, colonial settler researcher still impacted all aspects of the research process. For example, during data collection, I found myself unsure of how to ask questions to some participants regarding their experiences of intersecting structures of oppression because of my outsider position. Because I believe that all people deserve to participate in a safe, inclusive, diverse, and equitable sporting environment,

the themes that I discussed, like discrimination and policies restricting participation, highlight issues regarding sport participation that is exclusionary and discriminatory toward transgender people.

Future Research

Based on the findings and limitations of the study, I echo scholars who have previously called for a more diverse group of participants. Future research should particularly explore the sporting experiences of transgender people with disabilities. A few of the participants in the current study discussed their experiences in the context of their disabilities, so this population warrants further research. Additionally, with continually changing eligibility policies, future research should continue to explore the challenges of transgender sport participants who want to athletically transition. Although my theoretical framework centered around transfeminism, my limited engagement with queer Native American and Indigenous studies and decolonial feminism to critique the colonial/Eurocentric nature of the gender binary suggests that these theoretical approaches warrant further engagement in future research, particularly to examine the colonial legacy of anti-transgender rhetoric in sport. Finally, to address the second limitation of the current study, future research needs to be conducted by multiple researchers with diverse identities to provide a more nuanced and intersectional understanding of transgender sport participants' experiences.

Conclusion

In conclusion, the current study contributed to the existing scholarship on transgender sport participation by providing an enhanced understanding of the athletic transition process with a larger group of participants by building off research conducted by Klein et al. (2018, 2019). The current study included participants with a variety of identities who have competed in a

diverse array of sports and levels of play to provide an updated account of transgender sport participants' experiences with the athletic transition process as eligibility policies regarding transgender participation are continually evolving. The findings of this study suggest that transgender sport participants' experiences of the athletic transition process centered around five themes: (a) Discrimination, (b) Policies, (c) Social Connection, (d) Importance of Support, and (e) Athletic (In)Ability. Based on the findings from the current study, sport organizations must implement transfeminist-informed policy changes, openly support LGBTQ+ people in sport and LGBTQ+ organizations, and bring transgender representation to the forefront off sports.

A common strand throughout the experiences of the participants in the current study was that transgender people love sport and want to play it because they enjoy it. As Wren explained:

> I love playing sports. Like, it, it has always been my space where, like, I feel, like, free in some way. Like, you know, when people talk about their, like, flow state? Like, when I'm, like, really in it, like, I feel like a kid again. Like, I feel amazing, like, absolutely amazing and, like, super confident and, like, and, like, yeah. Like, the team sport is, like, a big part of that too. But yeah, like, fi-, like, you know, like, just, like, being connected to my body and, like, being in the moment, like, sports has always, like, been that for me. And so, even though it was, like, challenging being younger, it was still, like, it was still, like, no, but I'm gonna do this regardless because when I'm actually playing, it feels awesome.

As people who love sport and know the benefits that sport can provide, sport managers should be finding ways to engage and include more people in sport, particularly transgender people, rather than exclude them from sport. In a world that invalidates and demonizes our trans identities, we must continue to be our authentic selves and claim our rightful place in sport. When I asked Aaron what he would do if he experienced a barrier to participating in sports, he said, "I would

probably fight it the best that I could. Just like I have fought to get in every place I've been in my life."

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Appendices

Appendix A: Table of Literature Reporting Gender-Affirming Hormone Therapy Changes

Table 1. Summary of Studies Reporting Gender-Affirming Hormone Therapy Changes

Author (year)	Study Type	Participants (N)	Athletes?	Time of Measurement	Main Results
Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Kaufman, & T'Sjoen (2015)	Longitudinal	TW=49	No	Pre-GAHT 1 year 2 years	Total lean body mass: • 1 year vs. pre-GAHT: -4% • 2 years vs. pre-GAHT: NS Total lean body mass relative to total body mass: • 1 year vs. pre-GAHT: -6% • 2 years vs. pre-GAHT: -7% Hand grip strength (dominant hand): • 1 year vs. pre-GAHT: -7% • 2 years vs. pre-GAHT: -10% Forearm muscle CSA: • 1 year vs. pre-GAHT: -8% • 2 years vs. pre-GAHT: -4% Calf muscle CSA: • 1 year vs. pre-GAHT: -2% • 2 years vs. pre-GAHT: -4%
Gooren & Bunck (2004)	Longitudinal	TW=19 TM=17	No	Pre-GAHT 1 year 3 years	Thigh muscle area: • 1 year vs. pre-GAHT: TW -9%; TM +19% • 3 years vs. 1 year: NS for both TW and TM • TW on 1 year of GAHT>TM pre-GAHT • TM on 1 year of GAHT=TW pre=GAHT Hemoglobin levels: • 1 year vs. pre-GAHT: TW -14%; TM +15% • 3 years vs. 1 year: NS for both TW and TM

Table 1 continued

Author (year)	Study Type	Participants (N)	Athletes?	Time of Measurement	Main Results
Hamilton et al. (2024)	Cross-sectional	TW=23 TM=12 CW=21 CM=19	Yes	TM: 4±5 years of GAHT TW: 6±4 years of GAHT	FFM: • Absolute: TM<CM; TW>CW • Relative to body mass: TM=CM; TW=CW Hand grip strength (right hand): • Absolute: TM<CM; TW>CW • Relative to FFM: TM=CM; TW=CW • Relative to hand size: TM=CM; TW=CW Hand grip strength (left hand): • Absolute: TM=CM; TW=CW • Relative to FFM: TM=CM; TW=CW • Relative to hand size: TM=CM; TW=CW Hemoglobin: • NS between all groups (TM, TW, CM, CW) VO_2max: • Absolute: TM<CM; TW=CW • Relative to body mass: TM=CM; TW<CW • Relative to FFM: TM=CM; TW=CW
Van Caenegem, Wierckx, Taes, Schreiner, Vandewalle, Toye, Lapauw et al. (2015)	Cross-sectional, longitudinal	TM=23 CW=23	No	Pre-GAHT 1 year	Total body lean mass: • Absolute: TM +10%; CW +0.7% • Relative to body mass: TM +6.5%; CW -1.3% Forearm muscle CSA: • TM +16.6%; CW +0.2% Calf muscle CSA: • TM +13.6%; CW +1.2% Hand grip strength (dominant hand): • TM +18.2%; CW -1.2%

Table 1 continued

Author (year)	Study Type	Participants (N)	Athletes?	Time of Measurement	Main Results
Wiik et al. (2020)	Longitudinal	TW=11 TM=12	No	Pre-GAHT 1 year	Total lean tissue volume: • TM: +13% • TW: NS Total thigh volume: • TM: +15% • TW: -5% Quadriceps CSA: • TM: +15% • TW: -4% Isometric knee extension strength: • TM: +12% • TW: NS Isometric knee flexion strength: • TM: +26% • TW: NS
Lapauw et al. (2008)	Cross-sectional	TW=23 CM=46	No	8 (4-20) years of GAHT [a]	Total lean body mass: • TW<CM Forearm muscle CSA: • TW<CM Calf muscle CSA: • TW<CM Hand grip strength (dominant hand): • TW<CM (41±8 vs. 53±8 kg) Isokinetic biceps strength: • TW<CM Isokinetic quadriceps strength: • TW<CM

Table 1 continued

Author (year)	Study Type	Participants (N)	Athletes?	Time of Measurement	Main Results
Chiccarelli et al. (2023)	Cross-sectional, longitudinal	TW=228 TM=146	No	Pre-GAHT 1 year 2 years 3 years 4 years	Push-ups in 1 min: • 4 years of GAHT: TW>CW; TW -40% vs. pre-GAHT • 3 years of GAHT: TM=CM • 4 years of GAHT: TM>CM; TM +66% vs. pre-GAHT Sit-ups in 1 min: • 4 years of GAHT: TW=CW; TW -16% vs. pre-GAHT • 1 year of GAHT: TM=CM • 4 years of GAHT: TM>CM; TM +18% vs. pre-GAHT 1.5 mile run time: • 2 years of GAHT: TW=CW; TW -21% vs. pre-GAHT • 3 years of GAHT: TM=CM; TM +17% vs. pre-GAHT
Senefeld et al. (2023)	Longitudinal	TW=1	Yes	Pre-GAHT 2 years	100-yard freestyle: • -0.5% vs. pre-GAHT • Ranking: unranked (men's) to 13th (women's) 200-yard freestyle: • -2.6% vs. pre-GAHT • Ranking: 551st (men's) to 3rd (women's) 500-yard freestyle: • -5.6% vs. pre-GAHT • Ranking: 65th (men's) to 1st (women's) 1,650-yard freestyle: • -7.3% vs. pre-GAHT • Ranking: 32nd (men's) to 13th (women's)
Vita et al. (2018)	Longitudinal	TW=21 TM=11	No	Pre-GAHT 28.8±29.7 months	Hemoglobin: • TW: -9% • TM: +9%

Table 1 continued

Author (year)	Study Type	Participants (N)	Athletes?	Time of Measurement	Main Results
Alvares et al. (2022)	Cross-sectional	TW=15 CW=13 CM=14	No	14.4±3.5 years of GAHT	Skeletal muscle mass: • TW>CW; TW<CM Hand grip strength (dominant hand): • Absolute: TW>CW; TW<CM • Relative to FFM: TW=CW; TW<CM Hemoglobin: • TW=CW; TW<CM VO_2 peak: • Absolute: TW>CW; TW<CM • Relative to body mass: TW=CW; TW=CM • Relative to FFM: TW=CW; TW=CM
Roberts et al. (2021)	Cross-sectional, longitudinal	TW=46 TM=29	No	Pre-GAHT 0-1 year 1-2 years 2-2.5 years	Push-ups in 1 min: • 2+ years of GAHT: TW=CW; TW -29% vs. pre-GAHT • 1-2 years of GAHT: TM=CM; TM +39% vs. pre-GAHT Sit-ups in 1 min: • 2+ years of GAHT: TW=CW; TW -16% vs. pre-GAHT • 1-2 years of GAHT: TM>CM; TM +15% vs. pre-GAHT 1.5 mile run time: • 2+ years of GAHT: TW<CW; TW -8% vs. pre-GAHT • 1-2 years of GAHT: TM=CM; TM +12% vs. pre-GAHT
Harper (2015)	Longitudinal	TW=8	Yes	Pre-GAHT Unknown years on GAHT	• 5k, 10k, half-marathon, and marathon race times worsened for all TW except for 1 • Mean and peak age-graded scores compared between pre-GAHT and post-GAHT: NS

Table 1 continued

Author (year)	Study Type	Participants (N)	Athletes?	Time of Measurement	Main Results
Klaver et al. (2018)	Longitudinal	TW=179 TM=162	No	Pre-GAHT 1 year	Total lean body mass: • TW: -3% • TM: +10%
Scharff et al. (2019)	Longitudinal	TW=249 TM=278	No	Pre-GAHT 1 year	Hand grip strength (dominant hand): • Absolute: TW -4%; TM +18% • Relative to arm lean body mass: TW NS; TM +0.010 kg in arm lean body mass per kg increase in grip strength

Note. When applicable, time of measurement is expressed as mean±standard deviation. CM = cisgender men; CSA = cross-sectional area; CW = cisgender women; equal sign (=) = no statistically significant difference; FFM = fat-free mass; GAHT = gender-affirming hormone therapy; less than sign (<) and more than sign (>) = statistically significant difference; negative sign (-) = statistically significant decrease and athletic performance disadvantage; NR = not reported; NS = no statistically significant difference; plus sign (+) = statistically significant increase and athletic performance advantage; TM = transgender men; TW = transgender women

[a] Reported as mean (lowest value-highest value).

Appendix B: Recruitment Help Request Email to LGBTQ+ Sport Organizations

Hello,

My name is Jess Hamdan, and I am a Ph.D. student in Kinesiology and Sport Studies at the University of Tennessee, Knoxville under my faculty advisor, Dr. Adam Love.

For my IRB-approved dissertation, I am conducting a research study to learn about the experiences of adult transgender and/or nonbinary people throughout the process of changing from one gender category in sport (like men's, women's) to another. For this project, I hope to interview people who are transgender and/or nonbinary and currently participate or have participated in sport.

Because this is a hard-to-reach population, the purpose of this email is to inquire about [your/your organization's] help with distributing the IRB-approved recruitment material. The recruitment material is attached to this email. Please let us know if this is something [you/your organization] can help with as I would greatly appreciate it!

If you have questions about this study, please contact either me (jhamdan@vols.utk.edu) or Dr. Adam Love (alove1@utk.edu).

Sincerely,

Jess Hamdan

Jessica Hamdan, MS, ACSM Certified Exercise Physiologist
They/them pronouns
Ph.D. Student, Graduate Teaching Associate
Sport Studies - Socio-Cultural Studies
Department of Kinesiology, Recreation, and Sport Studies

*Recruitment material (see Appendix C) will be attached to the email.

Appendix C: Recruitment Material



Figure 1. *Recruitment Material for Dissemination on Social Media*
Note. Each post on social media will include the following hashtags to increase views of the recruitment material: #transgender #trans #transgenderwoman #transgenderwomen #transwoman #transwomen #transgenderman #transgendermen #transman #transmen #nonbinary #LGBTQ #transgenderathlete #transathlete #transgendersport #transsport #LGBTQathlete #LGBTQsport

Appendix D: Social Media Recruitment Message

Hi, I'm Jess Hamdan, and I am a Ph.D. student in Kinesiology and Sport Studies at the University of Tennessee, Knoxville under my faculty advisor, Dr. Adam Love. For my IRB-approved dissertation, I am conducting a research study to learn about the experiences of adult transgender and/or nonbinary people throughout the process of changing from one gender category in sport (like men's, women's) to another. For this project, I hope to interview people who are transgender and/or nonbinary and currently participate or have participated in sport in the past 10 years. If you are interested in participating or have any questions about this research study, please contact either me (jhamdan@vols.utk.edu) or Dr. Adam Love (alove1@utk.edu). If you know of someone who may be interested in participating, please share this post. Thank you!

#transgender #trans #transgenderwoman #transgenderwomen #transwoman #transwomen #transgenderman #transgendermen #transman #transmen #nonbinary #LGBTQ #transgenderathlete #transathlete #transgendersport #transsport #LGBTQathlete #LGBTQsport

Appendix E: Informed Consent

Consent for Research Participation

Research Study Title: Transgender Sport Participants' Experiences of the Athletic Transition Process

Researcher(s): Jessica Hamdan, University of Tennessee, Knoxville
Dr. Adam Love, University of Tennessee Knoxville

Why am I being asked to be in this research study?

We are asking you to be in this research study because you identify as transgender and/or nonbinary, currently play or have played sports in the past 10 years, and are going through or have gone through changing from one gender category in sports (like men's, women's, or mixed) to another.

What is this research study about?

The purpose of the research study is to learn about the experiences of adult transgender and/or nonbinary people who currently play or have played sports in the past and are going through or have gone through changing from one gender category in sports (like men's, women's, or mixed) to another.

How long will I be in the research study?

If you agree to be in the study, your participation in an interview will last for about 1 hour. After the interview, you will have a chance to check the written version of the interview to make sure everything is correct or to add anything you think is missing. Once we have written the findings from the interview, you will have two weeks to give feedback.

What will happen if I say "Yes, I want to be in this research study"?

If you agree to be in this study, we will ask you to do an interview on Zoom for about 1 hour. We will do the interview on a day and time of your choosing. You can do the interview in any place you choose. We will record the audio portion of the interview.

After the interview, you will have a chance to check the written version of the interview to make sure everything is correct or to add anything you think is missing. Once we have written the findings from the interview, you will have a chance to give feedback.

What happens if I say "No, I do not want to be in this research study"?

Being in this study is up to you. You can say no now or leave the study later. Either way, your decision won't affect your relationship with the researchers or the University of Tennessee.

What happens if I say "Yes" but change my mind later?

Even if you decide to be in the study now, you can change your mind and stop at any time.

If you decide to stop before the study is completed, contact one of the researchers (Jessica Hamdan – **jhamdan@vols.utk.edu** or Adam Love – **alove1@utk.edu**).

If any of your information has been collected, we will destroy it.

When the research is finished, your information cannot be taken out of the study, but it will be destroyed.

Are there any possible risks to me?

It is possible that someone could find out you were in this study or see your study information, but we believe this risk is small because of the procedures we use to protect your information. These procedures are described later in this form.

Are there any benefits to being in this research study?

We do not expect you to benefit from being in this study. Your participation may help us to learn more about the challenges and things that make it easier for transgender and/or nonbinary people as they switch from one gender category in sports (like men's, women's, or mixed) to another. We hope the knowledge gained from this study will benefit others in the future.

Who can see or use the information collected for this research study?

We will protect the confidentiality of your information by storing it on the university-protected Microsoft OneDrive account of one of the researchers.

If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information or what information came from you. Although it is unlikely, there are times when others may need to see the information we collect about you. These include:

- People at the University of Tennessee, Knoxville who oversee research to make sure it is conducted properly.
- Government agencies (such as the Office for Human Research Protections in the U.S. Department of Health and Human Services), and others responsible for watching over the safety, effectiveness, and conduct of the research.
- If a law or court requires us to share the information, we would have to follow that law or final court ruling.

What will happen to my information after this study is over?

We will not keep your information to use for future research. Your name and other information that can directly identify you will be deleted from your research data collected as part of the study.

We will not share your research data with other researchers.

What else do I need to know?

Up to 30 people will take part in this study. Because of the small number of participants in this study, it is possible that someone could identify you based on the information we collected from you.

We may need to stop your participation in the study without your consent if you no longer meet the study's eligibility requirements or the study is stopped for any reason.

If we learn about any new information that may change your mind about being in the study, we will tell you. If that happens, you may be asked to sign a new consent form.

Who can answer my questions about this research study?

If you have questions or concerns about this study, or have experienced a research related problem or injury, contact the researchers:

Jessica Hamdan, **jhamdan@vols.utk.edu**, 865-974-3340

Adam Love, **alove1@utk.edu**, 865-974-3340

For questions or concerns about your rights or to speak with someone other than the research team about the study, please contact:

Institutional Review Board
The University of Tennessee, Knoxville
2240 Sutherland Drive
Suite 2
Knoxville, TN 37919
Phone: 865-974-7697
Email: utkirb@utk.edu

STATEMENT OF CONSENT

I have read this form, and the research study has been explained to me. I have been given the chance to ask questions and my questions have been answered. If I have more questions, I have been told who to contact. By signing this document, I am agreeing to be in this study. I will receive a copy of this document after I sign it.

Name of Adult Participant	Signature of Adult Participant	Date

Appendix F: Interview Protocol

Basic Information about the Interview
Date:
Time of interview:
Interviewer:
Interviewee's pseudonym:

Introduction
1. Introduce myself (name, pronouns).
2. Thank the participant for agreeing to take part in this research study.
3. Discuss the purpose of the research study.
    a. The purpose of the research study is to learn about the experiences of adult transgender and/or nonbinary people who currently play or have played sports in the past and are going through or have gone through changing from one gender category in sports (like men's, women's, or mixed) to another.
4. Tell the participant that this interview is for a research study.
5. Provide structure of the interview (recording, taking notes, number of questions, time).
6. Ask if the interviewee has questions and if they still want to participate.
7. Remind the interviewee that they are able to stop at any point if they no longer want to participate.
8. Begin recording.

Obtain Demographic Information
1. What is your age? Gender? Sexual orientation? Racial/ethnic identity? Social class?

Interview Questions
1. Tell me about the sport(s) you participate(d) in.
    a. Probes: Length of time participating? Currently participating? Gender category of sport?
2. Tell me about your experience with changing from one gender category in sports to another.
3. What steps have you taken to change from one gender category to another?
4. How have you felt during the process of changing gender categories?
5. What challenges have you experienced with the process of changing gender categories?
6. What kinds of help have you experienced with the process of changing gender categories?
7. Is there anything else you would like to share that we have not covered?

Closing Instructions
Once we have reached information redundancy on how the participants experience the athletic transition process (i.e., the participants have nothing more or new to say about their experiences), the interview will be complete.
1. Thank the participant for their time.
2. Discuss confidentiality, what name to use in the research, and risks.

3. Discuss future steps (e.g., distribute recruitment material to potential participants; member checking).

Appendix G: Table of Participant Demographics

Table 2. Participants' Self-Described Demographic Information

Chosen Name	Pronouns	Age	Gender Identity	Sexual Orientation	Racial/Ethnic Identity	Social Class	Country	Sport(s)
Alice	She/her	27	Woman	Bi	Vietnamese	Upper	U.S.	Dance Dance Revolution
Sammy	They/them	42	Trans	Gay	White	Middle	U.S.	Powerlifting, Strongman, rock climbing, road races, combat sports, kickball
Malcolm	He/him	22	Male	Gay	Caucasian, white	Upper middle	U.S.	Ice hockey, roller hockey, soccer
Glenn	He/they	27	Nonbinary, transmasculine	Pansexual	White	Middle	U.S.	Whitewater rafting
Jed	He/him	28	Trans male	Queer	White	Middle	U.S.	Ultimate frisbee, soccer
Aaron	He/him	28	Trans man	Queer	White	Middle	U.S.	Soccer, golf
Alexis	She/they	26	Female	Lesbian	Scandinavian (Norwegian, Swedish)	Upper middle	U.S.	Soccer, dodgeball, basketball, baseball, volleyball

Table 2 continued

Chosen Name	Pronouns	Age	Gender Identity	Sexual Orientation	Racial/Ethnic Identity	Social Class	Country	Sport(s)
Alison	She/her	35	Female	Lesbian	White, Caucasian	Lower middle	Canada	Ice hockey, long track speed skating, curling, baseball
Charlie	They/he	27	Nonbinary	Pansexual	African American; Black and white	Low income	U.S.	Baseball, softball, track
Wren	They/them	39	Trans, transmasc, genderqueer	Queer, pan	White, European, Italian, Settler	Middle	Canada	Ice hockey, soccer, roller derby
Victoria	She/her	26	Female	Bisexual, asexual	White, non-Hispanic, non-Latino	Lower middle	U.S.	Artistic roller skating, softball, baseball, soccer
N	They/them	23	Nonbinary, human	Queer, interested in inside of people and not how they appear	White	High class, low income	Netherlands	Ice skating, bouldering, cycling, swimming, korfball
Lukas	He/him	23	Trans man	Fluid, but mostly queer	White, Jewish	Upper middle	U.S.	Volleyball, soccer
Ryder	They/he	30	Transmasc, nonbinary	Complicated	Complicated	Not sure	Canada	Sledge hockey

Vita

Jessica Hamdan is from Limerick, Pennsylvania, where they cultivated their love for the Philadelphia Phillies and Philadelphia Eagles. Jess earned their Bachelor of Science in Exercise Science from Eastern University. Before attending graduate school, Jess worked in corporate fitness as a Health Fitness Specialist for EXOS. Jess attended Temple University where they taught Biomechanics laboratories as a Graduate Teaching Assistant and earned their Master of Science in Kinesiology. During their time as a doctoral student at the University of Tennessee, Jess has gained teaching experience as a Graduate Teaching Associate. Jess's research broadly focuses on issues related to sex and gender in sport and exercise, with a specific interest in the media portrayals and experiences of transgender athletes. Upon graduation in May 2025, Jess will receive their Doctor of Philosophy in Kinesiology and Sport Studies. After graduation, Jess will begin their new position as an Assistant Professor of Sport Management at York College of Pennsylvania.