

Stereotype Threat and the Female Athlete:

Swimming, Surfing, and Sport Martial Arts

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Introduction

It has long been documented that there is an inconsistency in the way female and male athletes are treated. From the way they are received by the public to the way they are coached, this disparity reflects an essentialist ideology that sees the differences between female and male physiology as absolute determinants of performance. Such thinking also tends to treat *gender* – the way a person presents and performs in the world as a man, woman, or any other socially constructed role – as a natural offshoot of *sex* – the biological markers that classify bodies as ‘male’ or ‘female.’ Such thinking has been criticized from several fronts. For instance, this so-called “natural attitude” (Garfinkel 1957) has been criticized in trans studies, for instance by Talia Bettcher (2007, 2009).

From the perspective of this natural attitude, ‘throwing like a girl’, is just what girls naturally do, which is to say, throw poorly, awkwardly, and much less effectively than their ‘boy’ counterparts. In fact, to be male and to be accused of throwing ‘like a girl,’ or to perform in any way whatsoever like a girl is an insult, whereas to be like Sarah Hudek, one of the top pitchers in all of college softball *and* baseball (Axisa 2016), is viewed as a miraculous feat, bordering on

freakish. Her performance is certainly not treated as ‘normal’ or natural, despite evidence that female pitchers can perform nearly if not equally as well as males (Mirsky 2015). And as we will see below, this phenomenon is by no means confined to throwing sports; we will find it in many other places.

The source of this unequal treatment of athletes of different genders comes from stereotypes about the inherent abilities of female athletes. This is tied to the idea that one’s athletic abilities are inextricably linked to one’s biological sex and that biology, as it were, is destiny. Further compounding the problem is the commonly held social view that not only is it unnatural for women to be good at sports, but that the behaviors required to exhibit good athletic performance are unfeminine - inappropriate ways for women to behave in the world.

With respect to the biological perspective, females, it is argued, are naturally weaker, slower, and have less muscle mass than males. As such, they are less exciting to watch, they are too fragile to play rough, and they will never outperform male athletes. These stereotypes have unfortunate negative consequences, such as the underrepresentation of female athletes in the media or the near bankruptcy of an entire organization like the Women’s National Basketball Association (WNBA), which is also an example of the ever-present pay gap between female and male athletes (Berri 2015). The U.S. Women’s Soccer team, e.g., collected \$2 million in 2015, while the Men’s team collected \$9 million in 2014, despite the fact that the women’s team won the World Cup, while the men only advanced to the second stage of the competition. Negative stereotypes, unsurprisingly, also lead to sexist and misogynist attacks on women, such as recent slurs against Serena Williams, and by proxy, all female tennis stars who dare threaten to eclipse the popularity of their male counterparts (Dator 2016). Stereotypes can also hinder athletic performance itself; an internalized sense that the world sees her as physically incapable can lead to diminished

performance, if not all out failure, for many women and girls. The internalization of these stereotypes and the associated effects of *stereotype threat* on athletic performance will be the main focus of this chapter.

We do not deny that physiological differences exist between male and female athletes, nor do we deny that these physiological differences impact the ways in which certain sports are performed. For instance, women are, on average, shorter than men, and as such, the heights of basketball nets in the NBA and WNBA reflect this biological statistic, which is arguably a reasonable accommodation. What we argue, though, is that these physiological differences do not necessitate the aforementioned negative assumptions about the abilities of female athletes. So what we will be exploring and ultimately critiquing are ways in which negative stereotypes surrounding female athletes psychologically impact the athletes, their embodied subjectivity, and their athletic performance. Furthermore, by looking at not only the effects of the stereotyping, but also at the *source* – namely, from whence the stereotypes arise – we hope to offer some insights into ways to improve the conditions affecting the psychology, phenomenology, and training of female athletes.

Our chapter proceeds as follows: First, we provide a brief overview of stereotype threat in competitive sports. While stereotype threat is prevalent in nearly all sports, we concentrate on swimming, surfing, and martial arts, as these three sports are sufficiently dissimilar so as to represent a broad spectrum, and yet, there are interesting commonalities among them in terms of the role that gendered norms play in performance, coaching, and competition. Next, we look at the potential sources of these gender stereotypes and how gender itself is constructed, utilized, and sustained in practices surrounding coaching and training of female athletes. To this end, we draw from a rich history of gender theory and analysis that demonstrably indicates the fluid and socially constructed nature of most stereotypes surrounding feminine versus masculine embodiment.

Where our argument takes a novel turn is in also drawing from some of the current trends in the philosophy of cognitive science, particularly the *enactivist* view of the mind, which sees cognition as a dynamically interactive process between organisms and environment, including the social environment (cf. Varela, et al, 1991; Thompson, 2007; Krueger, 2013). We argue that gender is a socially and dynamically enactive process that emerges from and is maintained by interactions among participants, and that depending on context, gender norms can appear quite differently, and therefore be applied quite differently. Stereotypes, on this view, are not static representations or ideals, but are shared and collective experiences that serve to shape and reinforce the psychological framework of not only the athletes participating in a given sport, but their coaches, spectators, and fans as well. And all of these participants participate in and are influenced by a myriad of other social systems, such as the media, that play important roles in constructing and maintaining stereotypes. The phenomenon of stereotype threat, it turns out, is wholly intersubjective and socially dynamic.

Stereotype Threat in Competitive Sports

Stereotype threat is a phenomenon through which salient negative stereotypes about a group can adversely affect the performance of its members (Chalabaev et al. 2013a, Steele and Aronson 1995). Although physiological factors may play a role in explaining the differences in performance between genders, Eagly (1995) has shown that only 5% of variance in physical ability is down to gender. Therefore in this section, we examine how gender stereotypes function in sports in order to demonstrate the validity of this construct in the sociological sciences (Messner 2000, Musto 2014). Besides showing up in sports, stereotype threat is also documented to affect performance on math, science, and spatial reasoning tasks, such that it is often the case that negative biases about women

and girls within STEM (science, technology, engineering, math) fields lead to poor performance within and even avoidance of those domains entirely (Shapiro and Williams 2011, Ambady et al 2001, Spencer et al 1999). Analogous negative stereotypes persist in many sports and can impede performance of female athletes. These implicit biases serve to create an atmosphere in which the preconceived attitude that women and girls bring to their sport or activity is often already a sense of 'I cannot'. In male participants, on the other hand, positive stereotypes create an atmosphere of 'I can.' Performance is impacted either way. Stereotypes, it turns out, can function like self-fulfilling prophecies.

In the United States, sport is an arena that has historically been constructed as a male domain (Cahn 1994; Messner 1988; Riemer & Visio, 2003), which plays a critical role in naturalizing essentialist differences between the genders (Kimmel 1997; Messner 2011; Musto 2014). Within the past century, the institution of sport has played a key role in the construction and stabilization of a "male-dominant, hetero-sexist system of gender relations" (Messner 1995: 16) that favors competition, aggressiveness, and violence. This system of gender relations typically excludes women, working-class men, men of color, and immigrants (Dworkin & Messner 2002; Kimmel 1990). Sport has become a major "testing ground" for men to enact and defend their masculinity (Kimmel 1997; Messner & Sabo 1990). Despite the fact that the arena of sport routinely and systematically creates and reinforces an ideology of male superiority (Messner 1995), women continue to pursue and participate in sports. Within the past half century, large numbers of women have been participating in a variety of sports.

During the 1970s, there was an explosion of female athletic participation across the United States (Messner, 1988; Hargreaves, 1994; Messner, 2011). With the passing of Title IX - an anti-discrimination portion of the 1972 U.S.A. Education Amendments - during this era, sport

opportunities for women and girls in the United States dramatically increased, especially in sports that have been traditionally associated with men (Pelak, 2002). Increases in participation can be seen in both organized team sports such as basketball and baseball, as well as in more alternative and highly individualized sports such as surfing, skateboarding and snowboarding. These monumental increases in participation led scholars to start examining sport as a “terrain of contradictory and contested gender meanings and relations” (Messner, 2011, 151, See also Messner, 1988). Although there are arguably more women participating in sports post-Title IX (Heywood & Dworkin, 2003; Sabo & Veliz, 2008), sporting women continue to struggle with: earning respect from their male peers (Roy & Caudwell, 2014), being seen as ‘authentic members of the culture’ (Atencio, Beal, & Wilson, 2009; Olive, McCuaig, & Phillips, 2015), navigating essentialist and categorical beliefs about gender relations (Messner 2011), and receiving appropriate quantity and quality of televised coverage of professional sports (Cooky, Messner & Musto 2015). Some sporting women believe there are ‘female’ and ‘male’ appropriate ways of engaging in physical activities, so that even when women do well or show commitment to their sport, their performance is still demarcated by gender, such as they are still only ‘good for a girl’ (Booth 2001; Atencio, Beal, & Wilson 2009; Sisjord 2009). Some of these obstacles can in part be explained by an individual’s shared beliefs about natural differences that exist between boys and girls and the salience of gender.

Research has found that stereotype threats have a negative impact on performance, especially if the belief is internalised (Chalabaev, Sarrazin, et al., 2013). Chalabaev, Brisswalter and colleagues (2013) conducted a study exploring stereotype threats on a simple strength task and found that velocity of force production was decreased when the negative stereotype threat was introduced for female participants. Similar results were also present in other sporting tasks such as

golf-putting (Beilock, Jellison, Rydell, McConnell, & Carr, 2006; Beilock & McConnell, 2004), a soccer dribbling task (Chalabaev, Sarrazin, Stone, & Cury, 2008) and free throw in basketball (Krendl, Gainsburg, & Ambady, 2012).

Sport scholars have recently started to document the ways in which gender varies in salience across sport contexts and what factors impact the salience of gender within interactions (Messner, 2000; Musto, 2014). In order to understand shifts in salience, Musto (2014) and Messner (2000) examined how individuals enact different patterns of gender relations within and across contexts. In her study of a co-ed youth swim team, Musto discovered that during focused (structured) aspects of swim practice gender was less salient. It was during these aspects of swim practice that Musto observed the athletes interacting in ways that were not antagonistic. Instead of focusing on how they differ across genders, the swimmers followed their coach's instructions and compared race times with one another regardless if they were a boy or girl. By focusing on time (performance) and following their coach's instructions, the swimmers were able to compare themselves in terms of overall ability. During unfocused (unstructured) aspects of swim practice, gender was highly salient and swimmers interacted with each other in antagonist ways. It was also during unfocused aspects of swim practice that boys and girls engaged in "borderwork" (Musto 2014, see also Messner 2000; Thorne 1993). Borderwork happens when "individuals draw on and affirm group boundaries between the genders" such that during this aspect of swim practice one of the ways boys engaged in border work was by physically separating themselves from the girls (Musto 2014, 372). Parents and coaches play a crucial role in reinforcing gender boundaries between the boys and girls (Messer, 2000). When the salience of gender is low and the given context allows for individuals to interact with each other in ways that showcase similarities between the genders (overall race times), individuals are able to construct gender relations without

hegemonic beliefs (Musto 2014). These studies are an important reminder for scholars to consider the ways in which gender relations and the meanings individuals attach to gender can shift across contexts. Examining under which situations and under which conditions activate gender boundaries, for example paying attention to what role coaches and parents play, will aid scholars in further understanding how individuals (de)construct gender beliefs.

Similar engagements in borderwork and gender construction more generally have been studied in martial arts contexts as well. In their study of the interactions between adolescent judokas both on and off the mat, Guérandel and Mennesson (2007) found several ways in which the athletes reaffirmed gender stereotypes and gender boundaries. Interactions between athletes of the same gender often take place in ways that fit nicely with stereotypical male and female interests and modes of interaction, with girls talking about relationships and displaying physical affection towards each other, while boys would often discuss sports and display a “virile camaraderie” even when not engaged in athletic activity (Guérandel and Mennesson 2007, 173-4).

During practice itself, gender hierarchies would nevertheless remain, with girls being perceived, (even by other girls), as being less challenging opponents. The internalized expectation in mixed-gender matches is that the boys will be stronger opponents than the girls. This manifests in boys throwing the girls more softly, by retying their belts if they fall off, and other such behavior that might be described as gentlemanly. That this kind of behaviour will manifest, of course, assumes that boys and girls will even be allowed to fight each other in the first place. Sisjord (1997) notes in her study of adolescent wrestlers that many girls did not even practice with boys, unless those boys were relatively young, in order to ensure even matches of size and skill. Swimming training, at least at the Olympic level in the U.S., is perhaps an exception to this rule, as team USA notoriously hosts mixed-gender practices, but more importantly, male swimmers do not

tend to view their female counterparts as inherently ‘easy to beat.’ The recent surge in fame of swimmers like Katie Ledecky, for example, has prompted questions pertaining to how elite swimmers train, and more often than not, Ledecky is described as a ‘pace-setter’ and a strong competitor, even by Michael Phelps, the most decorated Olympic swimmer of all time. Ledecky has tied him on the 400 meter freestyle during practice. However, swimmers like Ledecky are few and far between and despite the ever-decreasing gap between male and female swimmers’ performances, there is still a marked tendency to view male swimmers as innately better at the sport, in part, because they tend to be taller than females. Even Phelps has commented that Ledecky ‘swims like a guy’. Ironically, Ledecky, unlike many top male swimmers, *does not* in fact possess great height, large hands, or big feet, so it is odd that Phelps describes her in this way:

I’ve watched her stroke so much, really, over the last couple of years. Really, she swims almost like a guy. Her long, loping stroke ... stronger and stronger throughout the race. I think her stroke is so different from all the other females that she swims against. (Zaccardi 2015)

But, it can be gleaned from the above quote that Phelps is chalking this uncanny ‘man-like’ ability of Ledecky’s to a masculine technique she has mastered. It is the only way to make sense of her superhuman speed. In marathon swimming, similar stereotypes persist, despite the fact that female swimmers in this sport are not only closing the gap in performance-levels, but often times, exceeding that of their male counterparts. And when a female swimmer does tie or outperform a male, such as Diana Nyad’s record-breaking distance of 110 miles from Cuba to Florida, it is often the case that the performance is questioned or the swimmer is even accused of cheating (Holpuch 2013). In short, even in swimming, stereotypes about male and female ability persist and influence training, which in turn influences the way the athletes themselves view one another (cf. Wainer, et

al, 2000). These stereotypes extend to the way coaches are perceived as well, with male coaches dominating swimming and being viewed as more capable (cf. Medwechuk and Crossman, 1994).

Even though non-traditional sport spaces can offer sporting women a greater promise for the ‘realization of alternative and resistant sport forms’ (Birrell & Theberge 1994, 371), women participants in non-traditional sport contexts still face obstacles that are in part influenced by negative salient stereotypes. Within alternative physical cultures like surfing or snowboarding, women are often marginalized or excluded from the sporting space through “cultural understandings and expectations” of how the activities should be performed or the assumptions about male and female performances (Olive, McCuaig, & Phillips, 2015). For example, some female snowboarders believe their abilities are often compared to ‘the boy’s scale’ (Thorpe 2005, 93) and young male skaters believe the lack of female involvement in skateboarding culture is tied to the ideology that ‘girls don’t like to get hurt’ (Beal & Wilson 2004, 47). Some participants believe there are ‘female’ and ‘male’ appropriate ways of engaging in physical activities, so that even when women do well or show commitment to their sport, their performance is still demarcated by gender, such as they are still only ‘good for a girl’ (Booth 2001; Atencio, Beal, and Wilson 2009; Sisjord 2009). Surfing is a valuable site for understanding how women navigate salient beliefs about gender because even though a growing number of women and girls enter the sport every year (Ford and Brown 2006), surfing is an arena typically dominated by masculine gender norms (Thorpe 2009; Stoddart 2011).

Women surfers’ experiences of the sporting space are varied with some sporting women feeling patronized and differentiated by male surfers out in the line-up (Olive, McCuaig, and Phillips 2015, Comley 2016) and others feeling empowered to the extent that they use surfing as a space to contest traditional discourses of both femininity and motherhood (Knijnik, Horton, and

Cruz 2010; Spowart, Burrows, and Shaw 2010). Recreational surfing is not bound by any particular system of rules, which means this activity is not necessarily articulated in terms of sex/gender teams or leagues (Olive, McCuaig and Phillips 2015). Thus, recreational surfing can be conceptualized as a situation/condition that is unstructured/unfocused free time, which means gender should be more salient. Findings from studies about women surfer's experiences support this claim in that some male surfers are engaging in practices that marginalize and differentiate women. For example, women surfers report receiving extra levels of attention, support, and encouragement from male surfers (Olive, McCuaig and Phillips 2015) and feeling as if they have to "represent" for all women (Comley 2016). Many women surfers discuss the importance of catching that first wave of the session and how they feel added pressure to perform well (Fendt and Wilson 2012, Comley 2016). Although male surfers believe they are acting altruistic and supportive, women surfers perceive their behaviors as patronizing and differentiating. Patronizing behaviours can make women feel as if they were not 'authentic' surfers (Olive, McCuaig, and Phillips 2015). By differentiating women in the water, male surfers reinforced and maintained the idea that women surfers are just "women that surf" instead of "surfers" (Olive, McCuaig, and Phillips 2015, 265). Even though women surfers felt patronized and were being differentiated they could still be agentic by refusing the advice and help they received in the line-up. By refusing to accept being differentiated, women surfers have the potential to 'carve out alternative ways of operating within the power relations that circulate in the waves' (Olive, McCuaig, and Phillips 2015, 273).

Sources of Stereotypes: The Construction of Gender

Essentialism

In this section, we discuss more generally the way sex and gender are assumed, tracked, and applied. Our aim here is to reveal ways in which current theories and practices of gender are at odds with or have at least not filtered into the domain of competitive sports, especially not in the coaching or mentoring of young athletes in swimming, surfing, and sport martial arts. The idea of an absolute binary between male and female – assumed to be exclusive and exhaustive - is rarely, if ever, questioned in professional sports. Cases involving female athletes with atypically high levels of endogenous testosterone and the forced genetic testing that is imposed on such athletes (such as the South African runner, Caster Semenya), have given professional sports committees and directors reason to at least reconsider some of these practices (Karkazis et al 2012).

Furthermore, in certain sports, such as marathon swimming, for instance, it is arguably the case that gender difference in technique and performance is negligible at best (Eichenberger et al 2012), and there are women like Diana Nyad, who have attempted and succeeded at distances far greater than any male long distance swimmer. But perhaps unsurprisingly, when a swimming performance like Nyad's is achieved, instead of rethinking the attitudes towards gender differences, the reaction was to question the validity of her performance and assume she was somehow cheating (Holpuch 2013).

It is unfortunate that the assumption of this dichotomy remains in athletic settings, however, given that it has long been challenged by scientists, philosophers, and sociologists, to

name a few disciplines. Fausto-Sterling (2000), Fine (2010), and Roughgarden (2013) are a few who have challenged various aspects of conventional social views about sex, gender, and innate differences between men and women. For instance, Fine (2010) argues that implicit social assumptions about gender differences are already presupposed in many psychology studies that purport to discover differences between male and female brains. Such studies often result in popular articles arguing that men and women are inherently “wired differently,” explaining why women are better suited to some tasks and men, to others (Connor 2013). This *neurosexism*, as Fine calls it, can be debunked if we pay closer attention to the details and methodology of the research involved. The more significant source of cognitive gender differences, she argues, is cultural.

One popular belief about gendered cognition is that women tend to have more emotional intelligence than men; women, some say, are hard-wired for empathy, while men are typically hard-pressed to understand the feelings of others (Baron-Cohen 2003). This has been measured through the use of Baron-Cohen’s Empathy Quotient (EQ) test, on which women tend to score higher than men. One striking fact, however, about the test, is that it is unclear whether it measures empathy, or one’s self-perception as empathetic, given questions such as “I can easily tell if someone else wants to enter a conversation.” Further, Eisenberg and Lennon (1983), in an extensive literature survey of tests used to measure empathy, found that the extent to which tests found women to be more empathetic than men were very strongly correlated to the method of testing used. And self-assessment tests such as the EQ were those most strongly favoring women.

Further, studies that prime gender tend to show more stereotypical behaviour, in the sense that subjects that were thinking about gender differences in empathy had a stronger tendency to exhibit them. As a result, Klein and Hodges (2001) suggest an alternative explanation for gendered

differences in empathic ability: rather than women being innately better empathizers than men, women are more often *motivated* to be good empathizers. When placed in circumstances in which they were well motivated to have good empathic accuracy, such as when there were monetary rewards for correct answers, there were no significant gender differences between men and women. And in general, when we look at the range of studies, the conclusion is that empathic ability and motivation cannot be separated from the social circumstances in which they are deployed. Social views about gender are intertwined with the salience of our gender identities (Fine 2010, 19-26). Our argument in this chapter is analogous to Fine's in that we outline mechanisms through which women internalize norms and stereotypes of feminine weakness and lack of athleticism, just as women internalize norms and stereotypes of feminine caring and empathy. And just as these gendered norms about emotional aptitude are closely connected to the ways in which that aptitude manifests itself, gendered norms about athletic ability are closely connected to athleticism in practice. Thus negative stereotypes about women and athleticism are part of what results in women *being* weaker and less athletic.

Inhibited Intentionality and Gender Construction

One result of gendered socialization is the internalization of norms for men's and women's bodily comportment, some of which have a purported basis in biology. Iris Marion Young's (2005) "Throwing like a girl" explicitly addresses shortcomings in Erwin Straus' analysis of the difference between men and women's movement when throwing. While Straus attributes women's throwing style to biological (though not purely anatomical) differences, Young points out that this neglects to account for the basic modalities of feminine bodily existence. While her analysis is limited to women living in a relatively narrowly circumscribed set of industrialized Western

cultures, it nevertheless addresses many preconceptions held in those cultures about women's movement and abilities.

The three modalities of feminine movement that Young outlines are *ambiguous transcendence*, *inhibited intentionality*, and a *discontinuous unity* with its surroundings. All of these are related to the idea that women relate to their bodies in distinct and conflicting ways: both as an object (sometimes burdensome) that must be dealt with and as a source of intentionality. The second of these - inhibited intentionality - will be the main focus of our discussion in this chapter. In order to understand how intentionality can be *inhibited*, we can contrast it with *uninhibited* intentionality; bodily movement exemplifying uninhibited intentionality is smoothly goal-directed, in which there is an unbroken directedness between the aim of the action and its enactment. In much feminine movement, this directedness is broken, and women find themselves simultaneously attempting to carry out the act in question, and stiffening against its easy performance. Stereotypical "throwing like a girl" exemplifies this inhibited movement, in which women perform the action, but still fail to take advantage of their full range of bodily possibilities.

While the extent to which inhibited intentionality is still experienced by women to the same extent as it was when Young's essay was originally written, is to some extent controversial (Young 1998, Chisholm 2008, Foster 2009). But even if diminished, the stereotypes about women in sport nevertheless remain, and as the studies discussed in the previous section show, many of us have certainly internalized views of feminine weakness which seem to impair women's ability to participate in sport. And at least in the case of fighting sports, there may be some component of this inhibited intentionality that remains (Yap 2016). Part of the mechanism for this might be explained by Butler's (1999) idea of gender as *performative*, such that gender is not a static attribute that a person has; rather one's gender identity is constituted by the historically and

socially contingent ways in which it is expressed. Gender identity, then, is not best understood as a fixed source from which one's behavior follows - it is not *because* someone is a woman that they conform to feminine modes of bodily comportment, whatever those might be in the historical and cultural location in which they are situated. Although the stylized repetition of acts through which one conforms to gendered norms of behavior, appearance, etc., may create the illusion of a stable gender identity prior to and grounding those acts, Butler claims that it is the acts themselves that ground our gender identity - or at least create the appearance of such a ground.

Given that women's athletic inferiority is a popular and deeply embedded stereotype within our culture, skilled female athletes face a challenge when it comes to possessing an intelligible gender - one that coheres and sustains gendered norms within one's culture. If exceptional athletic excellence is not seen as compatible with being a woman, then female athletes might end up possessing what Merritt (2014) calls "nonsensical gender," meaning that they cannot be sensibly understood as women in our society. Given the idea we have assumed of gender as performative, women who do not behave in accordance with our common socio-cultural understanding of women's behavior are in some sense not actually women. We shall see in the following section how this applies in the case of women athletes.

The Female/Athlete Paradox

Female athletes face a double challenge in which they are expected to perform with excellence at their sport while also maintaining their 'proper place' behind male athletes when it comes to overall performance. Whenever a woman threatens to surpass a man in terms of strength, speed, or power, she is questioned, denounced, and vilified. Part of this suspicious attitude toward female

athletes, we argue, stems from what scholars have referred to as the “female/athlete paradox,” which is the notion that a female athlete must simultaneously appear strong, confident, and adept at her sport, but must also retain all the trappings of a ‘feminine’ and ‘normal’ woman (Krane 2001, Kolnes 1995, Meân and Kassing 2008, Ross and Shinenw 2008). This has also been found to discourage adolescent girls from participating in athletic activities in the first place. A fear of masculinization and the additional pressure of the male gaze can also explain adolescent girls’ anxiety about participation in sports in mixed gender contexts. (Evans 2006).

The pressure to conform to typical norms of femininity can be seen in media coverage of female athletes across several different sports. It applies to women in swimming – Nyad, e.g., and also, the recently acclaimed Katie Ledecky, who has been touted to be the next ‘Michael Phelps’, if not a superior version of him (Time 2015). In surfing – Maya Gabeira, e.g., was criticized for being ‘reckless’ when she had a near-death experience attempting to ride the biggest wave ever surfed by a woman, despite such reckless behavior being undertaken by men on numerous occasions without the same critique (Skenazy 2013). It also applies to sport martial arts. With respect to the latter, the popularity of mixed martial arts leagues such as the UFC and Strikeforce gives us a clear view of how the media treats successful female fighters such as Ronda Rousey and Cristiane Justino. Rousey, despite a feminine and conventionally sexy public image, has nevertheless been subject to more than her share of media scrutiny related to her body size. It is typical in mixed martial arts for fighters to have a natural weight that is significantly higher than the weight class in which they compete, but media commentary on Rousey’s appearance led her to comment publicly on reasons why she takes pride in her body (Cepeda 2015). Arguably worse yet, though, have been sexist and transphobic comments about another dominant fighter, Cristiane

Justino, nicknamed “Cris Cyborg,” who has never maintained an especially feminine image (Guillan 2015).

Though swimming, surfing, and sport martial arts are all individual sports, the mechanisms for competition are different in each one. In swimming, the winner is the first to swim the requisite distance; in surfing, points are awarded by judges based on the maneuvers performed; and in sport martial arts, points are awarded for successful strikes or throws performed on an opponent. While some gender segregation may happen in training, it is nevertheless very common for young athletes in all of these sports to train together. This makes the sports interesting in terms of observing the ways group dynamics and biases shape performance. In these three sports, like many others, gendered stereotypes are applied, much to the detriment of many female athletes. For instance, many adolescent girls in sport martial arts have already internalized the idea that girls are inherently weaker competitors than boys (Sisjord 1997, Guerandel and Menneson 2007). What is compelling to us, especially in swimming, surfing, and sports martial arts, is that the mechanism by which these stereotypes emerge and are sustained is not a wholly internal process, but is rather a collective, dynamic, and interactive one.

Enacting and Embodying Stereotypes: The Construction of Inhibited Intentionality

On our view, it is best to conceive of the internalization of stereotypes by athletes as a process that emerges and is maintained by socially interactive dynamics. In other words, rather than assuming that the phenomenology underpinning how stereotypes are embodied is a solely *subjective* experience, it is better, we argue, to think of this process as *intersubjective* in nature. As it turns

out, the enactivist view of the mind, a theory recently developed and defended in the philosophy of cognitive science, provides an excellent framework for explaining how stereotype threat is developed and sustained, and furthermore, how it shapes the embodied phenomenology of female athletes.¹ In particular, arguments that emphasize shared meaning-making through dynamic coupling (Varela, et al 1991, Fuchs and De Jaegher 2009, De Jaegher and Di Paolo, 2007) make a convincing case for a distributed and externalized account of the ways in which stereotypes influence the psychology of athletes and ultimately alter their performance, in both positive and negative ways.

To get an idea of how the enactivist approach is unique as well as useful in accounting for stereotype threat, it is helpful to contrast it with what can be labeled ‘standard’ cognitive science. Often synonymous with *cognitivism*, standard accounts of cognition treat thought as an internal, representational, and rational process. There is disagreement as to exactly how much of cognition is representational, whether it is entirely brain-bound or extended into the central nervous system, etc. - and we will not rehearse those variations here. It suffices to generally understand the cognitivist paradigm as one that sees thought as a result of receiving data from the world and processing it much like a computer processes information - symbolically, and guided by internal norms of representational content.

Like many non-standard approaches to cognitive science (cf. Clark, 2008; Varela, et al, 1991; Hutto & Myin, 2012) enactivism abandons the idea that cognition is an entirely internal process. Drawing from the work of Gibson (1977), e.g., enactivists claim that the world affords us with potentials to act and it is in this interplay between brains, bodies, and environment that thought emerges. It is important to note, however, that the way cognition emerges is not

¹ There are several strands of enactivism, to be sure, but our focus will be limited to the general thesis that cognition is not a passive and internal thing that happens to us or inside us, but is something we *do* - a process we engage in when we are meaningfully coupled to the environment. (Cf. Noe, 2009)

haphazard, nor the result of just any interaction. Instead, organisms and their environments are “structurally coupled” (cf. Maturana, 1987) insofar as only certain interactions are afforded by the organization of each. Consider, for example, the bluefin tuna, whose body weight and shape would seem to preclude efficient hydrodynamics (cf. Triantafyllou & Triantafyllou, 1995). Nevertheless, by exploiting features of the environment - namely, the vortices and eddies that form as a result of propulsion through the water - the fish are able to move much faster than simple physics would deem possible. Notice, however, that in this case, the fish must have a particular structural organization - i.e. the tail fin strength to manipulate the wake - and the environment must also be primed and ready for such interaction - the perturbation of the water by the fins of the fish, which in turn give the fish just enough power to stir up even more propulsive force.

The example above parallels the way cognition is argued to ‘co-emerge’ when humans interact with their environments. To be sure, we sometimes exploit features of the world - such as when we use technological devices like smartphones to store memories - but the environment also places demands on us, forcing us to think and behave in context-specific ways, such as when we make assumptions and predictions about whole objects despite their not being presented to us as such.² Humans and their specific environments, therefore, form a tightly coupled system that we can call cognitive in its own right. For instance, the removal of a part of my brain responsible for, say, language processing, would be expected to result in the loss of certain linguistic abilities; similarly, if I were to remove features of the environment from this coupled system of which I am

² As I walk down a busy downtown street, I might, for example, see a church steeple and think to myself “St. Paul’s Cathedral is approximately 5 blocks away.” But my estimation is not simply the result of inputting a set of complete data as to the whereabouts of the cathedral into my brain and performing the requisite computational analysis. In fact, I don’t even see the whole building - just a small fraction of it. And yet, it is given to me in experience as a whole object. This is what Merleau-Ponty (1967) has referred to as having presence in absence, or the idea that objects are never actually wholly presented to us, and yet, they are experienced as such even in their lack of wholeness.

a part, I should also expect whatever cognitive task in which I am engaged to be altered drastically, if not be altogether eliminated. As Maturana (1987) describes this co-emergence:

If I have a living system ... then this living system is in a medium with which it interacts. Its dynamics of state result in interactions with the medium, and the dynamics of state within the medium result in interactions with the living system. What happens in interaction? Since this is a structure determined system ... the medium triggers a change of state in the system, and the system triggers a change of state in the medium. What change of state? One of those which is permitted by the structure of the system [75].

When it comes to *meaning* and how sense is made in these human-environment interactions, enactivism rejects the cognitivist argument that signification occurs wholly within the confines of the human organism, let alone her brain. While the body is crucial, as it must be structured in such a way that features of the environment show up as meaningful in the first place (I cannot, for example, make sense of some noises that my dog can, because my tympanic membrane and auditory cortex are not nearly as sensitive as my canine friend's), the way the world is set up is also essential for meaning-making. Gibson (1977) explained this quite well with his theory of affordances - objects don't show up to me as 'able to be acted upon' if they don't already conform in some way to my body and its structure. As DiPaolo & Thompson (2014) argue, regarding sense-making under an enactivist framework:

From this perspective, the body is not just the means but also an end of being a cognitive system. To put the point another way, basic cognition is more a matter of adaptive self-regulation in precarious conditions than abstract problem solving. The point here is not to deny that we can and do engage in high-level problem solving. Rather, it is to say that this kind of narrow cognition presupposes the broader and more basic cognition that we call sense-making [73].

This brief overview of the enactivist paradigm is meant to provide a basis for interpreting stereotypes and female athletic embodiment through a much more dynamic and interactive lens than most traditional theories of cognitive science would permit. If we think of the way in which stereotypes, as features of the environment, shape the thoughts and ultimately serve to structure the bodily comportment of athletes, while the performance of those athletes in turn feeds back into the stereotypes themselves, the phenomenon of stereotype threat begins to look a lot more like Maturana's picture of a coupled system, whose identity is sustained by mutual interdependence. In the case of female athletes internalizing and performing on the basis of stereotypes, the 'system' at play is one in which meaning is made by the stereotypes influencing and being influenced by the athlete's embodied cognition and performance within that system.

Before going further with this analysis, it is worth noting that the enactivist framework has also been extended to include the affective dimensions of embodied cognition (cf. von Scheve and Salmela, 2014; Krueger, 2014). Whereas traditional theories of emotions treat them as internal 'feelings' (cf. Lang, 1994), perceptions (cf. Kraut, 1986; Prinz, 2004), or appraisals (cf. Nussbaum, 2001), proponents of a more enacted view of cognition tend to view affect in the same way they view cognition generally, namely, as a dynamically interactive process. Emotions, on this view, emerge during exchanges between organisms and their environment, and in the case of humans, this environment is often social in nature. Especially if we consider emotions beyond the primary feelings of sadness, anger, etc. and broaden our view to include social emotions - shame, pride, etc. - and background emotions - long term moods, like depression, anxiety, etc. - then it becomes clear why it is better to think of many forms of affect as intersubjective. Take, for example, the "Still Face" experiment (cf. Tronick, et al., 1978), where caregivers cease responding to the facial expressions and gestures of their infants, and instead offer an expressionless stare. In very little

time, the infants become distressed, their moods change from happy to angry or upset, and they begin to seek out attention and interaction by making loud noises, flailing limbs, and so forth. In other words, their detachment from the other – the lack of synchrony – is what constitutes the change in emotion. Krueger (2014) also points out that the same structures that synchronously regulate infant-caregiver relationships are present in adult emotional interactions and can serve to extend and enhance the affective background. My anger, for example, can be charged and heightened by talking to others who are angry at the same set of events. At a sporting event, my excitement will feed off of the crowd of other fans. In fact, it has been documented that emotional expression by professional athletes is actually *drawn out* by the excited faces of others, such as when a bowler makes a strike and does not appear to care much about the success until he or she turns to a group of proud and smiling spectators (cf. Kraut & Johnston, 1979). The smiles of others, to put it simply, can be contagious, as can negative emotions, such as fear, anger, and sadness. As adults, these affective states occur and co-occur over much longer periods of time and are therefore often components of much more complicated systems of thought, relationships to others, and transactions within institutions.

Affect almost certainly plays a key role in the way stereotypes are internalized and thereby alter cognition and bodily phenomenology. As the discussion of Young's work above illustrated quite nicely, emotions help shape our bodily comportment - positive affect allows for an 'I can' sense of embodied capability, whereas negative affect yields an 'I cannot.' But the development of the *I can* or *I cannot* is not wholly subjective, and cannot be separated from the individual's environment. Indeed, as Fine's studies on emotional intelligence indicate, there are already background assumptions at play in stereotypes, such as 'boys just don't have empathy' or 'women are so emotional' - and that background is intersubjectively constituted. In other words, the belief

that women are naturally less capable at this or that sport is developed and maintained through social transactions that serve to reiterate the idea and imbue it with more reality (cf. Butler...) and in the process, new forms of affect that would not be possible without these interactions emerge. Shame, for example, at being the only woman on a hiking excursion and feeling the weight of one's body as an impediment, which subsequently slows one down, manifests itself as a relational phenomenon - i.e. this social emotion is made possible only insofar as I compare myself to others, the stereotypes surrounding them versus me, and so forth.

Conclusion: Positive Applications of Our View

Our argument that stereotypes are internalized dynamically through social interaction has important consequences for the training and mentoring of female athletes. As we have seen already, there is no reason to think that women are inherently weak as athletes. To name just a few female athletes with groundbreaking achievements, Serena Williams holds more major singles, doubles and mixed doubles titles combined than any other player (male or female). With 21 Grand Slam titles, she is also the only tennis player to have ever won singles titles at least six times in three of four Grand Slam tournaments. Mia Hamm, an American football player, held the record, for having scored the most goals at an international level, for any player, male or female, with 159 goals. She held this record until 2013, when it was beaten by Abby Wambach, who has now scored 184 goals and is the current world record holder (CBS News, 2016). Kelly Kulick (bowling), in 2010, was the first woman to win a national tournament. She beat out 62 of the country's top male bowlers to win (McManus 2011). There is a great deal of evidence, then, that women can perform extremely well in sports at very high levels, in some cases outperforming men. Given that women

do have this capacity for high performance, we should look at and attempt to eliminate the gendered factors in their training that might inhibit them.

Schmalz and Kerstetter (2006) found in their study that “children as young as eight are aware of and are affected by gender stereotypes” (551). Parents and coaches will need to be educated as well about the words they utilize, and the way they react and behave towards both genders should be the similar (Chalabaev, et al 2013). Therefore, coaches and trainers should take a closer look at the way they speak to and treat their athletes, since according to our view, these interactions can play a significant role in their female athletes internalizing a sense of inhibited intentionality and stereotypes about female weakness. Instead, coaches should try to create an environment in which athletes of all genders avoid internalizing potentially damaging stereotypes. After all, part of what makes the underperformance effect of stereotype threat so difficult to counteract is that it is to some extent a self-fulfilling prophecy. A person exposed to salient stereotypes predicting their poor performance will often exemplify those stereotypes.

One step towards helping women at the present moment is to educate them about this phenomenon of stereotype threat (Johns, Schmader, & Martens, 2005) and ensuring they are aware of other women in sports who have outperformed their male counterparts, such as the women mentioned above. Interventions need to start at a young age to create an environment in which girls internalize an “*I can*” rather than an “*I cannot*” in which they are encouraged to embody norms of athleticism and strength rather than more restrictive norms of feminine bodily comportment. This means that they need to be able to see their bodies as capable of free action and movement rather than as encumbrances; and they need to be able to see themselves as acting subjects rather than as things that are acted upon. This means actively discouraging stereotypes of female weakness and incapacity. However, even if the training environment does not contribute to the internalization of

these stereotypes in young female athletes, it would be naive to think that they would be able to avoid exposure to them in the media, and in society at large. Therefore, measures still need to be taken to counteract the effects of stereotype threat, given the prevalence of negative stereotypes about female athletes.

One way that coaches can counteract the effects of stereotype threat is by employing insights from the growth mindset literature. Yeager and Dweck (2012), for instance, discuss implicit theories, which are assumptions about personal characteristics that people have, such as intelligence or athletic ability. Fixed, or entitative, theories can be contrasted with malleable, or incremental, theories. Those with more of an entitative theory of intelligence, for example, tend to see intellectual ability as something people have a fixed amount of - some are just naturally smarter than others; whereas those with an incremental theory tend to see it as something that can be grown and developed over time.

At least in the area of intellectual ability, researchers have found that the adoption of a growth mindset can help counteract the effects of stereotype threat (Dweck 2007). Good, Dweck, and Rattan (2005) compared the experiences of female students in a calculus course who held entitative views of mathematical ability with those who held incremental views. While a great deal of students in the class were well aware of negative stereotypes about women's mathematical ability, this had much less impact on the students who held incremental theories of learning. Those who, in contrast, viewed mathematics as a gift were more vulnerable to setbacks and developed reduced confidence and a sense of belonging.

To generalize these insights to the realm of athletics, coaches should foster a growth mindset by de-emphasizing the contribution of natural ability to athletic success, focusing instead on the importance of consistent training and hard work. They might also share stories of high-level

athletes who were not initially thought to have significant talent and promise but developed their skills through time and perseverance.

Also in line with the enactivist model that we have adopted here, some researchers argue that stereotype threat is situationally triggered, and that lower social status is not necessarily a precondition for it to occur (Leyens, Desert, Croizet, & Darcis, 2000). Hively and El-Alayli (2014) found that if the task was easy then even when pressure was added stereotype threats did not hinder performance; this idea could be implemented in interventions to boost the confidence of female athletes. Gradual, incremental increases in task difficulty could also reinforce the development of a growth mindset about training.

In general, our argument is that we should take very seriously the idea that social dynamics are equally, if not more, responsible in shaping the embodied capability of an individual than her own sense of ability. Coaches, trainers, and parents responsible for training athletes of different genders should pay careful attention to potential conflicts between stereotypes and norms of athletic performance. And when possible, they should foster a growth mindset in their athletes in order to counteract the effects of the stereotypes they will almost inevitably encounter. This would result in positive changes to the way that female athletes are trained in swimming, surfing, sports martial arts, and many other embodied practices.

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