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CASTER SEMENYA AND THE MYTH OF A LEVEL PLAYING FIELD

By: Erin Buzuwis¹

In August of 2009, policies and procedures to verify the sex of female athletes were called into question when South African runner Caster Semenya won the 800 meter event of the World Championships in Berlin. Responding to rumors of gender fraud, and fueled by Semenya's speed, musculature, and deep voice, the International Association of Athletics Federations (IAAF) requested that Semenya submit to sex verification to confirm her eligibility for the women's division.²

Some saw the suspicion cast on Semenya as the product of intersecting racism and sexism, namely, Semenya's failure to conform to standards of white femininity and to stereotypes about women's inferior athleticism. The scrutiny of Semenya's personal life is reportedly taking a heavy toll, as evidenced by reports that she has gone into hiding due to the distress and embarrassment generated by the controversy. Underscoring concerns for Semenya's emotional well-being are comparisons of Semenya to Santhi Soundarajan, an Indian runner who was stripped of her silver medal in the 2006 Asia Games after failing a sex test and was later rumored to have attempted suicide.³

The IAAF did not publicize its sex-verification testing methods, but according to its policy, an athlete whose sex is challenged or raises suspicion can be asked to submit to a multidimensional medical evaluation conducted by a panel comprised of a gynecologist, endocrinologist, psychologist, internal medicine specialist, and an "expert on gender/transgender issues."⁴ While the IAAF will not officially disclose the results of these tests,⁵ unconfirmed reports leaked to the media suggest that Semenya has an intersex condition related to the presence of internal testes

and testosterone levels that are higher (perhaps three times higher) than those of the average woman. In November of 2009 the IAAF announced that Semenya would not lose the gold medal and prize money she won in Berlin.⁶ Shortly thereafter, the International Olympic Committee (IOC) held a conference but was not successful in producing guidelines to help governing bodies address the eligibility of athletes with "disorders of sex development."⁷

The IAAF recently cleared Semenya to run in future events.⁸ Still, the confidential nature of the decision, coupled with a failure to repudiate current policy allowing for sex-verification testing on a case-by-case basis, holds open the possibility that the IAAF could disqualify other athletes for failing a sex verification test, even without accompanying evidence or a charge that the athlete or her agents intentionally attempted to deceive the sporting world as to her sex. Similarly, the IOC allows

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sex-verification testing in response to charges or suspicion that an athlete competing in a women's sport or event is not physically eligible to do so. Most recently, the Chinese organizers of the 2008 summer Olympics in Beijing boasted famously that a state-of-the-art sex verification laboratory would be available throughout the games to run expedient sex tests on "suspicious looking women."⁹

The controversy surrounding Caster Semenya's sex provides a useful touchstone for an analysis of sex-

verification testing at the Olympic level as well as within the IAAF. The justification for sex-verification testing incorporates two presumptions: first, that sex exists in a binary, and second, that fairness in sport requires a strict separation of the sexes. Once both of these presumptions are exposed as myths, it becomes clear that attempts to medically police the boundary between men's and women's sports are futile and unwarranted. As long as we continue to organize separate athletic contests for men and women, athletes should be allowed to participate in events consistent with their bona fide gender identity.

I. IOC Policy on Sex Testing: History and Current Practice

The ancient Olympic Games excluded women from both participation and attendance, due to fear that their presence would usurp the strength of Hercules, the hero and warrior in whose honor the Games were held.¹⁰ Some historians consider enforced nudity at the ancient games to be the first Olympic sex verification policy.¹¹

Female athletes have been allowed to attend and participate in the Olympic Games for most of the modern Olympic era, but they have been subject to sex scrutiny throughout this time. During the Cold War, the IOC required female athletes to submit their bodies to visual inspections by medical officials. In 1968, the IOC abandoned the "nude parades" in favor of a less invasive and humiliating chromosomal test on cells swabbed from the lining of the athlete's mouth.¹² Until 1998, and subject to limited exceptions, athletes were only allowed to participate in women's events if a compulsory chromosomal sex testing

confirmed an XX genotype.¹³ Today, such testing is not mandatory, but Olympic organizing committees (such as in Beijing) and athletic federations (such as the IAAF) may conduct testing on a case-by-case basis.

The IOC has justified sex verification policies as necessary to prevent men from cheating by disguising themselves as women and entering women's athletic events.¹⁴ Yet there is only one known instance in Olympic history of this actually happening. In 1936, "Dora" Ratjen of Germany finished fourth in the women's high jump.¹⁵ Twenty years later, the athlete admitted that he was actually Hermann Ratjen, a former Hitler Youth member whom the Nazis had forced to compete as a woman.¹⁶ During the Cold War era, in which the Olympic medal count became politically significant, suspicions of gender fraud by Communist countries—such as suspicions surrounding masculine-looking Soviet throwers Tashana and Irina Press—motivated the IOC to impose sex verification testing.¹⁷ The testing methods, which merely looked for evidence of the second inactive X chromosome, would not have been effective at detecting other kinds of cheating, such as doping female athletes with high doses of testosterone. This inconsistency casts doubt on the IOC's stated objective, to police fraud, and suggests instead an objective of policing gender—that is, replicating hegemonic femininity by narrowly defining the category "woman."¹⁸

Sex-verification testing has also affected women with chromosomal anomalies that likely or demonstrably produce no competitive advantage. The first athlete to fail a sex-verification test was a Polish sprinter named Ewa Klobukowska.¹⁹ In 1967, she was banned from sports and stripped of her Olympic medals after genetic testing revealed anomalous sex chromosomes in some cells (likely an XX/XY mosaicism²⁰)—notwithstanding the

fact that she passed a visual inspection the year before.²¹ Twenty years later, another runner, Maria Jose Martinez Patino, discovered for the first time during a sex verification test that she lacked a second X chromosome typical of most women.²² Patino,

the laboratory's existence underscores the fact that IOC policy would have permitted sex-verification testing to occur at the Olympic Games.

who was encouraged to fake an injury and withdraw quietly, was not a man despite her XY chromosomes.²³ She had Androgen Insensitivity Syndrome (AIS), an inability to process testosterone, effectively neutralizing the development in utero of male sex characteristics typically triggered by the Y chromosome.²⁴ Patino challenged the IAAF's decision and was reinstated two years later.²⁵ By then, Patino was past her athletic prime, but due to her efforts, the IAAF's sex-verification policy today includes AIS on its list of conditions that will not preclude athletes from competing in women's sport.²⁶ In the 1990s, the IOC updated its sex verification methods and adopted a Polymerase Chain Reaction (PCR) process designed to test for the presence of a Y chromosome rather than the absence of a second X chromosome.²⁷ Even PCR testing resulted in many false positives. Eight of the over 3,000 female athletes at the Summer Games in Atlanta tested positive for the Y chromosome but were permitted to compete either because further testing revealed AIS or another condition that inhibits the masculinizing function of testosterone.²⁸

In 1999, the IOC Executive Board responded to mounting criticism, including criticism by the American Medical Association and other professional associations,²⁹ that compulsory sex-verification testing was

expensive, unreliable, and an affront to the dignity of female athletes, by voting to abandon it. The IOC was also responding to the argument that existing drug testing procedures, including monitored urine sample requirements, were effective protection against intentional fraud. However, in abandoning the compulsory sex test, the IOC endorsed a policy that, like the IAAF's policy, permits "suspicion-based testing" on a case-by-case basis.³⁰ Organizers of Olympic Games in Beijing were responding to that policy when they established a laboratory to verify the sex of suspicious-looking women at the 2008 Summer Games. Recognizing the possibility that athletes could present with "ambiguous gender orientation," the Chinese organizers planned comprehensive evaluations of sexual hormones, chromosomes and genes as well as clinical observation, should the need arise.³¹ While no such testing was conducted, the laboratory's existence underscores the fact that IOC policy would have permitted sex-verification testing to occur at the Olympic Games.

II. The Myth of Sex-Verification Testing

Even in the comprehensive form anticipated by Beijing Olympic organizers and used in the case of Caster Semenya, sex verification is problematic for two main reasons. The first reason is that sex verification supposes that every athlete can be assigned to one of two sex categories and ignores the reality of gender multiplicity. As suggested by the brief overview of the history of sex-verification testing provided here, scientific inquiry into sex is often inconclusive. Sex cannot be distilled to a single, determinable factor. Many biological and social factors—including chromosomes, hormones, genitals, gender identity and gender expression—contribute to our interpretation of whether an

individual is male or female. In most people, these factors appear consistent: sex chromosomes that are either XX or XY will trigger hormones in utero, and again in puberty, that cause genitalia and other sex-related physical features to develop in the “typical” way. Most individuals identify with and experience themselves to be the sex that matches those chromosomes, hormones, and physical features.

However, variations at the chromosomal, hormonal, physical, and psychological levels preclude conclusive assignment of “male” and “female” labels in all cases. As Ewa Kloubowska’s case demonstrates, sex chromosomes can defy the usual XX or XY categories. Individuals may present with XO, XXY, XYY, XXX or a mosaic condition in which different cells in the same individual’s body have different sex chromosomes. Conditions like AIS produce a body that might be chromosomally male but hormonally female, while other conditions like congenital adrenal hyperplasia cause individuals with XX chromosomes to have masculine genitalia. Other conditions affecting physical development produce internal or external genitalia that defy classification as entirely male or female; indeed, for one out of every 1500 to 2000 births, an expert in sex differentiation must be called in to interpret atypical presentation of the baby’s gender.³² Transsexual and transgender individuals, who have a gender identity that differs from their physical sex, also challenge the assumption that sex and gender indicators are always consistent. Based on variations such as these, Brown University scientist and author Anne Fausto-Sterling dismiss Euro-American culture’s rigid insistence on only two sexes, stating, “The body’s sex is simply too complex. There is no either/or. Rather, there are shades of difference.”³³

By permitting sex-verification testing, the IOC and other athletic

governing bodies impose a binary structure onto a reality in which sex exists on a continuum.³⁴ The IOC’s recent policy allowing for participation by transsexual athletes, while a progressive step toward including

it is underinclusive because it ignores factors other than sex that are more likely to create an uneven field for competition.

athletes who would have otherwise been excluded from women’s events due to their Y chromosomes, still operates on and underscores the false premise that sex is a binary.³⁵ By requiring transsexual athletes to have undergone sex reassignment surgery, completed at least two years of hormone treatment, and obtained legal recognition of the new sex, the policy only allows for participation by those gender non-normative individuals most able and willing to conform to the gender binary by placing themselves through surgical, medical, and legal means, firmly on one side of the continuum or the other.³⁶ It excludes any individual whose physical sex or gender identity places them in the gray area in between.

In sum, “sex verification” testing is a myth. It operates on, and harmfully reinforces, the false premise that medical testing can determine sex as either male or female.

III. The Myth of the Level Playing Field

The second reason that sex verification is problematic is that it places undue emphasis on sex-segregation as a means for achieving fairness. The idea that fairness requires the strict separation of men’s and women’s sports is simultaneously overinclusive and underinclusive. It is overinclusive in that it applies even in situations where strict separation does not produce fairness. It is

underinclusive because it ignores factors other than sex that are more likely to create an uneven field for competition.

My first point, that sex segregation is applied more than fairness requires, is another way of saying that sex, or more precisely, male-ness, is an imperfect proxy for competitive advantage in sport.³⁷ Sorting athletes by sex does not necessarily sort them by physical characteristics that are considered relevant to sport. Owing to the wide variation of physical characteristics within sex categories (a term I use loosely, in light of my criticism above), some of the athletes in the female group will be similar in size, shape, and musculature to those in the male group. An approach more narrowly tailored to producing a level playing field would sort athletes by physical characteristics, much the same way sports like wrestling group athletes by weight. Even this approach, however, would not necessarily produce a level playing field, as correlations between physical characteristics and athletic performance, thought widely assumed, are largely illusory.

Research about competitive advantage and race illustrates this point. When scientists demonstrated that blacks generally have narrower pelvic girdles than whites, many people interpreted this as support for widely held assumptions about the competitive advantage of black sprinters. Yet there is no evidence that narrower pelvic girdles are, independent of race, a predictor of speed. As one physiologist told *Sports Illustrated* in 1997, “there’s not a single characteristic that is unique and always present and responsible for [athletic] performance.”³⁸ He was discussing generalizations about physical differences based on race, but the same point—that physical traits do not predict performance—applies to sex differences as well. The absence of a perfect correlation between sex and athletic performance explains examples of men competing against women and

losing—such as when Hitler Youth Hermann Ratjen finished fourth in the women’s high jump, or when tennis player Bobby Riggs famously lost to Billy Jean King. The absence of a perfect correlation between sex and athletic performance also explains why the existing gender gap in athletic performance is demonstrably waning as female athletes begin to overcome their historical exclusion and marginalization from sports. One Oxford University study predicts that, at the rate women’s running speed is improving, women will be outrunning men at certain track events sometime after 2064.³⁹

Thus, separating men and women is neither a perfect way, nor the best way, to ensure that athletes only compete against those with comparable physical features and athletic ability. It also fails to ensure fairness because disparities other than sex-related physical differences tilt the playing field.

In the sporting world, “fairness” is defined as universal adherence to the same rules. It is unfair to give a runner a head start, break the rules of play, or gain a physical advantage through such unnatural means as doping. While unnaturally obtained physical advantages may run afoul of fairness, fairness requires no such categorical limitation on naturally obtained physical advantages. Saying that no one can use natural advantage is antithetical to sport. The average individual does not become a world-class or Olympic athlete; indeed, it has been said that “elite sport selects for physiological outliers whose genetic potential for excellence has been realised through fortuitous interaction with environmental and cultural factors.”⁴⁰ Yet variation due to non-sex-related conditions is not challenged as beyond the bounds of fair play. For example, the sport of volleyball does not exclude athletes with Marfan’s syndrome, even though individuals with that condition have physical characteristics, including tallness

and long arms, that could provide a competitive advantage in that sport.⁴¹ The IAAF may determine that Caster Semenya has high testosterone levels resulting from an intersex condition, but it is possible—if not likely—that her opponents have physical features or testosterone levels that are outside the typical range of most women. If those opponents conform to the arbitrary, heteronormative and white standards of femininity, they are not “suspicious,” and they are not tested.

To underscore even further the shortcomings of sex-segregation as a means of ensuring fairness, consider that the so-called level playing field accommodates athletes not just with natural physical advantages, but social and environmental advantages as well.⁴²

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Some athletes receive coaching at an early age, some have financial advantage due to class or affiliation with sponsors, and some have technologically superior equipment such as shark skin swimsuits or clap-skates.⁴³ In some sports, players are advantaged or disadvantaged by changes in the weather⁴⁴ or the position of the sun. Even some physical advantages obtained by unnatural means,⁴⁵ such as laser eye surgery or ligament replacement, are permissible. These variables are likely to enhance an athlete’s performance in the same way that sex-related variables can. Thus, the idea that segregation of athletes by sex produces a level playing field is nothing short of myth.

IV. Proposal: Prohibit Sex Verification Testing

I am not proposing, at least not here, that the IOC should abandon sex-segregated athletics. I do support

reconceptualizing sports to allow for more integrated competitions that group athletes by physical characteristics other than sex. Weight classes in wrestling, handicapping in golf, grouping of common times in road racing are examples of how similar principles are already being applied. In this new paradigm, sex verification would be unnecessary because an athlete’s sex would be irrelevant to determining the field of competition most appropriate for each competitor. By abandoning the constraints of the sex binary, this paradigm would reflect a more intellectually honest approach to sport and would be inclusive of intersex and transgender athletes. While such a paradigm shift may be a valid long term goal, sex-segregation of sports is not going away in the short term. I simply argue here that, as an intermediate step, the IOC should prohibit sex-verification testing. The concept of testing for sex defies reality in which sex is a construct—a reality in which our interpretation of a person is based on a number of factors (genes, hormones, anatomy, identity, expression) that may or may not consistently conform to the concept of male and female. If sport is to continue to rely on the myth of discernable sex categories, it must acknowledge it as such, rather than insist that categorization is possible or that categorization is determinative of a level playing field. In short, the IOC and other athletic governing bodies must shed the overly rigid application of a sex binary in favor of a more flexible approach that allows athletes to participate in the category that is consistent with, or at least most closely approximates, their gender identity.

The IOC could implement a flexible approach by prohibiting sex verification testing and ensuring that the only participants disqualified from women’s events are those intentionally committing gender fraud. Under this approach, an intersex athlete like Caster

Semenya would be eligible for women's track events because her female gender identity is not in dispute. Under this proposal, the only sex-related challenges that the IOC or other governing bodies would consider would be those rooted in evidence tending to show that an athlete's self-selection into women's competition is not consistent with the life she leads outside of sport.⁴⁶ This intent-based standard should be interpreted to exclude competitors like Hermann Ratjen who are manipulated or forced to cheat by a government. An intent-based standard should not be used to exclude transsexual athletes who comply with the IOC's policy on transgender athlete participation; such competitors should have an absolute defense to charges that their gender identity at the time of competition is inconsistent with their gender expression earlier in their lives or athletic careers.

Currently, sex-verification policies treat an athlete's eligibility based on sex similarly to an athlete's eligibility based on involvement with banned substances. In both contexts, eligibility is determined by medical evidence, with no consideration given to whether the athlete intended to cheat.⁴⁷ However, the strict liability that applies in doping cases is not warranted in cases where sex is in dispute. One important difference is that doping policies target individual and categorical substances "because of their potential to enhance performance."⁴⁸ Sex-verification policies, however, are not so narrowly tailored. The risk of unfairness that strict liability poses in the context of sex, compared to the risk in the context of doping, is not as strongly outweighed by a benefit to the field of competition. Moreover, the risk of unfairness posed by a strict liability approach is arguably stronger when the ground for exclusion is a naturally occurring chromosomal or hormonal variation than when the ground for exclusion is an exogenously-obtained competitive advantage.

This proposal does not seek to

create a level playing field. Rather, it recognizes that sex-verification and the level playing field are illusory goals,⁴⁹ and in so doing avoids many of the problems that result from the IOC's current policy of suspicion-based sex-verification testing. As Caster Semenya's case shows, the policy is rife with abuse and selective application. Moreover, considering the myth of the level playing field created by numerous personal advantages that all athletes bring to the starting line, sex-verification testing inflicts harm on the athlete's dignity, privacy and personal life that are far disproportionate to any unfairness that is being targeted by examining sex.

Endnotes

¹ Erin E. Buzuvis is an Associate Professor at Western New England College School of Law. A version of this paper was presented at the University of Baltimore School of Law Amateur Sports Law Symposium on October 29, 2009. The author thanks Ann Gillard, Art Leavens, and Kris Newhall for helpful comments on earlier drafts.

² Simon Hart, *Caster Semenya 800 m Gold Overshadowed by Gender Controversy*, DAILY TELEGRAPH (U.K.), Aug. 19, 2009.

³ See Nilanjana Bhowmick & Jyoti Thottam, *Gender and Athletics: India's Own Caster Semenya*, TIME MAG. WORLD, Sept. 1, 2009 (stating that shortly after receiving the silver medal in the 800 meter at the Asian Championship, Soundarajan was asked to undergo a sex test, where she was later diagnosed with androgen insensitivity syndrome (AIS), a condition in which a "male is resistant to androgens, the male sex hormones").

⁴ INT'L ASS'N OF ATHLETICS FED'N, IAAF POLICY ON GENDER VERIFICATION (2006) ("The crux of the matter is that the athlete should not be enjoying the benefits of natural testosterone

predominance normally seen in a male.").

⁵ Jeré Longman, *South African Runner's Sex-Verification Result Won't Be Public*, N.Y. TIMES, Nov. 19, 2009.

⁶ See *id.* (acknowledging that it is rare to have disputes over an athlete's sex, where Semenya's sport was unprepared to handle cases in which athletes have both male and female characteristics).

⁷ Meg Handley, *IOC Grapples with Sex Testing*, TIME MAG. WORLD, Feb. 11, 2010. The conference reportedly produced only recommendations that the IOC support medical centers that would "treat" athletes with DSD with hormone therapy and surgery, a recommendation that pathologizes sexual variation and raises both practical and ethical questions about the idea of reducing an athlete's natural hormone level in an attempt to level and already-variable playing field. *Id.*

⁸ See Assoc. Press, *Semenya Sets Comeback*, N.Y. TIMES, July 7, 2010 (reporting that after being cleared by the IAAF, Semenya will compete in a European meet before making her return to the African championships in Kenya).

⁹ See Jane Macartney & Hattie Garlick, *Girls Will Be Girls at the Beijing Olympics: Sex Tests Will Prove It*, TIMES (U.K.), July 29, 2008 ("Suspect athletes will be evaluated from their external appearance by experts. They will then undergo four tests, including blood tests, to examine their sex hormones, genes and chromosomes for sex determination" because there's the need for a "full battery of examinations," where chromosome tests might be insufficient and external checks alone could result in negative reactions from athletes).

¹⁰ Laura A. Wackwitz, *Verifying the Myth: Olympic Sex Testing and the Category "Woman,"* 26 WOMEN'S STUD. INT'L F. 553, 553 (2003).

¹¹ *Id.*

¹² See Robert Ritchie et al., *Intersex and the Olympic Games*, 101 J. OF THE ROYAL SOC'Y OF MED. 395, 396 (2008)

(concluding that prior to the 1966 European athletics championship, “compulsory gender verification in the form of a gynaecological examination” was used where athletes had to stand “naked in front of a committee and were subjected to inspection of their external genitalia”); Wackwitz, *supra* note 10, at 555.

¹³ Wackwitz, *supra* note 10, at 553-54.

¹⁴ Haley K. Olsen-Acre, *The Use of Drug Testing to Police Sex and Gender in the Olympic Games*, 13 MICH. J. GENDER & L. 207, 212 n.22 (2006).

¹⁵ Sheila L. Cavanagh & Heather Sykes, *Transsexual Bodies at the Olympics: The International Olympic Committee’s Policy on Transsexual Athletes at the 2004 Athens Summer Games*, 12 BODY & SOC’Y 75, 83 (2006).

¹⁶ *Id.*

¹⁷ *Id.*; see also Ritchie et al., *supra* note 12, at 396-97 (stating that when compulsory gender verification was introduced, mandating female athletes to submit to sex testing by standing naked in front of a Committee, neither of the Press sisters took the examination and never appeared in an athletic competition again).

¹⁸ *Richards v. U.S. Tennis Ass’n*, 400 N.Y.S.2d 267, 272 (Sup. Ct. 1977) (recognizing the inadequacy of the Barr Body test to test for femaleness); see also Cavanagh & Sykes, *supra* note 15, at 81. Moreover, even as a sex-policing practice, the Barr body test comes up short because it would not detect all individuals with male chromosomes. Those with a rare XXY genotype or male physical characteristics would test positive for the Barr body and be counted as women by the IOC. The Barr body test also fails to detect chromosomally female athletes with non-chromosomal masculinizing conditions, such as androgen-secreting tumors. Myron Genel, *Gender Verification No More?*, 5 WOMEN’S HEALTH (2000), <http://ai.eecs.umich.edu/people/conway/TS/OlympicGenderTesting.html>.

¹⁹ See Ritchie et al., *supra* note 12, at 397 (asserting that while Klobukowska failed the Barr body test after it was first introduced, the test itself created various problems because it confirmed or refuted an individual’s sex based solely on a chromosomal test, when such a test “fails to take account of the complexities of sex determination itself”).

²⁰ *Id.*

²¹ See Wackwitz, *supra* note 10, at 556 (acknowledging that protests against sex testing have stated that it is neither a test based on physical appearance nor chromosomal make-up is completely determinative of biological sex); see also Cheryl L. Cole, *One Chromosome Too Many? in THE OLYMPICS AT THE MILLENNIUM: POWER, POLITICS, AND THE GAMES* 128, 129 (Kay Schaffer & Sidonie Smith, eds., 2000) (discussing the “procedural shift from the body’s surface to its interior,” where Klobukowska had one sex chromosome too many to be declared a woman for purposes of an athletic competition).

²² Wackwitz, *supra* note 10, at 556.

²³ *Id.*

²⁴ J.C. Reeser, *Gender Identity and Sport: Is the Playing Field Level?*, 39 BRIT. J. SPORTS MED. 695, 696 (2005). 1 in 60,000 males are affected by AIS. *Id.*

²⁵ Wackowitz, *supra* note 10, at 556 (“I knew I was a woman. . . . If I hadn’t been an athlete my femininity would never have been questioned.”).

²⁶ Genel, *supra* note 18. In addition to AIS, the IAAF policy lists gonadal dysgenesis, and Turner Syndrome as conditions, which afford no competitive advantage, and thus allowed. It also recognizes congenital adrenal hyperplasia, androgen-producing tumors, and anovulatory androgen excess as conditions, which “may afford competitive advantage”, but should nevertheless be allowed. INT’L ASS’N OF ATHLETICS FED’N, *supra* note 4, ¶ 6.

²⁷ See Cole, *supra* note 21, at 142-43

(explaining that the IOC “sought to improve and standardize laboratory-based testing,” where recent studies on chromosomal analysis has shown that the absence of the SRY gene was the key element in determining a person’s sex).

²⁸ Genel, *supra* note 18; Reeser, *supra* note 24, at 696.

²⁹ Genel, *supra* note 18.

³⁰ See Cavanagh & Sykes, *supra* note 15, at 76 (holding that if the IOC questioned the sex of an athlete it reserved the right to conduct a sex test).

³¹ Wang Wei & Zhang Ming’ai, *Sex Testing Lab for Beijing Olympics*, August 18, 2008, http://www.china.org.cn/olympics/news/2008-08/18/content_16263487.htm (stating that the sex of athletes with such “ambiguous gender orientation” would be determined by clinical observation, testing of the chromosomes and genes, and the presence of abnormal male hormone because “one single test is not enough”).

³² See ANNE FAUSTO-STERLING, *SEXING THE BODY: GENDER POLITICS AND THE CONSTRUCTION OF SEXUALITY* 4-5 (2000) (asserting that “labeling someone a man or a woman is a social decision”); see also Jennifer Finney Boylan, *The XY Games*, N.Y. TIMES, Aug. 3, 2008 (acknowledging that for some women whose internal genitalia defy classification, they live their lives without knowing they have such a condition).

³³ FAUSTO-STERLING, *supra* note 32, at 3

³⁴ See Boylan, *supra* note 32 (“The Olympic hosts [in Beijing] seem to want to impose a binary order upon the messy continuum of gender. They are searching for correctness and certainty in a world that contains neither.”).

³⁵ See Cavanagh & Sykes, *supra* note 15, at 75 (addressing the controversy behind allowing the participation of transsexual athletes, where opponents feel that gender self-determination results in unfair competitive advantages).

³⁶ *Id.* at 75-76.

³⁷ See Wackwitz, *supra* note 10, at 554-55 (stating that the separation of athletic events into male and female events, while helpful is damaging “to those identified as women” because “the system which seeks to provide a space for women to compete is also the system that insists upon their competitive inferiority”).

³⁸ S.L. Price, *Is It in the Genes?*, SPORTS ILLUSTRATED, Dec. 7, 1997.

³⁹ See Cavanagh & Sykes, *supra* note 15, at 83 (recognizing that while muscles and muscularity are deemed masculine and goes against the conventional ideas of women and femininity, women are encouraged to train their bodies and increase their physique; see also COLETTE DOWLING, *THE FRAILTY MYTH: WOMEN APPROACHING PHYSICAL EQUALITY* (2000).

⁴⁰ Reeser, *supra* note 24, at 698.

⁴¹ See *id.* (stating that it might be useful to consider how the IAAF and IOC would address issues of a “genetically unique individual” who develops attributes that allow him or her to excel at a certain sport).

⁴² *Cf.*, e.g., *PGA Tour, Inc. v. Martin*, 532 U.S. 661, 686-87 (2001) (rejecting the Professional Golf Association’s argument it could not waive its golf cart prohibition for a physically disabled athlete without

compromising the level playing field by pointing out that “it is impossible to ensure that all competitors will play under exactly the same conditions or that an individual’s ability will be the sole determinant of the outcome”).

⁴³ Todd Alligner, *Clap Skates at Nagano: World Records Tumble in Speed Skating*, SPORTSCIENCE NEWS, Mar-Apr 1998, available at <http://www.sportsci.org/news/news9803/clapnagano.html>; Kelli Anderson, *The War of the Swimsuits*, SPORTS ILLUSTRATED, June 23, 2008, at 54. Though shark skin suits have been prospectively banned, there are no serious proposals to invalidate the records set by swimmers using this equipment in Beijing. *Id.*

⁴⁴ *PGA Tour*, 523 U.S. at 686-87 (“[C]hanges in the weather may produce harder greens and more head winds for the tournament leader than for his closest pursuers. A lucky bounce may save a shot or two....Pure chance may have a greater impact on the outcome of elite golf tournaments than [an advantage a disabled player may receive from a golf cart accommodation].”).

⁴⁵ *Cf. Pistorius v. Int’l Ass’n of Athletics Federations*, CAS 2008/A/1480 (2008) (rejecting a narrow view of competitive advantage in reasoning

that the advantageous energy return a runner received from using prosthetic limbs had to be considered against the disadvantages of doing so).

⁴⁶ Boylan, *supra* note 32 (“The best judge of a person’s gender is not a degrading, questionable examination. The best judge of a person’s gender is what lies within his, or her heart....A quick look at the reality of an athlete’s life ought to settle the question.”).

⁴⁷ See, e.g., WORLD ANTI-DOPING AGENCY, ANTI-DOPING CODE ¶ 2.1.1 (2009) (“It is each Athlete’s personal duty to ensure that no Prohibited Substance enters his or her body Accordingly, it is not necessary that intent, fault, negligence or knowing Use on the Athlete’s part be demonstrated in order to establish an anti-doping violation under Article 2.1.”); *C. v. Federation Internationale de Natation Amateur*, CAS 95/141 (1996) (swimmer given banned substance by her coach was disqualified).

⁴⁸ WORLD ANTI-DOPING AGENCY, *supra* note 47, ¶ 4.2.1.

⁴⁹ Boylan, *supra* note 32 (arguing that Olympic officials “have to learn to live with ambiguity, and make peace with a world in which things are not always quantifiable and clear”).

See Katy Bosse’s “Inside the Authors’ Studio” interview on our website to learn more about her inspiration for the article, and her thoughts about the issues and questions emerging from the following article.