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1 **'Where is the space for continuum?' Gyms and the visceral "stickiness" of binary gender**

2

3 ## Abstract

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

20

21 Key words: gender, gyms, health, performativity, visceral geography

22

23 **Introduction**

24 While fitness gyms are popular venues for physical activity participation, they are not necessarily
25 inclusive places. The spatialities of gyms can be gender-divisive, with weight-lifting zones coded
26 as masculine and cardiovascular exercise areas as feminine for their seeming alignment with
27 gendered physique goals (Johansson 1996; Johnston 1996; Dworkin 2001, 2003; Brace-Govan
28 2004; Salvatore and Marecek 2010; Johansson and Andreasson 2016; Coen, Rosenberg, and
29 Davidson 2018). This gender-skewed use of equipment, with a greater proportion of men using
30 weights, is widely reported (Johansson 1996; Johnston 1996; Dworkin 2003; Salvatore and
31 Merecek 2010). Moreover, regardless of whether this gender-split manifests in an absolute sense,
32 recent work shows that many gym users *perceive* it to be widely so (Coen, Rosenberg, and
33 Davidson 2018; Johansson and Andreasson 2016). Sassatelli (2010, 74), in her dual-country
34 ethnography of gyms in the United Kingdom and Italy, refers to this gendered division as a
35 'gender-activity matrix,' noting there is a marginalising consequence to participating in activities
36 and spaces outside those traditionally gender-aligned. Transgender, non-binary, and LGBTQ+
37 individuals often find gym environments to be hostile (Farber 2017; Jones et al. 2017; Herrick
38 and Duncan 2018;). Other research shows how gyms are spaces of whiteness, making them less
39 welcoming for women of colour in particular (Duncan and Robinson 2004; D'Alonzo and
40 Fischetti 2008). Perceptions of the gym overall as a masculine environment can be a deterrent to
41 regular exercise participation (Pridgeon and Grogan 2012). Even elite women bodybuilders
42 (Johnston 1996; Brace-Govan 2004) and some cis-gender men (Coen, Rosenberg, and Davidson
43 2019; Coen, Davidson, and Rosenberg 2020) experience weight-lifting spaces as hyper-
44 masculinised, demonstrating that exceptional gym acumen or seemingly privileged positions do
45 not necessarily mediate the gendered quality of these spaces.

46 Women's limited participation in strength training in gyms has been linked to the
47 influence of dominant feminine body ideals that emphasise thinness (Johansson 1996; Dworkin
48 2001, 2003; Brace-Govan 2004; Salvatore and Marecek 2010). While some women may feel
49 empowered through aerobic exercise, 'feminine activities such as aerobics may become ghettoes
50 that reproduce the gender order' as women may refrain from strengthening exercises or only
51 engage in restricted ways which they perceive to maintain a small body (Sassatelli 2010, 32).
52 Socio-cultural studies of gyms have shown that *how* women engage with weight lifting may
53 reinforce socially inscribed gender differences at the level of the body. Dworkin (2001, 2003),
54 for example, in her ethnographic work on women's gym experiences in the United States, used
55 the concept of a 'glass ceiling' to describe how women's strength was materially limited by
56 gendered ideologies that define women's idealised bodies as small and toned—qualities
57 physiologically at odds with increasing physical strength. Women negotiated this glass ceiling by
58 engaging in highly specific practices, such as 'lifting lightly,' that they believed would maintain
59 their bodies within the dictums of feminine heterosexual desirability (Dworkin 2001, 339).
60 While we are highlighting the multiple disadvantages that women generally experience in
61 gyms here, we want to be clear that women and men are not homogenous groups, nor is gender
62 binary—rather gender is *socially constructed as binary* in ways that can be damaging for health
63 (Courtenay 2000; Connell 2012; Johnson and Repta 2012). We take gender as a starting point for
64 our concern with equity in physical activity, with an understanding that additional analyses are
65 needed to more fully consider intersections with socioeconomic status, disability, sexuality,
66 race/ethnicity, and other social structures. The gender gap in physical activity is well-
67 documented, with women around the world less likely than men to meet internationally-
68 recognised physical activity guidelines for health (Guthold et al. 2018; Mielke et al. 2018). There

69 is presently a policy appetite for addressing the gender gap, with the World Health Organisation
70 (WHO) emphasising the importance of offering safe and accessible leisure-time physical
71 activities for women as part of the solution (Guthold et al. 2018). Gyms are exceptionally
72 common leisure-time sites of physical activity, with the International Health, Racquet, and
73 Sportsclub Association reporting 162 million people worldwide are members of health and
74 fitness clubs (Walsh 2017). Still, gyms are not unproblematic when it comes to promoting health.
75 Others have highlighted the detrimental influence of gyms in perpetuating moralising discourses
76 about health, where lifestyle habits (such as exercise), become moral benchmarks against which
77 people are judged (Smith Maguire 2008; Nicholls et al. 2018). Informed by this critical view, we
78 hold that meeting physical activity gender equity goals and achieving wider population uptake of
79 physical activity necessitates identifying—and ultimately intervening in—how the gender gap is
80 (re)made in everyday physical activity places, such as the gym.

81 Using our research on Canadian women's and men's gym experiences, in this article we
82 develop a visceral feminist geography of the gym to expand our understanding of how everyday
83 physical activity environments are implicated in the gendered context of physical activity. By
84 visceral geography we are referring to an approach that attends to the role of senses and sensorial
85 experiences—sound, sight, smell, taste, touch—in shaping relationships among people, place,
86 and power (Hayes-Conroy and Hayes Conroy 2008, 2010; Longhurst et al. 2009). Below, we
87 draw together theories of gender and health, new materialisms, and visceral geographies to
88 underpin how we conceptualise place as performative and the gym as a sensuous environment.
89 We then introduce our methods for this study, followed by our results outlining a visceral
90 feminist geography of the gym. Our core argument is that these "visceralities" *matter*—as verb
91 and noun—because they reveal how the gym as an institution comes to codify gender differences

92 in ways that perpetuate possibilities for practising physical activity as bifurcated ways of doing
93 gender.
94

95 Health and place through a visceral feminist lens

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

105 With our visceral feminist approach to the gym, we make two key theoretical
106 contributions across feminist and health geographies, new materialisms, and visceral
107 geographies. First, we expand theorisations of the relationships among gender, health, and place
108 by showing how a visceral geography can offer insight into the larger question of the role of
109 place in producing health inequities. Second, we advance feminist, new materialist, and visceral
110 perspectives by illuminating material and visceral layers through which place is performative of
111 power relations with concrete implications for the context for health.
112
113
114

115 ***Placing gender and health***

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

127 While the notions of 'doing gender' (West and Zimmerman 1987) or gender as
128 'performative' (Butler 1990) take gender to be socially enacted through repetitive acts that
129 render gender legible at a more individual level, geographers have extended these ideas to
130 conceptualise how *space* and *place* are also performative. From this view, space does not pre-
131 exist independently, but is rather continually 'brought into being through performances and as a
132 performative articulation of power' (Gregson and Rose 2000, 434). This moves the concept of
133 gender performativity from enactments at an individual level to collective attributes of place
134 (Gregson and Rose 2000). Taking place as performative means that the gym is not a neutral or
135 static stage for equipment and exercising bodies. Rather, the place of gym itself is articulates a
136 particular gender order, brought into being through power-laden constellations of performances.
137 Places may be 'sticky' in relation to gender in that they come to be associated with certain

138 gender expressions and experiences (Pratt and Hanson 1994, 25). This moves the lens from how
139 individuals do gender and, thus, do health to how *the gym* does gender and, thus, does health.
140 We augment this spatial concept of performativity by bringing in currents from new
141 materialist perspectives that consider the productive role of objects, materials, substances, and
142 sounds (Barad 2003; Pyyry, 2015; Fullagar 2017). By disrupting the binary between humans as
143 agentic and other matter as inert, new materialism provides a way to understand the contribution
144 of other-than-human "things" to the boundary-making processes of social difference (Barad
145 2003; Pyyry 2015; Fullagar 2017;). Pyyry (2015, 151) explains that this perspective makes room
146 for 'consideration of the productive capacities of material: non-human entities also affect and
147 create differences, and thus participate in constituting worlds.' From a health perspective, this
148 "matters" because, as Fullagar (2017, 248) says, these forces are 'co-implicated in what bodies
149 can "do" and how matter "acts"' (see also Ahmed 2010). In this way, the performativity of place
150 is an amalgam of the dynamics among people and things in place, which, in turn, has material
151 implications at the level of the body.
152
153 ***Getting visceral: The gym as a sensuous themescape***
154 It is … through [the] five senses—through the particular visuality of the gym,
155 its aural culture combining loud music, client's strain grunts in the machine
156 areas and trainers' screams during classes as well as a vast array of smell,
157 touch and taste details—that the gym constitutes itself as a meaningful world.
158 (Sassatelli 2010, 9)
159 As Sassatelli observes in her gym ethnography, the senses are very much a part of what define
160 the gym as a place. We thus conceive that part of our task in excavating the gendered

161 performativity of the gym—how the gym, as a place, does gender—is to contend with its
162 multisensorial features. Here we intersect new materialism and visceral geographies in their
163 common concern with the agentic qualities of physical matter in constructing social boundaries
164 (Hayes-Conroy and Hayes-Conroy 2008, 2010; Barad 2003; Pyyry 2015; Fullagar 2017).
165 Visceral or sensuous geographies deliberately draw attention to the role of sensory elements in
166 connecting bodies with structures of power. As Rodaway (1994, 4) says, the senses operate 'both
167 as a relationship to a world and … [are] in themselves a kind of structuring of space and defining
168 of place.' We take up Rodaway's (1994, 5) conception of senses as 'an analytical devise to
169 enable us to highlight often taken-for-granted and hidden dimensions of geographical
170 experience' to underpin our visceral feminist analysis of the gym. The visceral—be it the sounds
171 we hear, the clothes we wear, the sweat we produce—can connect us or alienate us with place
172 (Hayes-Conroy and Hayes-Conroy 2008, 2010; Longhurst et al. 2009; Duffy and Waitt 2013).
173 The visceral is therefore political because it is intimately bound up with constructions of power
174 in the performance of wider social categories and hierarchies (Hayes-Conroy and Hayes-Conroy
175 2008, 2010). A visceral approach is not about individual bodies, but rather uses the senses to
176 situate bodies in socio-political context and unpack enactments of social difference (Hayes-
177 Conroy and Hayes-Conroy 2008, 2010; Longhurst et al. 2009). Longhurst's (2001) landmark
178 work on geographies of bodily fluids illustrates how sites where bodily boundaries breach are
179 central to gendered geographies of power. One of her core arguments is that women's
180 subordination is tied to the spatial construction of women's bodily boundaries as insecure, with
181 the potential to leak. The epistemological implication of this is that without acknowledging the
182 messy materiality of bodies, masculinist norms in research knowledge remain unchecked.

183 Visceral geographies have largely been theorised around empirical examples related to
184 food and taste (Hayes-Conroy and Hayes-Conroy 2008, 2010; Longhurst et al. 2009). A small
185 body of work, however, has shown how sporting and movement spaces can reify gender and
186 sexuality hierarchies via sensory processes. Caudwell (2011), for example, demonstrates how the
187 sights and sounds of football fans in the United Kingdom can normalise dangerous and
188 exclusionary social relations, specifically homophobia, within the place of the stadium. Misgav
189 and Johnston (2014), in their analysis of the dancefloor of a gay nightclub in Tel Aviv, Israel,
190 evidence the vital role of sweat in shaping socio-spatial divisions amongst gay men and
191 transwomen who occupied different spaces on the dancefloor. Fusco (2006) troubles common-
192 sense assumptions of locker rooms as mundane spaces by showing how negotiating interactions
193 with naked bodies and bodily fluids is a process of abjection that (re)inscribes us/them binaries.
194 These examples highlight the role of the visceral in animating wider social relations and
195 questions of power. Still, visceral geographies have not yet extended to explicitly consider
196 physical activity—a connection we seek to bridge here.

197 Gyms, as purpose-designed venues for exercising the body, present a distinct setting to
198 consider the visceral politics of gender, health, and place. While individual gym venues may
199 possess site-specific characteristics, gyms around the world share common socio-material
200 features that define the gym as a particular type of place (Sassatelli 1999, 2010). Because of this
201 recognisability, we position the gym as what Rodaway (1994, 166), drawing on Hopkins (1990),
202 calls a sensuous 'themescape,' which 'can be recognised by [its] vivid visual appeal, with strong
203 and coherent references to particular places and periods elsewhere.' While Rodaway describes
204 themescapes in a more literal Disney-sense, we hold that this definition can productively
205 characterise gym-scapes due to the shared recognisable features of gyms across time and place.

206 Furthermore, Rodaway explains that 'the success of a theme is grounded in reinforcing widely
207 shared place stereotypes and dreams' (Rodaway 1994, 166). Seeing the gym as a themescape
208 allows us to question how normative ideas and stereotypes about men's and women's
209 participation in physical activity relate to the gender performativity of the gym. From a visceral
210 perspective, these representations come to matter because 'developing a taste for something does
211 not happen in a vacuum, but in a lived context of social representation' (Hayes-Conroy and
212 Hayes-Conroy 2008, 467).
213

214 **Methods: Excavating the visceral**

215 This study draws from a larger project exploring the role of place in the gendering of physical
216 activity (see Coen, Rosenberg, and Davidson 2018; Coen, Davidson, and Rosenberg 2019). Our
217 analysis here focuses only on our research question regarding how gender materialises in
218 features of gym environments, an intentionally broad question to avoid *a priori* categorisations
219 and make space for participants' articulations of these. Our work was grounded in a feminist
220 geographical epistemology that understands knowledge as partial and situated, recognises
221 researcher positionality and demands reflexivity, privileges participant agency, and aims to
222 interrogate power structures and dualisms both in research and everyday life (Rose 1997; Dyck
223 1999; Thien 2009). Our research design thus encompassed complementary methods that
224 provided distinct vantage points and modes of expression from which participants were invited
225 to critically reflect on their gym experiences. First, we use semi-structured interviews to engage
226 participants in discussion about their gym experiences, including asking them directly about their
227 thoughts on the role of gender in the gym. The final interview question took the form of a
228 drawing activity in which participants responded to the prompt 'How do you feel in the gym?'

229 and then discussed what they created as a continuation of the interview. Second, all participants
230 were invited to journal for a 1-week period about the positive and negative aspects of their gym
231 experiences. This technique offered an opportunity for participants to reflect on their gym
232 experiences in situ and at their own pace, as well as to document potentially seemingly mundane
233 aspects of the gym that may not be raised in an interview (Filep et al. 2015). Our study was not
234 designed with a specifically visceral methodology, in that we did not ask dedicated questions
235 about the senses nor did we adopt sensuous techniques (e.g., exercising and sweating alongside
236 participants). Rather, the importance of the visceral was inductively identified through our
237 reflexive thematic analysis, which we describe shortly.

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

252 according to the recommended principles of Canadian ethics guidelines and Queen's University
253 policies by the University's General Research Ethics Board. All names used are pseudonyms.
254 Our analysis here deals with a subset of data broadly related to the materialities of gender
255 in the gym environment (i.e., more-than-human matter, including the sights, sounds, and "stuff"
256 of the gym) that we extracted from our larger data corpus. This dataset contained 405 pages of
257 primarily interview and journal data; drawing data largely corresponded with the foci of our
258 other research questions in the wider study (i.e., practices/mobilities and emotional geographies)
259 and was resultantly analysed elsewhere (Coen, Rosenberg, and Davidson 2018; Coen, Davidson,
260 and Rosenberg 2019). In line with our feminist geographical epistemology, we elected to use
261 reflexive thematic analysis (Braun and Clarke 2006, 2019) because it actively recognises the role
262 of the researcher in knowledge production and encourages iterative engagement with data to
263 analytically construct codes and themes. Analysis was carried out by the lead author [SEC],
264 beginning at transcription where analytic memos were recorded with each transcript. Throughout
265 the analysis process SEC annotated a research diary where she documented observations of the
266 data and all analytic decisions. Coding was performed on the dataset using the repeating ideas
267 technique described by Auerbach and Silverstein (2003). This was an iterative process of
268 identifying micro-level codes in the data, involving splicing, merging, and dissolving of codes,
269 until a final list of 16 well-defined codes was constructed. We used an *in vivo* approach, naming
270 codes with participants' own verbatim phrases and words to foreground participant voices in the
271 analysis process. Men's and women's responses were first coded separately and then brought
272 together in the final stage of analysis where we identified relationships amongst the individual
273 micro-level codes in order to construct the final set of five themes presented here. Throughout
274 the analysis SEC engaged in critical conceptual discussions about the data with co-authors,

275 following the process that Smith and McGannon (2017) refer to as 'critical friends', as a way to
276 interrogate our observations of the data and ensure rigour.
277

278 A visceral feminist geography of the gym

279 Our findings reveal five visceral domains through which the gym as a place enacts gender and is
280 implicated in the gendered context of physical activity participation. We conceptualise these
281 relationships as an assemblage of visceralities—a term we apply to recognise the ways in which
282 the visceral connects bodies to representations, other bodies, and materials.
283

284 *The imaginary: Representations that matter*

> 285 Geographical imaginaries involve bordering as well as ordering […] that
> 286 derive not only from the cognitive operations of reason but also from
> 287 structures of feeling and the operation of affect. As such, geographical
> 288 imaginaries are more than representations or constructions of the world:
> 289 they are vitally implicated in a *material, sensuous* process of 'worlding.'
> 290 (Gregory 2009, 282, emphasis added)

291

292 The ways that we imagine and think about places are bound up in our material and sensory
293 experiences of them because 'representations join and become part of old memories, new
294 intensities, triggers, aches, tempers, commotions, tranquilities' (Hayes-Conroy and Hayes-
295 Conroy 2008, 476). Participants spoke of the gym as a vividly stereotyped place, recounting
296 gendered imagery and categories that were seemingly taken-for-granted as known. These paint a
297 picture of the gym as a distinctly sensuous themescape (Rodaway 1994). The archetypal gym
298 man in this Canadian context was referred to with terms like 'meathead,' 'He-man,' or 'steroid
299 monster.' He had a hyper-masculine body of built muscle, was dedicated to lifting heavy
300 weights, and possibly took steroids or supplements for muscle growth. The gym woman often

301 anointed 'Barbie,' 'princess,' or 'cardio bunny.' She was fit yet small, putting more effort into
302 her appearance than actual exercise, always dressed to impress (desiring and inviting men's
303 attention), and practiced mainly aerobic exercise. These oppositional figures were summed up by
304 Angela (woman, age 32) as 'generally the overly built guy with huge muscles who's bench
305 pressing ridiculous sets of weight. You think about the cardio bunny girl, who's…in all spandex,
306 and hair in her big ponytail, full makeup, and is there more to be seen, right.' Importantly, these
307 "imaginary" concepts of the gym are grounded in experiential aspects of matter (i.e., bodies,
308 clothing). In this way, matter can actively come to occupy the psycho-social space through which
309 we mediate our experiences in the gym and the ways that the gendered performativity of the gym
310 comes to affect us. These sedimented and taken-for-granted orientations to space can, in turn, as
311 Sara Ahmed (2010) argues, materially shape bodies; the ways bodies orient to space prescribes
312 boundaries on what bodies do in space (see also Fullagar 2017).

313 Although these caricatured portraits cast neither men nor women in a positive light, they
314 had the overall consequence of reifying a rigid gender regime that dichotomised masculinity and
315 femininity along the dividing line of work. "Hard work" was a mechanism of masculine power in
316 place, while femininities were subordinated in the gym by a presumed lack thereof. Several
317 participants pointed out how when women were seen to transgress this binary and workout
318 "hard"—a masculine quality—aspects of their gender and sexuality could be put into question, as
319 Amir (age 35) noted: 'Maybe if you're at the gym a lot, maybe, um, you think their gender is, uh,
320 maybe they're bisexual or lesbian.' Johansson (1996), although referring to men participating in
321 aerobics classes, also observed that contravening traditionally gendered activities could raise
322 questions about one's positioning in the gender hierarchy of the gym. These stereotypes were an
323 imaginative ordering device that animated and materially legitimated the performance of

324 masculine hegemony within the gym. This shows how such place-specific representations are
325 more-than-representational in terms of their potential to materially shape the gendered nature of
326 physical activity. As Rodaway notes (1994, 177), 'The sensusous geographies of themescapes
327 are so hyper-real – more real than real – that they become hegemonic, mediating the experience
328 of environments beyond themselves.'

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

344

345

346

347 ***Bodily haptics: Bordering and ordering***

348 Visceralities at the scale of the body—related to clothing, physical appearance, and bodily
349 excretions—collectively contributed to the gendered performativity of the gym. There was an
350 overwhelming sense that men could more easily show up, while women had to dress up.
351 Women's clothing was 'what I would call workout *gear*' and 'something that defines their shape
352 more so than the men' (Ruth, age 59, her emphasis). Leah (age 30), for instance, who had been
353 using the gym to lose weight, described how clothing played an active role in the boundary-
354 making between women and men:

355 > …you don't find too many oversized women wearing the small spandex, um,
356 > sports tops, and the booty shorts, and the guys—I find guys will generally stick
357 > to the baggier [clothes]… The younger guys I find wear like the basketball
358 > shorts, the baggy ones that go down to your knees.

359 The tight, small, and revealing parameters for women's clothing contrasted with the relaxed,
360 large, and covered characteristics of men's clothing. The emphasis on fitting women's bodies
361 into small or revealing clothing, which Leah described using the sexualised language of 'booty
362 shorts,' circumscribes the types of women's bodies that can be stylised into normative feminine
363 representations in the gym. This shows how clothing not only actively contributes to the
364 materialisation of a stark gender divide between women and men, but reifies a hierarchy of
365 femininities whereby certain body types are relatively more powerful in place. As Brooke, a 35-
366 year-old woman using one of the commercial gyms commented, 'you walk into a place in
367 sweatpants and a t-shirt and everybody's wearing LuluLemon [popular active-wear brand],
368 you're going to stand out like a sore thumb.' Marie, a 27-year-old recreational weightlifter,
369 articulated this as 'a catch 22 for appearance,' describing how women

370 feel bad about it 'cause they don't look cute but at the same time sometimes I put
371 on makeup or whatever in the morning and then I realise, "Oh, I'm going to the
372 gym" and then I also feel bad if I'm too made up because then I feel like, "Oh,
373 I'm not a real gym person 'cause I care too much about my appearance.

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

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

389 Although men rarely spoke of concerns about their clothing, it is important to note that
390 not all men's style of dress was devoid of the tension to fit in to the gym. Clothing was not
391 always performative of power for all masculinities in the gym; it could be a liability for some
392 men. Dev (age 33), for example, spoke of how he changed his apparel to adapt to the localised

393 masculine code of dress when he moved to Canada: 'I had to buy new shorts when I came here.
394 Because I found that all my shorts were way too short for the gym. I just think that men [where I
395 lived before] are a lot more showy, right, like even like heterosexual men.' This speaks to the
396 fact that there is nothing inherent about men's and women's attire in the gym, but that it actively
397 contributes to and reflects context-specific formulae of masculinity and femininity.

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

> 403 …if you think about Lululemon pants [sound of disapproval], for example, and
> 404 everyone talks about how it gives you a perfect butt or whatever. And it's like
> 405 you're going to work out. You're not there to, like, look nice. But all the sudden,
> 406 all this clothing is about making you look good as you sweat. Or so that you
> 407 don't look like you're sweating.

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

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

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

426 Such intentional breaches of men's bodily boundaries stand in stark contrast with the
427 concern articulated by Melissa that she might accidently do so when her body was more elastic
428 following childbirth: 'The first time you do your workout that you used to do before your baby,
429 you have incontinence and you're leaking [urine]. It's like, "Oh, I'm not going to go to the gym
430 and do anything [where leakage could occur from straining my body]."' Some men were aware
431 of gendered tensions in negotiating bodily boundaries, with Jim (age 43) making the point that 'I
432 wouldn't allow my sweat to splatter all over the place' in the presence of women. Three women
433 also highlighted the lingering spatial presence of men's body odours, with two explicitly
434 referring to the need 'go to another spot' (Amy, age 49) for this reason. These examples reveal
435 how bodily matter matters in dichotomising women and men in place. Johansson (1996, 35)
436 likewise noted previously that women's disgust with the overflow of men's bodily boundaries
437 (spit and odours) contributed to maintaining weight-lifting areas as masculine spaces. Misgav
438 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.

462 Men's bodies, at times, literally spilled over with sweat (and even deliberately with spit) into the
463 gym, while women were expected to maintain firm bodily boundaries separating them from the
464 gym.
465

466 ***The soundscape: (Dis)connecting people and place***

> 467 I think men tend to be more—aggressive isn't the word I really want—I'm
> 468 struggling to find the right word. Assertive? Louder? Possibly. More present—
> 469 more, [changes to a louder, lower voice] "I'm here!" you know "I'm workin'
> 470 out! Hey, buddy!". Where the women chat, it's more of a chat. It might be like
> 471 you and I working out on two machines side by side, "Oh, how was your day?"
> 472 you know "What's going on at work?" Where the guy's like, [lowers voice]
> 473 "I'm here!" Is that awful? [laughing]… The macho versus whatever the
> 474 antithesis of macho is. (Ruth)

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

485 When asked about negative aspects of their gym experiences, women and men both frequently
486 cited this masculine sonic interference as a significant factor.

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

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

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

504 The hyper-masculinised nature of sound in the gym had the effect of silencing others,
505 contributing to another gender binary: loud/quiet. Women tended to feel that they could not or
506 should not emit sounds. While a few women noted they were comfortable making noise, others
507 felt constrained by gendered structures that kept them muted. Emily, for instance, a 27-year-old

508 queer-identified woman who engaged in traditionally masculine heavy weightlifting, articulated
509 how there was no space for her to be a 'loud' woman in the gym:

> 510 There's some of these like super big buff strong guys who are lifting, you know,
> 511 3, 4, 5 plates, either deadlift or squat. They can go up to the bar and they can go
> 512 "Raaaaaahhh!" And they make these noises and there's just so much
> 513 testosterone and it's just like this is legitimate. Now, first of all, I don't even
> 514 know if I have that in me to do that, but I think I would actually be like, would I
> 515 ever do that? Would I ever? Like would I ever go and be like, "Raaah! I am a
> 516 woman!" [laughs] That's what it sounds like to me. It sounds very like, "Raah!
> 517 I've got testosterone! I've got brute strength!" And…there's a lot of masculinity,
> 518 or a certain type of masculinity, which is I still think within a hetero-normative
> 519 framework. Um, on the whole, I think the space is pretty hetero-normative. I feel
> 520 like it in some ways actually perpetuates gender binaries. So you're either
> 521 female or you're male—like where is the space for continuum?

522 Despite challenging gender binaries with her weight-lifting practices, Emily shows how sound
523 operated as a gender boundary-making device that contributes to the performative articulation of
524 gender in the gym. The gym soundscape works to magnify the spatial impact of hegemonic
525 masculinity and minimise the sonic presence of femininities and other masculinities.

526 In addition to the nature of the sounds arising from the exertion of effort and moving of
527 weights, participants also noted how the very content of conversations intensified the masculine
528 tenor of the soundscape. Often, this involved men challenging the status of other men, essentially
529 re-positioning themselves along the hierarchy of gym masculinities, with comments such as,
530 'how come you're using the girlie weights?' (Joel, age 56). Even when in jest, this flavour of

531 commentary performed exclusionary functions. Richard made this clear when he recounted a
532 gym member venting frustration and projecting profanity in a way that seemingly challenged the
533 validity of Richard's preferred exercises:

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

545 Richard interprets the disapproving remarks about yoga and TRX (a type of suspended resistance
546 equipment)—both activities outside of the scope of the traditional weight room—to be implicitly
547 reproaching him as a man practitioner of those activities, even though he is not a direct party to
548 the conversation. This experience illustrates how sound in the gym can demarcate what Caudwell
549 (2011)—in the context of homophobic chants in football stadia—discusses as 'rhetorical
550 territory;' that is, socio-spatial hierarchies fomented by language and sound that devalue
551 particular expressions of gender or sexuality. Although a seemingly ephemeral dimension of the
552 gym environment, sound was clearly a potent visceral structure delineating legitimacy and
553 power.

554 ***Visual fields: Flexing and sexing***

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

572 These asymmetrical optics were reinforced when women enacted what might be
573 conceived as similarly less functional behaviours, such as 'the valley girls that come in in their
574 Lululemons talking about their weekend and not really doing anything' (Brad, man, age 29).
575 Unlike masculine 'strutting,' however, these actions further decentred femininities and sidelined
576 women as inauthentic participants in the gym. When femininity was rendered visible, it was

577 often conceived in a way that undermined women as legitimate practitioners of physical activity
578 in the gym space. This visibility of women's bodies did not confer power.

579 A final visual element of the gendered viscerality of the gym was, as Steven (man, age
580 43) put it, the general consensus that 'women probably have to deal with a few more eyeballs on
581 'em than guys.' The potential for sexualised gazing to occur, to be always possible and prone
582 within the gym environment, infused the gym context with a sexualised character. This worked
583 to reify traditional gender binaries by emphasising a heterosexual and oppositional relationship
584 between men and women, and further positioning women as passive objects of men's gazes.
585 Despite being minimised in visual space, femininities were still visually consumed in a non-
586 consensual way. It is important to note, however, that both women and men expressed agency in
587 pushing back against this structure; some men rejected gazing and some women enjoyed
588 undertaking gazing themselves (Coen, Davidson, and Rosenberg 2019).
589

590 ***Material stuff: Cementing difference***

591 Participants articulated ways that gender was inscribed by the availability, types, and design of
592 gym equipment and spaces. Spatial and design configurations—whether intentional or not—had
593 the effect of aligning women with relatively lighter weights, which illustrates how the material
594 "stuff" of the gym comes to actively matter in the gendered performativity of place and what
595 'bodies can "do"' (Fullagar 2017, 248). Janine (woman, age 41), who used one of the municipal
596 gyms, observed that,

597 I don't know if it's planned this way to be less intimidating, but there's a section
598 of weights that has lighter weights where it seems to be that's where the women

599 do their weightlifting. ... And then there's kind of machines with heavier weights
600 on them and that seems to be where the males [are].

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

615 In line with existing literature (Johansson, 1996; Johnston 1996; Dworkin 2001, 2003;
616 Brace-Govan 2004; Salvatore and Marecek 2010; Johansson and Andreasson 2016), participants
617 overwhelmingly perceived that the gym 'almost automatically splits into genders' (Alexis,
618 woman, age 25) where 'the women are doing more cardio on the cardio side and the guy [sic]
619 doing the big weight on the other side' (François, man, age 35). This material split re-articulated
620 the gender binary as the spatial separation and functional difference between cardiovascular
621 exercise and strength training activities. This scenario also created a self-fulfilling prophecy

622 because *who* was seen to be using *what* contributed and reinforced the gendering of gym
623 equipment and spaces (Salvatore and Merecek 2010). For instance, when asked if there was
624 anything she refrained from doing because of her gender, Shelby (age 26) confided,

> 625 At the beginning it was strength training, and especially because I was
> 626 uneducated about it, and thought about just being one of those body builder
> 627 women and that's how I didn't want to be. And that men were just always over
> 628 there [in the weight section]. And the first few times I went, like, there weren't a
> 629 lot of women over there, so I'm like ok, that just reinforced women don't
> 630 strength train.

631 As such, the bodies occupying and using certain spaces contributed to their gendered
632 codification. This gender-divisive material and spatial structure was widely understood as a
633 hallmark of gyms, although several of our participants expressed optimism that these boundaries
634 were shifting.
635

636 **(Un)sticking binaries?**

637 Linking back to our visceral feminist lens, we put forward "stickiness" as a visceral concept to
638 characterise the sensuous configurations of gender binaries and boundaries in the themescape of
639 the gym. We exposed various visceral layers connecting exercising bodies to place in ways that
640 (re)formed social difference along uneven gender lines. Binary gender is not immovable within
641 the gym-scape, but it is exceptionally sticky. These binaries were at times actively contested, for
642 example, when people like Richard practiced yoga and Emily articulated her desire to be loud.
643 What we are arguing, however, is that despite any resistance at the individual level, the gym as
644 an institution is viscerally performative of a binary gender order that is a vital part of the

645 gendered context of physical activity. In this way, how place does gender *matters* for health. This
646 adds to our theoretical and practical understanding of why the visceral is central to the ways that
647 bodies, places, and power are connected.

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

662 The gender regime of the gym was characterised by the erasure of women's exercise
663 labour through the containment of sound and sweat. Given that sound and sweat are
664 physiological responses to physical exertion, the control of these bodily boundaries is also a
665 control on the gendered limits of physical activity participation. This gendered regulation may
666 play a role in Dworkin's (2001) concept of a glass ceiling on women's strength. Sound was also
667 a territorial mechanism (Labelle, 2010) through which gendered bodies differentially took up

668 space in the gym—a spatial disparity that worked to centre masculinity in place. The power of
669 sound to perform gender was reinforced by its mobile capacity to traverse the gym into the
670 intimate hearing spaces of individuals. Many women, and some men, found the soundscape
671 abrasive and adopted strategies, such as Melissa's 'DJ headphones,' to dislocate themselves from
672 the environment—a strategy to create a protective boundary that Davidson (2003, 120) has
673 likened to Goffman's notion of an involvement shield (see also Hallat and Lamont 2015).
674 Interestingly, while other qualitative research highlights connections between music and gym
675 exercise experiences (Hallat and Lamont 2015), it has not considered the gendered implications
676 of this. Our findings show that sound is an integral feature of how the gym does gender, in line
677 with Duffy and Waitt's (2013, 467) concept that sound is an essential part of place-making. By
678 marking women's "natural" reactions to intense exercise as transgressive, sweat and sound are
679 part of how the viscerality of the gym is implicated in the gendered context of physical activity.
680 Sound has the capacity to alienate or include because 'sound connects us to uneven networks of
681 power. Sound coheres subjectivities, places and a sense of "togetherness"' (Duffy and Waitt
682 2013, 470; Waitt et al. 2014). Engaging with sonic geographies in particular may be necessary to
683 further unpack the larger role of place in the gendering of physical activity.

684 Masculinity took up space in the gym imaginatively, haptically, sonically, visually, and
685 materially precisely because of the porosity of men's bodily boundaries (e.g., emitting loud
686 sounds, wearing loose-fitting clothes, being 'allowed' to sweat)—but this does not mean that the
687 masculinity performed by the gym was inclusive of all men. Indeed, our analysis reveals how
688 within the binaries, some expressions of masculinity could be more or less marginalised.
689 Physical activity guidelines for health set out aerobic and strengthening recommendations that
690 apply equally to both women and men; they do not distinguish on the basis of sex/gender

691 (Tremblay et al. 2011). The issue with how places like the gym perpetuate binaries in the
692 practice of physical activity is not only the danger of gendered health inequities, but also, more
693 simply, that everyone misses out on something of potential health benefit and enjoyment.

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

714 look). It is important to emphasise that such interventions must operate at a structural level; that
715 is, work to change context not individual behaviour.

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

724 In conclusion, our research shows how the visceralities of the gym contribute to the
725 gendered context of physical activity participation. Physical activity interventions that do not
726 account for the multisensorial features of place may miss opportunities to reduce gendered
727 inequities. This means that gyms need to be conceptualised as more than just physical activity
728 locations, but as places that have a productive role in the (re)creation of gendered inequities in
729 physical activity participation. Addressing gendered inequities requires action from the inside-
730 out; that is, by identifying and disrupting the visceral gendered geographies of everyday exercise
731 places. It is in these everyday places that gender is cemented into the foundations of daily life.
732 Even in an era when arguably more spaces are opening up to gender fluidity, the gym largely
733 remains a de facto a gender-dichotomous place much like Johansson (1996) and Johnston (1996)
734 observed over twenty years ago. As Emily asks, 'where is the space for continuum?'
735

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738

739 **Declaration of Interest Statement**

740 No interests to declare.

741

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