‘Where is the space for continuum?’ Gyms and the visceral “stickiness” of binary gender

Stephanie E. Coen\textsuperscript{a,b}, Joyce Davidson\textsuperscript{b} and Mark W. Rosenberg\textsuperscript{b}

\textsuperscript{a}School of Geography, University of Nottingham, Nottingham, UK; \textsuperscript{b}Department of Geography and Planning, Queen’s University, Kingston, Ontario, Canada

ABSTRACT

This paper develops a visceral feminist geography of the gym to expand our understanding of how everyday physical activity environments are implicated in the gendered context of physical activity. The gender gap in physical activity is well-documented, with women around the world less likely than men to meet the minimum physical activity recommendations for health. Fitness gyms are popular venues for physical activity, but they are not necessarily inclusive places. Through a reflexive thematic analysis of interview and journaling data with 52 Canadian women and men gym users, we identify five visceral domains through which the gym enacts gender boundaries: the imaginary, bodily haptics, the soundscape, visual fields, and material "stuff". Each of these revealed a series of gendered dichotomies that, taken together, contribute to an overarching gender binary of unbounded masculinity and bounded femininity. We argue that these "viscerailities" matter because the gym as an institution comes to codify gender differences in ways that perpetuate possibilities for practising physical activity as bifurcated ways of doing gender. One of our key findings is how women’s participation in the gym was underwritten by material expense and bodily preparatory practices that extend far beyond the gym into the geographies of their daily lives. Physical activity interventions that do not account for the multisensorial features of place may miss opportunities to reduce gendered inequities.

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Introduction

While fitness gyms are popular venues for physical activity participation, they are not necessarily inclusive places. The spatialities of gyms can be gender-divisive, with weightlifting zones coded as masculine and cardiovascular exercise areas as feminine for their seeming alignment with gendered physique goals (Johansson 1996; Johnston 1996; Dworkin 2001, 2003; Brace-Govan 2004; Salvatore and Marecek 2010; Johansson and Andreason 2016; 2018). This gender-skewed use of equipment, with a greater proportion of men using weights, is widely reported (Johansson 1996; Johnston 1996; Dworkin 2003; Salvatore and Marecek 2010). Moreover, regardless of whether this gender-split manifests in an absolute sense, recent work shows that many gym users perceive it to be so (2018; Johansson and Andreason 2016). Sassatelli (2010, 74), in her dual-country ethnography of gyms in the United Kingdom and Italy, refers to this gendered division as a ‘gender-activity matrix’, noting there is a marginalising consequence to participating in activities and spaces outside those traditionally gender-aligned. Transgender, non-binary, and LGBTQ+ individuals often find gym environments to be hostile (Farber 2017; Jones et al. 2017; Herrick and Duncan 2018). Other research shows...
how gyms are spaces of whiteness, making them less welcoming for women of colour in particular (Duncan and Robinson 2004; D’Alonzo and Fischetti 2008). Perceptions of the gym overall as a masculine environment can be a deterrent to regular exercise participation (Pridgen and Grogan 2012). Even elite women bodybuilders (Johnston 1996; Brace-Govan 2004) and some cisgender men (2018 and 2019) experience weightlifting spaces as hyper-masculinised, demonstrating that exceptional gym acumen or seemingly privileged positions do not necessarily mediate the gendered quality of these spaces.

Women’s limited participation in strength training in gyms has been linked to the influence of dominant feminine body ideals that emphasise thinness (Johannsson 1996; Dworkin 2001, 2003; Brace-Govan 2004; Salvatore and Marecek 2010). While some women may feel empowered through aerobic exercise, ‘feminine activities such as aerobics may become ghettos that reproduce the gender order’ as women may refrain from strengthening exercises or only engage in restricted ways which they perceive to maintain a small body (Sassatelli 2010, 32). Socio-cultural studies of gyms have shown that how women engage with weight lifting may reinforce socially inscribed gender differences at the level of the body. Dworkin (2001, 2003), for example, in her ethnographic work on women’s gym experiences in the United States, used the concept of a ‘glass ceiling’ to describe how women’s strength was materially limited by gendered ideologies that define women’s idealised bodies as small and “toned” – qualities physiologically at odds with increasing physical strength. Women negotiated this glass ceiling by engaging in highly specific practices, such as ‘lifting lightly’, that they believed would maintain their bodies within the dictums of feminine heterosexual desirability (Dworkin 2001, 339).

While we are highlighting the multiple disadvantages that women generally experience in gyms here, we want to be clear that women and men are not homogenous groups, nor is gender binary – rather gender is socially constructed as binary in ways that can be damaging for health (Courtenay 2000; Connell 2012; Johnson and Repta 2012). We take gender as a starting point for our concern with equity in physical activity, with an understanding that additional analyses are needed to more fully consider intersections with socioeconomic status, disability, sexuality, race/ethnicity, and other social structures. The gender gap in physical activity is well-documented, with women around the world less likely than men to meet internationally recognised physical activity guidelines for health (Guthold et al. 2018; Mielke et al. 2018). There is presently a policy appetite for addressing the gender gap, with the World Health Organisation (WHO) emphasising the importance of offering safe and accessible leisure-time physical activities for women as part of the solution (Guthold et al. 2018). Gyms are exceptionally common leisure-time sites of physical activity, with the International Health, Racquet, and Sportsclub Association reporting 162 million people worldwide are members of health and fitness clubs (Walsh 2017). Still, gyms are not unproblematic when it comes to promoting health. Others have highlighted the detrimental influence of gyms in perpetuating moralising discourses about health, where lifestyle habits (such as exercise), become moral benchmarks against which people are judged (Smith Maguire 2008; Nicholls et al. 2018). Informed by this critical view, we hold that meeting physical activity gender equity goals and achieving wider population uptake of physical activity necessitates identifying – and ultimately intervening in – how the gender gap is (re)made in everyday physical activity places, such as the gym.

Using our research on Canadian women’s and men’s gym experiences, we develop a visceral feminist geography of the gym to expand our understanding of how everyday physical activity environments are implicated in the gendered context of physical activity. By visceral geography, we are referring to an approach that attends to the role of senses and sensorial experiences – sound, sight, smell, taste, touch – in shaping relationships among people, place, and power (Hayes-Conroy and Hayes-Conroy 2008, 2010; Longhurst, Johnston, and Ho 2009). Below, we draw together theories of gender and health, new materialisms, and visceral geographies to underpin how we conceptualise place as performative and the gym as a sensuous environment. We then introduce our methods for this study, followed by our results outlining a visceral feminist geography of the gym. Our core argument is that these “visceralities” matter – as verb and noun – because they reveal how the gym...
as an institution comes to codify gender differences in ways that perpetuate possibilities for practising physical activity as bifurcated ways of doing gender.

**Health and place through a visceral feminist lens**

In this section, we develop a conceptual framework for our visceral analysis of the gym. We explicitly call our visceral lens (or approach) feminist in order to centre the gendered power relations we aim to interrogate. To do this, first, we lay out the theoretical foundations that allow us to conceptualise the mutually constitutive relationships among gender, health, and place. Next, we draw on insights from new materialisms and visceral geographies to conceptualise how the seemingly intimate scale of our senses is connected with wider gendered structures of power. Together this framework allows us to conceptualise the multisensorial ways that gender boundaries materialise in the gym and how these matter for the gendered context of physical activity participation.

With our visceral feminist approach to the gym, we make two key theoretical contributions across feminist and health geographies, new materialisms, and visceral geographies. First, we expand theorisations of the relationships among gender, health, and place by showing how a visceral geography can offer insight into the larger question of the role of place in producing health inequities. Second, we advance feminist, new materialist, and visceral perspectives by illuminating material and visceral layers through which place is performative of power relations with concrete implications for the context for health.

**Placing gender and health**

Feminist health geographers and others have argued that ‘doing gender’ and ‘doing health’ are one in the same in that health-related behaviours (e.g. care-taking, risk-taking, exercising, eating) are invariably expressions of masculinity and femininity (Dyck 2003; Saltonstall 1993; Courtenay 2000; Lyons 2009; Connell 2012). Courtenay’s (2000) foundational work theorised that dominant masculine ideals, such as stoicism and self-sufficiency, encourage men to dismiss their health needs and to adopt health-damaging behaviours; whereas, traditional feminine ideals are tied to health-promoting and protecting behaviours, such as care-taking. In this way – as Johnson and Repta (2012, 26) put it – ‘Health behaviour can … be implicated in the construction and maintenance of the gender order’. The synergistic relationship between gender and health must therefore be taken into account in efforts to improve health and reduce health inequities (Connell 2012), including the gender gap in physical activity.

While the notions of ‘doing gender’ (West and Zimmerman 1987) or gender as ‘performatif’ (Butler 1990) take gender to be socially enacted through repetitive acts that render gender legible at a more individual level, geographers have extended these ideas to conceptualise how space and place are also performative. From this view, place does not pre-exist independently, but is rather continually ‘brought into being through performances and as a performatif articulation of power’ (Gregson and Rose 2000, 434). This moves the concept of gender performativity from enactments at an individual level to collective attributes of place (Gregson and Rose 2000). Taking place as performative means that the gym is not a neutral or static stage for equipment and exercising bodies. Rather, the place of gym itself articulates a particular gender order, brought into being through power-laden constellations of performances. Places may be ‘sticky’ in relation to gender in that they come to be associated with certain gender expressions and experiences (Pratt and Hanson 1994, 25). This moves the lens from how individuals do gender and, thus, do health to how the gym does gender and, thus, does health.

We augment this spatial concept of performativity by bringing in currents from new materialist perspectives that consider the productive role of objects, materials, substances, and sounds (Barad 2003; Pyry 2015; Fullagar 2017). By disrupting the binary between humans as agentic and other matter as inert, new materialism provides a way to understand the contribution of other-than-
human things to the boundary-making processes of social difference (Barad 2003; Pyry 2015; Fullagar 2017). Pyry (2015, 151) explains that this perspective makes room for ‘consideration of the productive capacities of material: non-human entities also affect and create differences, and thus participate in constituting worlds’. From a health perspective, this matters because, as Fullagar (2017, 248) says, these forces are ‘co-implicated in what bodies can “do” and how matter “acts”’ (see also Ahmed 2010). In this way, the performativity of the dynamics among people and things in place, which, in turn, has material implications at the level of the body.

**Getting visceral: the gym as a sensuous themescape**

It is . . . through [the] five senses – through the particular visibility of the gym, its aural culture combining loud music, client’s strain grunts in the machine areas and trainers’ screams during classes as well as a vast array of smell, touch and taste details – that the gym constitutes itself as a meaningful world. (Sassatelli 2010, 9)

As Sassatelli observes in her gym ethnography, the senses are very much a part of what define the gym as a place. We thus conceive that part of our task in excavating the gendered performativity of the gym – how the gym, as a place, does gender – is to contend with its multisensorial features. Here we intersect new materialism and visceral geographies in their common concern with the agentic qualities of physical matter in constructing social boundaries (Hayes-Conroy and Hayes-Conroy 2008, 2010; Barad 2003; Pyry 2015; Fullagar 2017). Visceral or sensuous geographies deliberately draw attention to the role of sensory elements in connecting bodies with structures of power. As Rodaway (1994, 4) says, the senses operate ‘both as a relationship to a world and . . . [are] in themselves a kind of structuring of space and defining of place’. We take up Rodaway’s (1994, 5) conception of senses as ‘an analytical devise to enable us to highlight often taken-for-granted and hidden dimensions of geographical experience’ to underpin our visceral feminist analysis of the gym. The visceral – be it the sounds we hear, the clothes we wear, the sweat we produce – can connect us or alienate us with place (Hayes-Conroy and Hayes-Conroy 2008, 2010; Longhurst, Johnston, and Ho 2009; Duffy and Waitt 2013). The visceral is therefore political because it is intimately bound up with constructions of power in the performance of wider social categories and hierarchies (Hayes-Conroy and Hayes-Conroy 2008, 2010). A visceral approach is not about individual bodies, but rather uses the senses to situate bodies in socio-political context and unpack enactments of social difference (Hayes-Conroy and Hayes-Conroy 2008, 2010; Longhurst, Johnston, and Ho 2009). Longhurst’s (2001) landmark work on geographies of bodily fluids illustrates how sites where bodily boundaries breach are central to gendered geographies of power. One of her core arguments is that women’s subordination is tied to the spatial construction of women’s bodily boundaries as insecure, with the potential to leak. The epistemological implication of this is that without acknowledging the messy materiality of bodies, masculinist norms in research knowledge remain unchecked.

Visceral geographies have largely been theorised around empirical examples related to food and taste (Hayes-Conroy and Hayes-Conroy 2008, 2010; Longhurst, Johnston, and Ho 2009). A small body of work, however, has shown how sporting and movement spaces can reify gender and sexuality hierarchies via sensory processes. Caudwell (2011), for example, demonstrates how the sights and sounds of football fans in the United Kingdom can normalise dangerous and exclusionary social relations, specifically homophobia, within the place of the stadium. Misgav and Johnston (2014), in their analysis of the dancefloor of a gay nightclub in Tel Aviv, Israel, evidence the vital role of sweat in shaping socio-spatial divisions amongst gay men and transwomen who occupied different spaces on the dancefloor. Fusco (2006) troubles common-sense assumptions of locker rooms as mundane spaces by showing how negotiating interactions with naked bodies and bodily fluids is a process of abjection that (re)inscribes us/them binaries. These examples highlight the role of the visceral in animating wider social relations and questions of power. Still, visceral geographies have not yet extended to explicitly consider physical activity – a connection we seek to bridge here.
Gyms, as purpose-designed venues for exercising the body, present a distinct setting to consider the visceral politics of gender, health, and place. While individual gym venues may possess site-specific characteristics, gyms around the world share common socio-material features that define the gym as a particular type of place (Sassatelli 1999, 2010). Because of this recognisability, we position the gym as what Rodaway (1994, 166) calls a sensuous ‘themescape’, which ‘can be recognised by [its] vivid visual appeal, with strong and coherent references to particular places and periods elsewhere’. While Rodaway describes themescapes in a more literal Disney-sense, we hold that this definition can productively characterise gym-scapes due to the shared recognisable features of gyms across time and place. Furthermore, Rodaway explains that ‘the success of a theme is grounded in reinforcing widely shared place stereotypes and dreams’ (Rodaway 1994, 166). Seeing the gym as a themescape allows us to question how normative ideas and stereotypes about men’s and women’s participation in physical activity relate to the gender performativity of the gym. From a visceral perspective, these representations come to matter because ‘developing a taste for something does not happen in a vacuum, but in a lived context of social representation’ (Hayes-Conroy and Hayes-Conroy 2008, 467).

Methods: excavating the visceral

This study draws from a larger project exploring the role of place in the gendering of physical activity (see 2018 and 2019). Our analysis here focuses only on our research question regarding how gender materialises in features of gym environments, an intentionally broad question to avoid *a priori* categorisations and make space for participants’ articulations of these. Our work was grounded in a feminist geographical epistemology that understands knowledge as partial and situated, recognises researcher positionality and demands reflexivity, privileges participant agency, and aims to interrogate power structures and dualisms both in research and everyday life (Rose 1997; Dyck 1999; Thien 2009). Our research design thus encompassed complementary methods that provided distinct vantage points and modes of expression from which participants were invited to critically reflect on their gym experiences. First, we use semi-structured interviews to engage participants in discussion about their gym experiences, including asking them directly about their thoughts on the role of gender in the gym. The final interview question took the form of a drawing activity in which participants responded to the prompt ‘How do you feel in the gym?’ and then discussed what they created as a continuation of the interview. Second, all participants were invited to keep a journal for a 1-week period about the positive and negative aspects of their gym experiences. This technique offered an opportunity for participants to reflect on their gym experiences in situ and at their own pace, as well as to document potentially seemingly mundane aspects of the gym that may not be raised in an interview (Filep et al. 2015). Our study was not designed with a specifically visceral methodology, in that, we did not ask dedicated questions about the senses nor did we adopt sensuous techniques (e.g. exercising and sweating alongside participants). Rather, the importance of the visceral was inductively identified through our reflexive thematic analysis, which we describe shortly.

Our sample included 52 self-identified gym-users (34 women, 18 men) who participated in semi-structured interviews and drawing, with 37 of these individuals completing follow-up journals. Participants were recruited from a mid-sized Canadian city using print posters on bulletin boards and a paid social media advertisement. Interviews took place in January and February 2015, with journals submitted on a rolling basis thereafter. All participants were between the ages of 25 and 64, with a mean age of 40 years, and were current members of co-ed gyms. The majority of our participants identified as white (n = 44) and heterosexual (n = 46), although they came from a diversity of socio-economic backgrounds. Participants attended 10 different gyms in the study area, including two at major educational institutions, two embedded in city recreation centres, three YMCAs (an international non-profit organisation with fitness facilities), and three locations of a national commercial chain. Noting that research has shown exercise classes to be distinct types
of environments (Crossley 2004, 2006), our study focused on men’s and women’s experiences engaging in individual physical activity practices in the weightlifting and cardiovascular exercise spaces of gyms. This study was granted clearance according to the recommended principles of Canadian ethics guidelines and Queen’s University policies by the University’s General Research Ethics Board. All names used are pseudonyms.

Our analysis here deals with a subset of data broadly related to the materialities of gender in the gym environment (i.e. more-than-human matter, including the sights, sounds, and ‘stuff’ of the gym) that we extracted from our larger data corpus. This dataset contained 405 pages of primarily interview and journal data; drawing data largely corresponded with the foci of our other research questions in the wider study (i.e. practices/mobilities and emotional geographies) and was resultantly analysed elsewhere (2018 and 2019). In line with our feminist geographical epistemology, we elected to use reflexive thematic analysis (Braun and Clarke 2006, 2019) because it actively recognises the role of the researcher in knowledge production and encourages iterative engagement with data to analytically construct codes and themes. Analysis was carried out by the lead author (SEC), beginning at transcription where analytic memos were recorded with each transcript. Throughout the analysis process, SEC annotated a research diary where she documented observations of the data and all analytic decisions. Coding was performed on the dataset using the repeating ideas technique described by Auerbach and Silverstein (2003). This was an iterative process of identifying micro-level codes in the data, involving splicing, merging, and dissolving of codes, until a final list of 16 well-defined codes was constructed. We used an in vivo approach, naming codes with participants’ own verbatim phrases and words to foreground participant voices in the analysis process. Men’s and women’s responses were first coded separately and then brought together in the final stage of analysis where we identified relationships amongst the individual micro-level codes in order to construct the final set of five themes presented here. Throughout the analysis, SEC engaged in critical conceptual discussions about the data with co-authors, following the process that Smith and McGannon (2017) refer to as ‘critical friends’, as a way to interrogate our observations of the data and ensure rigour.

A visceral feminist geography of the gym

Our findings reveal five visceral domains through which the gym as a place enacts gender and is implicated in the gendered context of physical activity participation. We conceptualise these relationships as an assemblage of visceralities – a term we apply to recognise the ways in which the visceral connects bodies to representations, other bodies, and materials.

The imaginary: representations that matter

Geographical imaginaries involve bordering as well as ordering [...] that derive not only from the cognitive operations of reason but also from structures of feeling and the operation of affect. As such, geographical imaginaries are more than representations or constructions of the world: they are vitally implicated in a material, sensuous process of ‘worlding.’ (Gregory 2009, 282, emphasis added)

The ways that we imagine and think about places are bound up in our material and sensory experiences of them because ‘representations join and become part of old memories, new intensities, triggers, aches, tempers, commotions, tranquilities’ (Hayes-Conroy and Hayes-Conroy 2008, 476). Participants spoke of the gym as a vividly stereotyped place, recounting gendered imagery and categories that were seemingly taken-for-granted as known. These paint a picture of the gym as a distinctly sensuous themescape (Rodaway 1994). The archetypal gym man in this Canadian context was referred to with terms like ‘meathead’, ‘He-man’, or ‘steroid monster’. He had a hyper-masculine body of built muscle, was dedicated to lifting heavy weights, and possibly took steroids or supplements for muscle growth. The gym woman often anointed ‘Barbie’, ‘princess’, or
‘cardio bunny’. She was fit yet small, putting more effort into her appearance than actual exercise, always dressed to impress (desiring and inviting men’s attention), and practiced mainly aerobic exercise. These oppositional figures were summed up by Angela (woman, age 32) as ‘generally the overly built guy with huge muscles who’s bench pressing ridiculous sets of weight. You think about the cardio bunny girl, who’s … in all spandex, and hair in her big ponytail, full makeup, and is there more to be seen, right’. Importantly, these “imaginary”concepts of the gym are grounded in experiential aspects of matter (i.e. bodies, clothing). In this way, matter can actively come to occupy the psycho-social space through which we mediate our experiences in the gym and the ways that the gendered performativity of the gym comes to affect us. These sedimented and taken-for-granted orientations to space can, in turn, as Sara Ahmed (2010) argues, materially shape bodies; the ways bodies orient to space prescribes boundaries on what bodies do in space (see also Fullagar 2017).

Although these caricatured portraits cast neither men nor women in a positive light, they had the overall consequence of reifying a rigid gender regime that dichotomised masculinity and femininity along the dividing line of work. "Hard work" was a mechanism of masculine power in place, while femininities were subordinated in the gym by a presumed lack thereof. Several participants pointed out how when women were seen to transgress this binary and workout "hard" – a masculine quality – aspects of their gender and sexuality could be put into question, as Amir (age 35) noted: ‘Maybe if you’re at the gym a lot, maybe, um, you think their gender is, uh, maybe they’re bisexual or lesbian’.

Johansson (1996), although referring to men participating in aerobics classes, also observed that contravening traditionally gendered activities could raise questions about one’s positioning in the gender hierarchy of the gym. These stereotypes were an imaginative ordering device that animated and materially legitimated the performance of masculine hegemony within the gym. This shows how such place-specific representations are more-than-representational in terms of their potential to materially shape the gendered nature of physical activity. As Rodaway notes (1994, 177), ‘The sensuous geographies of themescapes are so hyper-real – more real than real – that they become hegemonic, mediating the experience of environments beyond themselves’.

The imaginary acted as a filter through which participants made sense of their gym experiences. Reflecting on an interaction with a man who he initially perceived to be ‘big, like massive, and really strong, and I always saw him as just intimidating’, Brad shows how the place of the gym informed his interpretation of masculinity when he mused: ‘it’s interesting that in that environment – like if I saw him in the street I wouldn’t feel that way, he’d just be another guy and he looks like a nice guy – but when he’s in that environment it’s kind of, he’s strong, he’s intimidating. But he’s a super cool guy’. This illustrates how the gym is performatively gendered in ways that transcend and feedback into the gym. Heather (age 40), for example, invoked the wider gym imaginary to qualify her particular gym environment when she said, ‘it’s not everybody running around with like little women in leotards and men walking around with shorts and buffed arms. Just normal people going about working out’. Hence, even when participants did not encounter these stereotypes on the ground, the imaginary was a salient experiential frame that mattered in their gym experiences. At the same time, there is room to disrupt this performativity, as Brad later found the man he described as ‘intimidating’ to be friendly and welcoming.

**Bodily haptics: bordering and ordering**

Viscerals at the scale of the body – related to clothing, physical appearance, and bodily excretions – collectively contributed to the gendered performativity of the gym. There was an overwhelming sense that men could more easily show up, while women had to dress up. Women’s clothing was ‘what I would call workout *gear*’ and ‘something that defines their shape more so than the men’ (Ruth, age 59, her emphasis). Leah (age 30), for instance, who had been using the gym to lose weight, described how clothing played an active role in the boundary-making between women and men:
... you don’t find too many oversized women wearing the small spandex, um, sports tops, and the booty shorts. And the guys – I find guys will generally stick to the baggier [clothes] ... The younger guys I find wear like the basketball shorts, the baggy ones that go down to your knees.

The tight, small, and revealing parameters for women’s clothing contrasted with the relaxed, large, and covered characteristics of men’s clothing. The emphasis on fitting women’s bodies into small or revealing clothing, which Leah described using the sexualised language of ‘booty shorts’, circumscribes the types of women’s bodies that can be stylised into normative feminine representations in the gym. This shows how clothing not only actively contributes to the materialisation of a stark gender divide between women and men, but reifies a hierarchy of femininities whereby certain body types are relatively more powerful in place. As Brooke, a 35-year-old woman using one of the commercial gyms commented, ‘you walk into a place in sweatpants and a t-shirt and everybody’s wearing LuluLemon [popular active-wear brand], you’re going to stand out like a sore thumb’. Marie, a 27-year-old recreational weightlifter, articulated this as ‘a catch 22 for appearance’, describing how women feel bad about it ‘cause they don’t look cute but at the same time sometimes I put on makeup or whatever in the morning and then I realise, “Oh, I’m going to the gym” and then I also feel bad if I’m too made up because then I feel like, “Oh, I’m not a real gym person ‘cause I care too much about my appearance.

Marie went on to describe how her friends carried wipes to remove make-up, conveying the painstaking extent to which women’s work to fit their bodies into the gym environment consumes time, planning, and preparation far beyond the gym. This is a prime example of how ‘social difference is continually entering into the visceral realm to materially complicate everyday personal-political experiences’ (Hayes-Conroy and Hayes-Conroy 2008, 468).

Clothing and physical appearance practices materialised the differential effort that many women invested and expended to engage in the gym environment. Gary (man, age 58) echoed the impression of other participants that clothing was a feminine issue: ‘Guys really didn’t care too much about what they were wearing, shorts, t-shirts, black socks, didn’t matter, you know, they’d go. But I found most of the women, especially younger ones, they were fully outfitted in really good gym clothing. It was kind of a style thing’. Clothing and physical appearance were a material culmination of the preparation invested by women outside of the gym for their participation inside the gym, articulating a binary about who was "naturally" in place. Men’s bodies were more easily ready for the gym, whereas women’s bodies required extensive (re)working.

Although men rarely spoke of concerns about their clothing, it is important to note that not all men’s style of dress was devoid of the tension to fit in to the gym. Clothing was not always performative of power for all masculinities in the gym; it could be a liability for some men. Dev (age 33), for example, spoke of how he changed his apparel to adapt to the localised masculine code of dress when he moved to Canada: ‘I had to buy new shorts when I came here. Because I found that all my shorts were way too short for the gym. I just think that men [where I lived before] are a lot more showy, right, like even like heterosexual men’. This speaks to the fact that there is nothing inherent about men’s and women’s attire in the gym, but that it actively contributes to and reflects context-specific formulae of masculinity and femininity.

Clothing was also implicated at even more intimate scales of the body as a mechanism to maintain gendered bodily boundaries, such as keeping sweat in or out. Simone, a 26-year-old woman who also worked as a fitness professional, explained how women’s clothing was designed to at least afford the appearance that women’s bodies were not leaking into the gym environment:

... if you think about Lululemon pants [sound of disapproval], for example, and everyone talks about how it gives you a perfect butt or whatever. And it’s like you’re going to work out. You’re not there to, like, look nice. But all the sudden, all this clothing is about making you look good as you sweat. Or so that you don’t look like you’re sweating.

Some women acknowledged that for women ‘it’s inappropriate to sweat’ (Melissa, age 43). Given that sweat is a by-product of physical exertion, disguising or containing sweat has the material and
performative effect of making women’s working bodies invisible. Certainly, if women restrict their exercise intensity to avoid perspiring, this has implications for women’s health. Conversely, men’s sweat flowed freely in the gym environment, often taken as part and parcel of the haptic experience of place. Liz, for example, a 25-year-old woman learning how to powerlift, described how she felt when men’s sweat encroached upon women’s bodily boundaries:

… you have to know that like the dudes are going to be disgusting and gross and as a woman, we wear smaller outfits than most of these guys. So when their nasty sweating is all over our machines and then you have to go use one of those machines – I would just recommend bringing a towel, right.

Further underscoring how bodily fluids contributed to the masculinisation of place, Annie (age 33), recalled a past gym where it was so common for men to spit on the gym floor, that the gym posted signage to deter this practice. Not only does this example highlight the elasticity of men’s bodily boundaries, but the performance of an outdoor behaviour indoors – a deliberate act expelling bodily fluid – points to the underlying gendered power imbalances over boundary definition and control within the gym.

Such intentional breaches of men’s bodily boundaries stand in stark contrast with the concern articulated by Melissa that she might accidentally do so when her body was more elastic following childbirth: ‘The first time you do your workout that you used to do before your baby, you have incontinence and you’re leaking [urine]. It’s like, ‘Oh, I’m not going to go to the gym and do anything [where leakage could occur from straining my body].’” Some men were aware of gendered tensions in negotiating bodily boundaries, with Jim (age 43) making the point that ‘I wouldn’t allow my sweat to splatter all over the place’ in the presence of women. Three women also highlighted the lingering spatial presence of men’s body odours, with two explicitly referring to the need ‘go to another spot’ (Amy, age 49) for this reason. These examples reveal how bodily matter matters in dichotomising women and men in place. Johansson (1996) likewise noted previously that women’s disgust with the overflow of men’s bodily boundaries (spit and odours) contributed to maintaining weightlifting areas as masculine spaces. Misgav and Johnston (2014) made similar observations about the role of sweat in shaping the gendered geography of the night club: gay men’s partially clothed sweating bodies took up the central part of the dancefloor, whereas transwomen’s clothed and sweat-free bodies occupied a peripheral location. Waitt (2014) and Waitt and Stanes (2015) also observed uneven gendered dimensions of sweat in research on women’s and men’s experiences in Australia. For women, sweat was often deemed outside the realm of feminine respectability (although in this case it was deemed more acceptable in gyms) (Waitt 2014), while men’s sweating bodies were attached to notions of hard work in exercise environments (Waitt and Stanes 2015). Despite men’s sweating bodies upholding a corporeal pride around a ‘blokey masculinity’ in some settings like the gym, Waitt and Stanes (2015) found that this relationship could be more tenuous in other contexts of daily life.

These visceralities reveal that the gym does gender by invisibilising femininities in ways that delegitimise women as practitioners of physical activity. The gendered regulation of women’s bodies – their size, style, bodily fluids – denaturalised femininities in the gym by requiring work on the body to be there. Women’s appearance-related labour (shopping, financial investment, preparation) extended the geographies of their gym use into aspects of women’s lives well beyond the gym, further marginalising femininities. The way this disappearance is implicated in the gender boundary-making of bodies in the gym exemplifies Ahmed’s (2010, 235) claim that ‘the materialization of bodies involves forms of labor that disappear in the familiarity or “given-ness” of objects’. By not requiring this extra-curricular work, men were positioned as “natural” gym participants by default; their clothing choices were relatively inconsequential and unquestioned (with the noted exception of Dev). In the case of the gym, the leakiness of men’s bodies did not jeopardise the hegemonic position of masculinity or render men’s bodies out of place, but instead was part of how masculinity was naturalised in place. Men’s bodies, at times, literally spilled over with sweat (and even deliberately with spit) into the gym, while women were expected to maintain firm bodily boundaries separating them from the gym.
The soundscape: (dis)connecting people and place

I think men tend to be more – aggressive isn’t the word I really want – I’m struggling to find the right word. Assertive? Louder? Possibly. More present – more, [changes to a louder, lower voice] “I’m here!” you know “I’m workin’ out! Hey, buddy!”. Where the women chat, it’s more of a chat. It might be like you and I working out on two machines side by side, “Oh, how was your day?” you know “What’s going on at work?” Where the guy’s like, [lowers voice] “I’m here!” Is that awful? [laughing] … The macho versus whatever the antithesis of macho is. (Ruth)

Sound was a significant feature of the gendered viscerality of place. For many men and women, the soundscape was decidedly masculine. Vocalisations during exercise and instances when weights made contact with the floor or other equipment were often categorised as exaggerated, aggressive, and superfluous or not serving a functional purpose. Even men who dissociated from this type of sonic performance were well-aware of its omnipresence, as Richard (age 54), a nearly lifelong gym user, noted: ‘You have the meatheads upstairs, you know, trying to do as big a weight as they can with as poor form as possible. And dropping weights whenever possible so everybody knows they just did something big’. While some participants acknowledged certain sounds were inherent in exerting intense physical effort, most of these types of noises were understood as having more to do with ‘the guys trying to be very macho’ (Kyla, woman, age 37). When asked about negative aspects of their gym experiences, women and men both frequently cited this masculine sonic interference as a significant factor.

Sound in the gym travelled too, infusing other spaces. A hegemonic (or dominant) masculinity (Connell 1987), in this way, could take up space in the gym in ways that femininities and other masculinities could not. Leah documented in her journal how an exchange between two men, which she found excessively loud, infiltrated her personal space and negatively affected her capacity to focus on her workout:

The thing that distracted me today was a couple of guys working out. The guy who was pushing weights was yelling YEA every time he extended his lifts while the other guy would be yelling at him saying “PUSH, KEEP GOING.” I am all for people spotting each other and encouraging each other, but, when the entire gym can hear you and turn their focus on you, it’s a little too loud. To me at that point it seems almost like an attention show off vibe. (20 February 2015)

Sound constituted a transversal layer of the gym that cross-cut spaces and permeated to the level of individual experience, so much so that many participants often used their own music and head-phones as a way to intervene and separate themselves from the overall gym soundscape. Melissa, for example, went so far as to use ‘the big DJ headphones at the gym’ so that she did not have to ‘listen to that grunting’.

The hyper-masculinised nature of sound in the gym had the effect of silencing others, contributing to another gender binary: loud/quiet. Women tended to feel that they could not or should not emit sounds. While a few women noted they were comfortable making noise, others felt constrained by gendered structures that kept them muted. Emily, for instance, a 27-year-old queer-identified woman who engaged in traditionally masculine heavy weightlifting, articulated how there was no space for her to be a ‘loud’ woman in the gym:

There’s some of these like super big buff strong guys who are lifting, you know, 3, 4, 5 plates, either deadlift or squat. They can go up to the bar and they can go “Raaaaahhh!” And they make these noises and there’s just so much testosterone and it’s just like this is legitimate. Now, first of all, I don’t even know if I have that in me to do that, but I think I would actually be like, would I ever do that? Would I ever? Like would I ever go and be like, “Raaaah! I am a woman!” [laughs] That’s what it sounds like to me. It sounds very like, “Raaah! I’ve got testosterone! I’ve got brute strength!” And … there’s a lot of masculinity, or a certain type of masculinity, which is I still think within a hetero-normative framework. Um, on the whole, I think the space is pretty hetero-normative. I feel like it in some ways actually perpetuates gender binaries. So you’re either female or you’re male – like where is the space for continuum?
Despite challenging gender binaries with her weightlifting practices, Emily shows how sound operated as a gender boundary-making device that contributes to the performative articulation of gender in the gym. The gym soundscape works to magnify the spatial impact of hegemonic masculinity and minimise the sonic presence of femininities and other masculinities.

In addition to the nature of the sounds arising from the exertion of effort and moving of weights, participants also noted how the very content of conversations intensified the masculine tenor of the soundscape. Often, this involved men challenging the status of other men, essentially re-positioning themselves along the hierarchy of gym masculinities, with comments such as, ‘how come you’re using the girly weights?’ (Joel, age 56). Even when in jest, this flavour of commentary performed exclusionary functions. Richard made this clear when he recounted a gym member venting frustration and projecting profanity in a way that seemingly challenged the validity of Richard’s preferred exercises:

There’s one guy, and he’s quite an amazing body builder. And, you know, because I see him naked in the men’s change room, I get to see the whole thing, right. And he’s very, very fit. Like it’s obvious that he works very hard on this, but oh he’s got attitude. Like he swears a lot. … Like fuck is every other word. Like literally. I actually sat and listened one time and I said, ‘It is every other word, wow.’ And he makes disparaging remarks. Like he’s sort of commenting on, “Gee, I could never get on that. Oh, I can’t go at that time of day, I could never get on my equipment. I don’t know why they took away all our room. They got that fucking yoga thing in there and TRX.” And he’s sort of looking at me ‘cause he knows I go to yoga. So I can see that sort of, you know, he knows I do that stuff and I can see that kind of thing.

Richard interprets the disapproving remarks about yoga and TRX (a type of suspended resistance equipment) – both activities outside of the scope of the traditional weight room – to be implicitly reproaching him as a man practitioner of those activities, even though he is not a direct party to the conversation. This experience illustrates how sound in the gym can demarcate what Caudwell (2011) – in the context of homophobic chants in football stadia – discusses as ‘rhetorical territory;’ that is, socio-spatial hierarchies fomented by language and sound that devalue particular expressions of gender or sexuality. Although a seemingly ephemeral dimension of the gym environment, sound was clearly a potent visceral structure delineating legitimacy and power.

**Visual fields: flexing and sexing**

Certain activities and behaviours visually contributed to the gendered viscerality of the gym. For one, many women and some men perceived that men tended to ‘show off’, engaging in behaviours viewed as vanity displays of men’s bodies. As Melissa said, ‘I think the men preen a lot more in front of the mirror. … I never really like to sit there. And, like, I’d watch myself for form, but there are still seriously guys who will stand in front of the mirror and do “welcome to the gun show.”’ In welcoming us to ‘the gun show’ – a colloquial phrase referring to a pose to flex one’s arm muscles – Melissa calls attention to a blatant gender performance that underscores how visual boundaries operate around differently gendered bodies to demarcate power in the gym. Moreover, Melissa draws a distinction between her consumption of material and visual space as delimited by a practical purpose versus men’s seemingly less circumscribed – and even self-indulgent, in her view – consumption of space. Although she questions the validity of this apparent exhibitionism, it nonetheless illustrates a form of performative masculine power in place whereby masculine bodies were not bounded by functionalism. Likewise, Frank, a 57-year-old man who attended the gym every day of the week, concurred that ‘men tend to strut, you know, display more than women. I find women are more – try not to be noticed for the most part, except for the few that are, you know, hang out there a lot’. Masculinity was visually magnified in space, while femininity was minimised.

These asymmetrical optics were reinforced when women enacted what might be conceived as similarly less functional behaviours, such as ‘the valley girls that come in in their Lululemons talking about their weekend and not really doing anything’ (Brad, man, age 29). Unlike masculine ‘strutting’,
however, these actions further decentred femininities and sidelined women as inauthentic participants in the gym. When femininity was rendered visible, it was often conceived in a way that undermined women as legitimate practitioners of physical activity in the gym space. This visibility of women’s bodies did not confer power.

A final visual element of the gendered viscerality of the gym was, as Steven (man, age 43) put it, the general consensus that ‘women probably have to deal with a few more eyeballs on ‘em than guys’. The potential for sexualised gazing to occur, to be always possible and prone within the gym environment, infused the gym context with a sexualised character. This worked to reify traditional gender binaries by emphasising a heterosexual and oppositional relationship between men and women, and further positioning women as passive objects of men’s gazes. Despite being minimised in visual space, femininities were still visually consumed in a non-consensual way. It is important, however, to note that both women and men expressed agency in pushing back against this structure; some men rejected gazing and some women enjoyed undertaking gazing themselves (2019).

Material stuff: cementing difference

Participants articulated ways that gender was inscribed by the availability, types, and design of gym equipment and spaces. Spatial and design configurations – whether intentional or not – had the effect of aligning women with relatively lighter weights, which illustrates how the material "stuff" of the gym comes to actively matter in the gendered performativity of place and what 'bodies can “do”' (Fullagar 2017, 248). Janine (woman, age 41), who used one of the municipal gyms, observed that, I don’t know if it’s planned this way to be less intimidating, but there’s a section of weights that has lighter weights where it seems to be that’s where the women do their weightlifting. … And then there’s kind of machines with heavier weights on them and that seems to be where the males [are].

Some gyms provided a women’s designated area that ‘doesn’t have a squat rack or anything in it’ (Jeff, man, age 29), further materialising the expectations of what women and men do in the gym. This dichotomy between men using heavier weights and women using lighter weights was so entrenched that some participants even identified equipment and spaces in gendered ways. Sabrina (woman, age 38), for example, commented that ‘because mostly women work down in where I work out, I wish they had more of the women-sized weights down there’ (emphasis added). Many participants identified cardiovascular exercise machines, particularly elliptical machines, as feminine. Tom (age 26), who had been lifting weights since his teens, explained that ‘Some of the cardio machines I find a little more gender-specific. Like the elliptical machines tend to be mostly females, and I don’t think that’s a coincidence. I think that’s sort of what – that’s a female machine, if machines have genders’. In other instances, the overlaying of gender onto equipment was literal hyperbole, with Joel, for example, noting that his past gym had ‘pink barbells’. These examples highlight how physical equipment and spatial arrangements are implicated in the hierarchical gendered performativity of the gym.

In line with existing literature (Johansson 1996; Johnston 1996; Dworkin 2001, 2003; Brace-Govan 2004; Salvatore and Marecek 2010; Johansson and Andreasson 2016), participants overwhelmingly perceived that the gym ‘almost automatically splits into genders’ (Alexis, woman, age 25) where ‘the women are doing more cardio on the cardio side and the guy [sic] doing the big weight on the other side’ (Francois, man, age 35). This material split re-articulated the gender binary as the spatial separation and functional difference between cardiovascular exercise and strength training activities. This scenario also created a self-fulfilling prophecy because who was seen to be using what contributed and reinforced the gendering of gym equipment and spaces (Salvatore and Marecek 2010). For instance, when asked if there was anything she refrained from doing because of her gender, Shelby (age 26) confided, At the beginning it was strength training, and especially because I was uneducated about it, and thought about just being one of those body builder women and that’s how I didn’t want to be. And that men were just always
and the first few times I went, like, there weren’t a lot of women over there, so I’m like ok, that just reinforced women don’t strength train.

As such, the bodies occupying and using certain spaces contributed to their gendered codification. This gender-divisive material and spatial structure was widely understood as a hallmark of gyms, although several of our participants expressed optimism that these boundaries were shifting.

(Un)sticking binaries?

Linking back to our visceral feminist lens, we put forward stickiness as a visceral concept to characterise the sensuous configurations of gender binaries and boundaries in the themescape of the gym. We exposed various visceral layers connecting exercising bodies to place in ways that (re)formed social difference along uneven gender lines. Binary gender is not immovable within the gym-scape, but it is exceptionally sticky. These binaries were at times actively contested, for example, when people like Richard practiced yoga and Emily articulated her desire to be loud. What we are arguing, however, is that despite any resistance at the individual level, the gym as an institution is viscerally performative of a binary gender order that is a vital part of the gendered context of physical activity. In this way, how place does gender matters for health. This adds to our theoretical and practical understanding of why the visceral is central to the ways that bodies, places, and power are connected.

Our analysis revealed a series of intimately sensed dichotomies that, taken together, contribute to an overarching gender binary of unbounded masculinity and bounded femininity. The powerful stereotypes of the gym imaginary drew a line between masculinity as hard (associated with intense physical work) and femininity as delicate (associated with little physical effort). Bodily haptics (re)inscribed a carefree/careful binary in which masculinity was “naturally” in place. The soundscape drew similar polarities, where masculinity dominated sonic space in terms of volume (loud/quiet) and tone (aggressive/passive). In the visual fields of the gym, masculinity was exhibited through seemingly wilful displays of physique and strength, while femininity was contained and on the receiving-end of the masculine gaze. In terms of material stuff, masculinity and femininity were not only bluntly spatially divided (weights/”cardio”), but more detailed spatial arrangements and equipment selection reinforced gender difference in activity types. Together, these five visceral domains construct the gym as a gender dimorphic place that sets women and men on an unequal playing field for physical activity participation.

The gender regime of the gym was characterised by the erasure of women’s exercise labour through the containment of sound and sweat. Given that sound and sweat are physiological responses to physical exertion, the control of these bodily boundaries is also a control on the gendered limits of physical activity participation. This gendered regulation may play a role in Dworkin’s (2001) concept of a glass ceiling on women’s strength. Sound was also a territorial mechanism (Labelle 2010) through which gendered bodies differentially took up space in the gym – a spatial disparity that worked to centre masculinity in place. The power of sound to perform gender was reinforced by its mobile capacity to traverse the gym into the intimate hearing spaces of individuals. Many women, and some men, found the soundscape abrasive and adopted strategies, such as Melissa’s ‘DJ headphones’, to dislocate themselves from the environment – a strategy to create a protective boundary that Davidson (2003, 120) has likened to Goffman’s notion of an involvement shield (see also Hallett and Lamont 2015). Interestingly, while other qualitative research highlights connections between music and gym exercise experiences (Hallett and Lamont 2015), it has not considered the gendered implications of this. Our findings show that sound is an integral feature of how the gym does gender, in line with Duffy and Waitt (2013, 467) concept that sound is an essential part of place-making. By marking women’s "natural" reactions to intense exercise as transgressive, sweat and sound are part of how the viscerality of the gym is implicated in the gendered context of physical activity. Sound has the capacity to alienate or include because ‘sound connects us to uneven networks of power. Sound coheres subjectivities, places and a sense
of “togetherness” (Duffy and Waitt 2013, 470; Waitt, Ryan, and Farbotko 2014). Engaging with sonic geographies, in particular, may be necessary to further unpack the larger role of place in the gendering of physical activity.

Masculinity took up space in the gym imaginatively, haptically, sonically, visually, and materially precisely because of the porosity of men’s bodily boundaries (e.g. emitting loud sounds, wearing loose-fitting clothes, being “allowed” to sweat) – but this does not mean that the masculinity performed by the gym was inclusive of all men. Indeed, our analysis reveals how within the binaries, some expressions of masculinity could be more or less marginalised. Physical activity guidelines for health set out aerobic and strengthening recommendations that apply equally to both women and men; they do not distinguish on the basis of sex/gender (Tremblay et al. 2011). The issue with how places like the gym perpetuate binaries in the practice of physical activity is not only the danger of gendered health inequities, but also, more simply, that everyone misses out on something of potential health benefit and enjoyment.

The place of the gym thus does not perform gender resistance, but fits into a mutually reinforcing power-geometry (Massey 1994) with wider gender orders that subordinate women. This means that from a health equity perspective, creating more inclusive places for physical activity requires dismantling the gendered visceralities of place. Gorely, Holroyd, and Kirk (2003), in their work on school-based physical education, suggest that gender-transformative programming requires an ‘explicit process of critique centred on the dis-articulation of gender-exclusive physical activities and the re-articulation of gender-inclusive alternatives’. As we have discussed elsewhere (2018), women’s only gyms can provide crucial safe spaces for some women to engage in physical activity; however, they do not, in and of themselves, as Gorely, Holroyd, and Kirk (2003) put it, dis-articulate the gender exclusive nature of physical activity or extend to re-imagine inclusive alternatives. In terms of interventions for gender equity in physical activity, one of the key findings our visceral approach revealed is how women’s participation in the gym is underwritten by labour, material expense, and bodily preparatory practices that extend far into the geographies of their daily lives. Interventions to support women must, therefore, take account of these seemingly invisible geographies. Measures could include “come-as-you-are” or “workout-as-you-are” messaging in both gyms and as part of wider physical activity information campaigns to naturalise women’s bodies as always ready for physical activity and welcome in any state at the gym. At the level of gyms, practical initiatives could include equipping locker rooms with items that could help to reduce preparation for getting ready for physical activity and welcome in any state at the gym. At the level of gyms, practical initiatives could include equipping locker rooms with items that could help to reduce preparation for

The heteronormative qualities of the gendered performativity of the gym articulated in our findings deserve deeper consideration. Gyms may be further carved up to include/exclude people of diverse sexualities and gender identities in other ways that we could not comprehensively probe because of the small number of people who self-identified in our sample. Likewise, the majority of our sample identified as white Canadians. Future research should engage more diverse perspectives to illuminate how the gendered performativity of the gym intersects with performativities of "race" – as well as other features of social difference – and what this means for how the place of the gym does health.

In conclusion, our research shows how the visceralities of the gym contribute to the gendered context of physical activity participation. Physical activity interventions that do not account for the multisensory features of place may miss opportunities to reduce gendered inequities. This means that gyms need to be conceptualised as more than just physical activity locations, but as places that have a productive role in the (re)creation of gendered inequities in physical activity participation. Addressing gendered inequities requires action from the inside-out; that is, by identifying and disrupting the visceral gendered geographies of everyday exercise places. It is in these everyday places that gender is cemented into the foundations of daily life. Even in an era when arguably more spaces are opening up to gender fluidity, the gym largely remains a de facto a gender-dichotomous place much like Johansson (1996) and Johnston (1996) observed over 20 years ago. As Emily asks, ‘where is the space for continuum?’
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Notes on contributors

Stephanie E. Coen is Assistant Professor in the School of Geography at the University of Nottingham (United Kingdom). Her research interests include critical geographies of health, qualitative and creative research methods, and feminist geographies.

Joyce Davidson is Associate Professor in the Department of Geography and Planning at Queen’s University (Kingston, Ontario, Canada). Her research interests include emotional geographies, feminism and geography, gender and embodiment, and mental health and illness.

Mark W. Rosenberg is Professor and Canada Research Chair in the Department of Geography and Planning at Queen’s University (Kingston, Ontario, Canada). His research interests include ageing across Canada, geographies of voluntarism, health status and access to health care among older Aboriginal people, health care delivery systems in Ontario and Canada, and women’s health.

ORCID

Stephanie E. Coen http://orcid.org/0000-0003-3939-8792

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