"I wouldn't take the risk of the attention, you know? Just a lone girl biking": Examining the gendered and classed embodied experiences of cycling

Léa Ravensbergen[a*]
[a]*Department of Geography and Planning, University of Toronto, Sidney Smith Hall 100 St. George Street, Room 5047, Toronto, ON, Canada*.

This paper frames the embodied experience of bicycling using theories of performativity and materiality. In doing so, the paper provides insights into embodied processes that regulate the gendered and classed cycling body across age. Drawing from interviews completed with newcomers to Toronto enrolled in a bicycle mentorship program, this paper highlights how context-specific social norms exist around who is read as cycling appropriately. Two norms consistently discussed are that cycling can be at odds with femininity and that it is a symbol of poverty. These norms act as discursive regulatory frameworks for gender and class performativity. Cycling can also be an experience of 'intense embodiment' in that it can bring the absent body back into consciousness. This experience is dynamic and elicits diverse emotions. Furthermore, cycling is not only found to increase people's awareness of their materiality, but also their bodily fluids challenge the notion of 'secure' bodily boundaries. These material processes can be gendered and/or classed, and can affect access to mobility and public space. By studying identity formation processes as they relate to cycling, this paper sheds light on the power-laden underpinnings of identity-based differences in cycling.

Keywords: cycling, embodiment, gender, class, performativity, materiality

Introduction

"My only concern is with how some drivers can be reckless about, about you being in the road […] they don't recall that your body […] is the vehicle that you are driving" - *Emmanuel, Caribbean*[i]

"If you ride a car ah the everything covers you, […] ride the bicycle […] it's a…body!"- *Cindy, China*

In response to growing environmental, social, and health concerns, academics, policy-makers, and politicians have begun questioning the logic of planning cities for the private automobile. Instead, many cities have begun promoting more sustainable forms of travel such as walking, cycling, and public transportation. This paper focuses on cycling, a sustainable travel mode which has become increasingly popular in many cities resulting in what some have called a 'bicycle boom' (Golub et al., 2016). In Toronto, the location of this study, cycling is the fastest growing mode of transportation (City of Toronto, 2019). Though the overall proportion of cycling commuters

* Author email: lea.ravensbergen@mail.utoronto.ca

remains low at 2.7%, there is significant spatial variation in these rates (Spurr, 2019). Notably, cycling is concentrated in neighbourhoods in the city center, some of which exhibit a cycling commuting rate of approximately 30% (Spurr, 2019).

Mobility practices are profoundly embodied experiences (Watts & Urry, 2008), and as the above interviewee comments illustrate, cycling is no exception. While cycling, your body powers your mobility thereby becoming *"the vehicle that you are driving"*. Unlike driving or public transit where "*everything covers you*", cycling involves putting your body out into the public realm. Here, simply by "*being in the road"* with drivers who can be *"reckless"*, cyclists', through their bodily practices, negotiate regimes of power by challenging dominant notions of who can access the streets (Johansson & Liou, 2017). However, there is still little published work examining how embodied identity shapes the cycling experience and vice versa – or the decision not to cycle. This is a missed opportunity given that cycling participation varies across axis of identity; for instance, cyclists in Toronto are disproportionally male and between the ages of 35-44 (Toronto Cycling Think & Do Tank, 2013). This paper fills this gap in the literature by examining the gendered and classed cycling body across age. By focusing on the cycling body, this paper provides insight into the power-laden regulatory practices that influence why some people with certain embodied identities cycle less than others. To do so, I draw on interviews completed with participants of the 2017 Bike Host program, a cycling mentorship program targeting newcomers, i.e. immigrants and refugees, living in Toronto. The Bike Host participants' experiences are put in conversation with feminist scholarship on embodiment.

The paper begins with a review of key scholarships relevant to this paper, namely that of embodied cycling, identity and cycling, and feminist work on the body. This is followed by a methods section that outlines the methods for data collection and includes key components of my critical reflexivity. The results are organized into two sections. In the first, I argue that cycling can be experienced as 'intense embodiment' in that it can make people aware of their own materiality and fluidity. In the second, I demonstrate how the gendered and classed cycling body is regulated across age through performativity and materiality. The final section concludes by discussing the implications of this study for research and practice and by outlining avenues for future research.

Literature Review

In the mobilities literature the body has become a site of academic inquiry, with an emerging sub-set focused on cycling (Johansson & Liou, 2017, Jones, 2005, 2012; Lee, 2016, McKenna & Whatling, 2007; Spinney, 2006, Van Duppen & Spierings, 2013). For instance, Aldred (2010, 2013) and Jones (2005) examine how cyclists' bodies are constructed as 'healthy', 'green', and 'sustainable', but also as 'deviant', 'reckless', 'crazy', and 'risky' in UK cities. Other works examine how embodied cycling shapes understandings of the urban (Jones, 2012; Van Duppen & Spierings, 2013). Some scholars focus on embodiment and bicycle events: Johansson & Liou (2017) explore how public bike events can embody political deliberation while Lee (2016) highlights the importance of these events in providing an embodied experience of cycling. Others rely on auto-ethnography (Larsen, 2014; Spinney, 2006).

As the quote in the title of this paper demonstrates, axes of identity, in this case gender, can affect who becomes a cycling body. Recent research has also examined identity and cycling, though much of this work does not directly engage with the cycling body. Here there is a preponderance of work focusing on gender and cycling, much of which explores the 'gender-gap' in cycling participation found in many low-cycling places where approximately one third of cyclists are female and two-thirds are male (Emond, Tang & Handy, 2009; Garrard, Handy, Dill,

2012; Heim LaFrombois, 2019; Ravensbergen et al., 2019). Other work focuses on other axis of identity such as class, ethnicity, age, cyclists' identity, and intersections of these identities (Aldred, 2010; Bonham & Wilson, 2012; McDonald et al., 2012; Steinbach et al., 2011). Of particular interest to this paper given its focus on newcomers (immigrants and refugees) is emergent research on cycling, immigration, and citizenship (Barajas, 2018; Bernstein, 2016; Law & Karnilowicz, 2015; Reid-Musson, 2018; Van der Kloof et al., 2014).

This paper puts these scholarships on embodied cycling and identity and cycling in conversation by focusing on how processes of embodied identity shape cycling. While the body has been a subject of much philosophical debate through the ages, I draw on feminist scholarships that are critical of binary dualisms where a hierarchical dichotomy is perceived between social elements such as mind/body, nature/culture, and man/women (Berg & Longhurst, 2003; Longhurst, 1997; Mohanty, 1984). These dualisms are also gendered, for example the mind along with ideals of human reason are often associated with masculinity, while the body and its associated emotions and reproductive roles are associated with femininity (Berg & Longhurst, 2003; Grosz, 1994). This closer association to the body has also been attributed to colonised people and people of lower socioeconomic classes (McClintock, 1995, Alcoff, 2006). In order to confront these problematic assumptions and to deconstruct binaries, feminist thinkers have tackled the body as a subject of academic inquiry.

Notably, Judith Butler's work on embodied performativity was influential in deconstructing the sex/gender, nature/culture dualisms (Butler, 1990; Butler, 1993; Butler; 2016). Butler (1990) rejected the conception that biology underlies the categories of gender or sex, and their associated assumptions of heterosexuality. She argued that "sex" is not a biological fact separate from society because the sexual organs we are born with are used to discipline us into masculine or feminine comportments. Butler theorized gender as performative, as the "repeated stylisation of the body, a set of repeated acts within a highly rigid regulatory framework that congeal over time to produce the appearance of substance, of a natural sort of being" (1990, p.33). While Butler focuses on gender performativity, aspects of her theories have also been applied to other axes of identity such as race, class, and age (e.g.: Ehlers, 2012). Butler's theory of gender performativity was highly influential in the social sciences, including in mobilities research (e.g.: Edensor, 2004), however, embodied performativity has yet to receive much attention in the cycling literature.

Along with Butler's work on performativity, Longhurst's work (1997, 2001) on the materiality of bodies also frames this paper. Longhurst (2001) highlighted how social constructionism can wrongly "render the body incorporeal, fleshless, fluid-less, little more than a linguistic territory" (p. 23). Not only did she argue that material bodies with fluid identities played a role in our understanding of place, she also argued that bodily fluids, such as blood, vomit, farts, and urine, were important topics of academic inquiry. These fluids are mediated through cultural representation: bodily fluids challenge conceptions of the body as bounded and secure and are considered 'messy'. Furthermore, these fluids are associated with other dualisms that help construct people's relationship to space. For instance, Longhurst argues that women are often understood as having more leaky bodily boundaries than men (for example, due to menstrual blood or breast milk) and it is often thought that leaky bodies are not to be trusted in public spaces. Longhurst posited the study of fluid bodily boundaries as a way to challenge these dualisms and current masculinist modes of knowledge production. Framed with feminist work on embodiment, with emphasis on Butler's theory of performativity and Longhurst's work on fluid bodily

boundaries, this paper explores the stories and lived experiences of newcomers to Toronto, Canada who have recently taken up cycling.

Methods

My work draws from interviews completed with participants of the 2017 Bike Host program. Every year, Toronto-based immigrants and refugees are invited to participate in this cycling mentorship program. Registered participants are loaned a bicycle, helmet and lock for the summer and are put into groups with a cyclist mentor. Over the course of the summer months, the newcomer participants and their mentors engage in bicycle-based social outings around the city. During the summer 2017 iteration of the program, I invited participants to take part in my research project. Among other research activities, participants were invited to complete two interviews: one at the beginning of the program that focused on the participant's mobilities life history & perceptions of cycling in Toronto and one at the end of the program meant to capture the new cyclists' experiences biking over the summer. A total of 56 approximately hour-long interviews were completed: 26 participant-interviews took place at the beginning of the program and all 26 participants and 4 additional participants completed the interview at the end of the program. The interviewees were diverse in their self-reported age, gender, and home countries (Table 1). All interviews were transcribed verbatim and data analysis was approached inductively whereby the interview transcripts were coded to distill the vast amount of data into key themes, to organize the data, and to engage in data exploration, analysis, and theory-building (Cope, 2016).

The larger study was approved by the University of Toronto's Research Ethics Board. In order to comply with the board's guidelines, all names have been changed in this paper to ensure participant anonymity. Owing to the fact that all interviews took place in English, though few of the participants were native English speakers, many participant quotes included herein contain grammatical errors. Non-native English, pejoratively called 'bad' or 'broken' English, can be problematically associated with incomprehensibility, as well as "non-White, foreign Others' (Shuck, 2006). That being said, participants' exact quotes are included in this paper in order to fully represent the words of the interviewees and in the hopes that they do not reinforce colonial narratives associated with non-native English (Shuck, 2006).

Table 1. Interviewee Characteristics

(insert Table 1 here)

Because this research project was framed by a feminist epistemological stance in which knowledge is understood as situated, as inseparable from the context in which it was produced (Haraway, 1991), I actively examined my positionality and practised critical reflexivity throughout the research process. Beyond stating my social position as a white, Canadian-born, English-speaking, upwardly mobile, cis-female feminist cyclist in this paper, I offer herein a brief critical reflection on how some aspects of this work may have been shaped by the power relations that permeated this research project.

A major limitation of this research is the omission of an analysis of an embodied racialized cyclist. Race is not explicitly addressed in this paper because participants were either reluctant to discuss, or minimized the importance of, race relations in Toronto. For example, when asked whether they identify with a social or cultural group, one participant responded: "*I don't think it matters from that perspective. Because I am X, Y, Z that's why I'm biking. It's not - that's not the*

case here". Others expressed how they wished to be identified as without or beyond culture (e.g.: "*I just see myself as a person*"). This lack of in-depth discussions on race during the interviews could be due to multiple factors, including my positionality, internalized racism, or a lack of racialized experiences related to cycling over the course of the program. Because Bike Host is run through a settlement service organization, participants' comments regarding race, ethnicity, and citizenship may have also been shaped by processes both within their home countries and their receiving society's context (Roth & Kim, 2013) or by a desire to acculturate or to perform "Canadian-ness". I am also aware that Toronto's positive image as a diverse and multicultural city, something participants noted, may silence the existence of race-relations in Toronto. In fact, multiculturalism has been critiqued for enabling the preservation of white domination within settler societies by denying the occurrence of racism (Thobani, 2007). Though I do not report directly on race in this paper, I do not wish to obscure the lived experience of being racialized in Canada in my writing. I instead focus indirectly on these processes by exploring how gender and class may have been shaped in relation to migration and pressures to assimilate.

Another weakness of this research is the limited participants quotes on gendered and classed experiences of cycling in the Canadian context. While many participants easily and confidently identified and explored the social norms dictating who could cycle by gender, class, and age, and the intersections of these axes of identity in their home countries, most participants did not see these identity processes operating in Canada, especially as it related to cycling (e.g. "[*in the West*] *male and female and not treated any different"* or "*I don't think [cycling in Canada is] related to financial status, it's more about what you like to do"*). Some participants even praised Canadian society for its apparent equality by comparing it to their home country's society, such as the participant told me: "*Because of internet […] I got knowledge […]I think how much we [her home country] are… backwards*". I worry that sharing these comments uncritically may contribute to harmful depictions of non-western women as victims of their culture, a view that can wrongly affirm western women's positional superiority (Mohanty 1984; Narayan, 1997). Doing so would be particularly problematic given my position as a white woman writing for an academic audience, which in North America tends to be anglo-centric and historically white. Participants' accounts of their experiences in the bicycle mentorship program indirectly demonstrated how gendered and classed social norms around cycling also exist in Toronto. To counter the emphasis on gender relations in "other" countries frequently discussed during the interviews, I often rely on these experiences rather than the participants' views when discussing identity relations in Canada in the writing of this research.

Cycling as 'intense embodiment'

Allen-Collinson & Owton (2015) use the term 'intense embodiment' to describe "periods of heightened awareness of corporeal existence" (p. 247). This concept has many commonalities to Leder's (1990) work on the 'dys-appearing body' which explores how the healthy body is often absent from our conscious awareness (Allen-Collinson & Owton, 2015). One does not think about mundane bodily processes such as breathing or the heart's beating until it is brought back to consciousness with the advent of pain, pleasure, or illness. 'Intense embodiment' refers to this same process of bodily awareness without the prefix *dys-* and its associated negative connotations. Instead, 'intense embodiment' holds positive connotations of a heightened sense of being alive. For many participants, cycling was an experience of 'intense embodiment' in that it made them acutely aware of their materiality and bodily processes. This was the case for participants who were returning to cycling after a long period of absence and for those who suggested they were

less confident in their cycling skills. For instance, most participants detailed the soreness they felt after their first long ride. For example, Cindy expressed how she felt after her first ride by stating: *"Yes! My knee hurts, my back, hand, my [points to her calves]! yes! (laughs) bum hurts!"* (Cindy, China). Though she had a lot of prior experience cycling in her home country, her knees, back, hand, calves, and bum were all sore after her first long ride in years. While expressing pain and soreness, all participants did so using positive language and emotions. These long rides were pleasurable, and there was a sense of pride in the way their riding had transformed their body.

For some participants this heightened sense of corporeality was at times associated with negative emotions. Others were made aware of their lack of cardio or physical fitness and the effects of this lack of stamina of their bodies. For instance, Dominic stated: *"God I need to do a lot more physical activity […]Because you ride for 10 minutes and I'm tired."* (Dominic, Jamaica) Avani, on the other hand, was made acutely aware of her weight: *"Because I am a new biker and I'm a little bit… you know… weight… overweight so… I can't ride long"* (Avani, India) . Unlike the soreness and pain described above where participants took pride in sensations that were seen as a result of hard work, this self-awareness of participants' lack of physical fitness or fatness was always described with embarrassment and shame.

Cycling was also an experience of 'intense embodiment' in that it made participants aware of their fluid boundaries, notably through bodily fluids. As Longhurst (2001) argues, these fluids highlight the leakiness of bodies and challenge conceptions of bodies as having secure boundaries. These bodily fluids were usually conceptualized as messy and associated with feelings of disgust and shame. For instance, one participant described how she felt after one of her first long rides: *"I feel…I look awful! (laughs) […] that day I feel "Ah! I sweated! And everything""* (Paola, El Salvador).

Furthermore, the experience of 'intense embodiment' described above often diminished over the course of the program, as participants became more experienced cyclists. Their muscles wouldn't feel sore so easily, and they could ride longer distances without feeling tired. Some participants even described how their bodies had transformed over the course of the summer. These participants commented on their improved stamina, or proclaimed that they felt "healthier". Others noted specific improvements in their riding:

> There's a huge difference I can feel within myself in terms of strength wise for example. If it was previous time that I'm biking, I would rather stop, get off and walk with the bike [if I'm going uphill]. But today, I think I kept going and I finished […]I'd say it improved a lot. - Rafi, Bangladesh

Participants always described this change in their bodies as positive, as a transformation they were proud of.

The heightened awareness of bodily fluids also diminished over the course of the program. For example, Rana expressed how she became used to perspiration from cycling by stating the following:

> I also adjusted just to, just got used to, I mean I can tolerate some sweat now because back then I didn't really, with the smallest amount of sweat I felt like I wanted to change my clothes. Yeah, but now I think I'm kind of used to it - Rana, Egypt

This bodily transformation only occurred amongst those who experienced intense embodiment: those who cycled little over the course of the program and those who were already confident cyclists did not experience intense embodiment, but also did not describe bodily transformation. Therefore, intense embodiment is part of a process that creates space for transforming bodies.

Taken together, cycling can be an experience of 'intense embodiment' in that it can make people acutely aware of their materiality and their fluid boundaries. This heightened bodily awareness elicits various emotions: at times it is pleasurable and associated with pride, at other times it invokes disgust and is associated with shame. Of course, these experiences and emotions are not isolated from social life. For one, they may have been shaped by pervasive discourses on health and fitness. Furthermore, the experience of intense embodiment is dynamic in that it diminished over time: participants became less acutely aware of their bodies as they became more experienced cyclists. This bodily transformation was interwoven deeply with intense embodiment. In the following section, I turn to the ways in which this 'intense embodiment' shaped, and was shaped by, participants' gender, class, and age.

Regulating and resisting the gendered, classed, and aged cycling body

This section focuses on the gendered, classed, and aged cycling body. Three social norms that regulated cycling behaviours were regularly discussed: (1) that cycling can be at odds with femininity, (2) that it is associated with poverty, and (3) that these norms can change throughout one's life course. As will be made evident through the discussion in this section, these socially constructed norms shape and are shaped by material embodied experiences.

Embodying gender on two wheels

Many participants discussed how cycling was constructed as an inappropriate activity for girls in their home countries. In these contexts, cycling is viewed as an activity at odds with performing femininity because of its associations with the public realm, mobility, and physical activity: binary terms connected to masculinity. The following examples are shared with the understanding that I cannot properly conceptualize them, or put them in a broader sociopolitical context, herein. However, it is worth noting that aspects of these comments are consistent with internalized colonial discourses (Narayan, 1997; Mohanty 1984), and may have been shared with the intention of performing "Canadian-ness" by labelling gender norms as "backward" in their home countries, thereby reinforcing a constructed dualism between Canada and their home countries (Thobani, 2007).

Take, for example, Dominic's response when asked if both boys and girls cycled in his home country:

> No, no boys mainly unless you have some tom [boys] (laughs) […] it wasn't seen as a, as a activity for girls […] I know girls were normally seen as the homely type, should be in the yard, cooking, those kinds of things. Boys on the other hand were always sent out to play - Dominic, Caribbean

While Dominic did not agree with these views, views he identified as outmoded, he demonstrates in this response how femininity is associated with the home (i.e. girls are *"the homely type")*, restricted mobility (only boys are *"sent out"*), and domesticity (girls perform domestic labour such as cooking while boys "*play*"). Further, his response shows both how the bicycle can gender the rider and how people can disrupt gendered dualisms through cycling (i.e. by being labelled a "tom boy": a problematic term conveying a gender performance that is not quite feminine nor quite masculine).

As another example, Sumaiya explained why she never learnt how to ride a bicycle, though she had always wanted to: *"The sports for the females are not that much encouraged […] like the ladies will do more, kind of…. Ah… academic work, not the sportive work, not the sports, not the*

outdoors" (Sumaiya, Bangladesh). She went on to describe board games, billiards, table tennis, and hop scotch as appropriate activities for girls. Not only are these activities less active, they are also practiced indoors. In her words: "*It's still indoors. Biking is really on the road".* Here, Sumaiya's gender was performed by keeping her body passive, more sedentary, indoors: she was told that being active in the public realm was inappropriate for women. Many participants were disciplined, both discursively and through actions, when it came to cycling in order to conform to their expected gender performances. In the examples above, those girls who did not conform to these norms were regulated through social pressures, in this case by being call a "tom boy", or by avoiding the bicycle altogether because of its associations with masculinity.

The gendered mind/body dualism also framed participants' understandings of who should cycle. Many participants, men and women alike, viewed women as more connected to their bodies than men. For example, some participants stated that women are naturally more vulnerable than men, others commented on how women are lazier, and some discussed the negative effects of cycling on women's reproductive system. For example, Dominic discussed how the "*folklore*" that women could lose their virginity while cycling existed in his home country, another participant explained how his wife wasn't comfortable cycling in Toronto because she gave birth over a year ago and *"she have a stitch or something"* (Arjun, India). No comments were made regarding male anatomy and cycling.

As discussed in the methods section, some of these descriptions have the potential to reinforce a Western narrative of the oppressed 'Third World Woman' if read as an indication of oppressive patriarchies in 'other' cultures. To challenge this simplistic interpretation of these narratives and their racist undertones, I turn to alternative examples in which these norms were challenged. Take, for example, the following stories from Iranian participants. While it is illegal for women to cycle in Iran, participants in this study explained how many Iranian women know how to bike and even practice this activity when they can. Specifically, there were certain places where they could cycle without legal repercussions. Examples mentioned included holiday towns where they could blend in with tourists, in the privacy of their backyards, or on the public street, but under the cover of darkness. Not only do these stories highlight how people engage with and resist gendered regulatory frameworks, they also help deconstruct the male/female, public/private binaries. These women challenge femininity's associations with the home by being mobile in the streets all the while blurring the distinction between public and private space: the private space of the backyard stands in for a public space when people cycle in it, and the public street becomes a somewhat private one under the cover of night.

Furthermore, while participants perpetuated the view of Canada as a place with no gender inequality, perhaps in an effort to perform "Canadian-ness", their experiences tell a different story than the simplistic narrative of Canada as egalitarian. For example, many female participants experienced a gendered 'intense embodiment' through cycling in Toronto: they became acutely aware of their female body when they began to ride. For instance, at the beginning of the program, every female participant stated that they refused to cycle while wearing a dress or skirt. The reasons for this discomfort were either safety concerns (i.e. worries that their skirt can get caught in the wheel) or concerns about people seeing too much of their female bodies. For example, Paola explained how she would never cycle in a skirt or dress because: *"The people can see everything! (laughs) it's, it's …uncomfortable"* (Paola, El Salvador).

This gendered material experience of 'intense embodiment' intersected with discourse on appropriate feminine performativity. Many female participants described how inappropriate it was for women to show too much of their bodies in public, and often associated this social norm with

their fear of or experiences of street harassment. Three female interviewees experienced street harassment over the course of the program. One of them, Avani, explained how her experiences being cat-called in Toronto, though unexpected due to the city's reputation for gender equality, make her feel unsafe, she told me: *"I was commented on here in Toronto just like India which is scary, you know? I didn't expect that"*. Most female participants conformed to these norms by covering their bodies, even if doing so was inconvenient. For example, Avani noted: *"I will wear full clothes and go, you know? Even though it's very, very summer like this and I want to be in short, no"* (Avani, India). Others explained how they would either change their travel mode (e.g.: *"If you want to wear dresses, you don't use your bike"* (Cindy, China)) or their dress (e.g.: *"I always adjust what I am wearing to bike"*(Rana, Egypt)) to avoid discomfort. In this way, this experience of 'intense embodiment', one that is tied to gender performativity, could limit or alter people's mobility. Over the course of the summer, as participants gained more experience cycling, some women told me they cycled with dresses with varying levels of success. However, underlying even these experiences of successfully cycling in a dress was the norm that displaying too much of one's body was inappropriate for women: even those who cycled in skirts only did so if they felt they could do it "appropriately" (i.e. without showing too much of their bodies).

Furthermore, the body's fluid boundaries were at times gendered and associated with the mind/body, male/female, high-status/low-status, public/private, and mobility/immobility dualisms. For example, three participants mentioned their concern about cycling while menstruating. They were specifically worried about "leaking" onto their bike seat and the shame that would invoke. One of these three participants, Lily, avoided the bicycle all-together when menstruating even though she otherwise used it on a daily basis. Zang, another of the participants who mentioned this concern, explained how she tried cycling while menstruating and stated, while blushing heavily, that "*but for me, it's ok, I tried it…during my…period"* (Zang, China). Their apprehension to cycle while menstruating is consistent with Longhurst's (2001) writing about bodily fluids, in this case gendered menstrual blood, as "messy" and in need of "control" because they challenge conceptions of the body as a secure, bounded entity. Lily's decision to avoid cycling while menstruating and Zang's initial reluctance to do so highlights how the leaky body affects *(im)*mobility and access to public space. Other bodily fluids were gendered, such as sweat which was masculinised, however, given the classed nature of this fluid, it will be discussed in the following section examining cycling and embodied class identity.

Embodying class

Cycling is not simply a gendered activity: it is also associated with class performativity and materiality. Embodied class regulations often intersected with embodied gendered regulation. In many participants' home countries, it was inappropriate for those of higher socioeconomic backgrounds to cycle. Specifically fifteen participants described how cycling was associated with poverty in their home countries. For instance, one said: "*They didn't have enough money for the bus or anything like that, so they would just take a bicycle, it was out of necessity"* (Carlos, El Salvador). These associations varied across place. For example, seven participants discussed how bicycles were popular amongst "poor" people in (usually) wealthier and (usually) urban regions and amongst everyone in (usually) "poor" and (usually) non-urban regions of their home countries. These poor regions were generally agricultural (or non-urban) with poor transit access where *"people are ultimately learning bike for the necessity of their life…"* (Sumaiya, Bangladesh).

Participants not only described these classed norms around cycling, they were also able to identify how certain "non-poor" bodies could comfortably cycle, even if it was a practice at odds

with their identity, by performing a certain "type" of cyclist or by cycling in certain places. These strategies show how people actively engage with dominant regulatory frameworks relating to who can cycle. For example, six participants discussed how in recent years two classes of cyclists began appearing in their home countries: the "poor commuter" and the "rich recreational cyclist": *"Rich families use bikes for their hobbies, for their passion and poor people use bikes for their necessity, but medium income people avoid bikes"* (Saliha, Bangladesh). These different categories of cyclists performed their identities very differently. Participants described the "rich recreational cyclists" as follows: *"You see big groups of people going on a bicycle, but they look very professional, with the spandex and, and expensive bicycles and everything"* (Carlos, El Salvador). This performance contrasted starkly to that of "poor cyclists": *"In his working clothes and everything on a cheap bicycle, because you can see the difference, his bicycle is falling apart"* (Carlos, El Salvador)

These divergent classed performances of cycling were associated with place as well. For instance, you rarely find the "rich recreational" cyclist in the city or sharing roads with cars. Instead, they were *"outside the city of course, because inside the city there is no place for that"* (Youssef, Egypt). The "poor commuters" on the other hand, were on the city streets. It is important to note that these performances were also gendered: both the "poor commuters" and the "rich recreational cyclists" were male. Though participants discussed these performances of class and masculinity in relation to their home countries, previous work has found that these types of cyclists also exist in other contexts, including western cities (Bauman et al., 2018; Bernstein, 2016).

Many participants stated they felt there were no class connotations to cycling in Canada, however, nine participants discussed how cycling was appealing to them due to its cost-effectiveness. Furthermore, some participants were pressured not to cycle by their peers due norms about class and transportation in the Toronto context. For example, a couple in the program who enjoyed cycling to church on Sundays had various members of their religious community comment on this mode of mobility's association with poverty over the course of the summer. Paola explained how: *"Sometimes the people in the church told us "Oh, one day you will have a car, don't worry, be patient""*(Paola, El Salvador). Her husband agreed by stating: "*They were praying for us, in their prayers they were doing "Hopefully they will be able to buy a car soon"(laughs)"* (Carlos, El Salvador). Rather than try to conform to these social pressures, the couple instead dismissed these comments and continued cycling. They would respond by saying: *""No! we really like the bicycle!" (laughs) "Why do I need a car, because if you have everything close, you don't need a car"* (Paola, El Salvador)

Paola and Carlos were not the only ones pressured to give up cycling in Toronto due to its associations with poverty. Another participant was pressured by his wife to stop cycling in Toronto because: "*Sometimes when you are coming by cycle […] people you know, underestimate you […] they think that, you know, we are poor"*. Paola and Carlos' story is prioritized not only because it highlights how dominant discourse regulates class performativity, but also because it demonstrates how people are actively involved in negotiating pressures from dominant discourses surrounding performativity. The couple resisted social norms associating cycling with poverty by dismissing these social pressures, by framing cycling as a preference rather than as a necessity, and continuing to cycle. It is important to note that these comments pressuring participants to avoid the bicycle due to its associations with poverty may also be part of a disciplining regime of assimilating immigrants. This would resonate with previous cycling research examining the role of the car in dominant narratives of successful assimilation (Barajas, 2018).

Finally, the material experience of bodily fluids were at times gendered and classed. For example, sweat was conceptualized as "disgusting" and inappropriate for work, especially in masculinized, high status jobs. The trip to work, and that to a job that requires a suit, in particular, was deemed inappropriate for cycling because of this bodily fluid. Carlos explained how:

> I wouldn't feel comfortable wearing a suit or something like that riding a bicycle […] because if I'm wearing a suit it's because maybe I'm going to, to an interview, or going to work, and I don't want to show up all sweating all that - Carlos, El Salvador

Furthermore, Saliha explained how her husband found it embarrassing when he cycled to work because this mode made him sweat: *"My husband tried to go to his work by biking for some days, and when he reached office he was like all wet. So it's a bit embarrassing"* (Saliha, Bangladesh)

These fluids were conceptualized as "disgusting", "embarrassing", as something that should be avoided and brought under control. Sweat challenged conceptions of the secure body and was conceptualized as low-status. As was the case in the example above, the concern about presenting one's body as leaky through perspiration inhibited some participants from choosing the bicycle as their mobility mode, especially on the journey to work. In this way, the body's fluid boundaries are associated with mobility to access a public space. In some cases, concern about the leaky body appeared to diminish with time. Take, for instance, Carlos. Though he said at the beginning of the program that he wouldn't be "*comfortable"* cycling to work or in a suit due to perspiration, by the end of the program he realized the following: *"I noticed I never got that sweaty […] I knew I was sweating at the moment, but, it, it I really didn't even feel uncomfortable or anything"* (Carlos, El Salvador)

The intersectional aging body

Gendered and classed embodied regulations around cycling can also intersect with age or life stage. For example, in many participants' home countries, it was not appropriate for girls to cycle past puberty nor for boys to do so into adulthood. Take, for instance, the following two female interviewees who explained why they could no longer cycle in their early teenage years: "*At the age of 13 um or 14 um you know, they consider you ah, a little, not young anymore… you should be dressed…ah… you are becoming a woman so it was not ah possible for me to bike*." (Rana, Egypt) and: *"You are becoming a woman and also the insecurity in our country is too much for the girls I think […] the girls are harassed there is very much eve-teasing, girls, ladies harassment is also a big issue"* (Sumaiya, Bangladesh)

Both of the women in these examples experienced restricted mobility after puberty, a constraint they disliked and opposed, when they were "*becoming a woman*". While Rana was disciplined by her social network, and specifically her family, and Sumaiya was through street harassment, or fear of harassment, both ultimately complied to these social pressures by not cycling in adulthood. Furthermore, both forms of discipline limited which bodies had access to mobility and public space. While these experiences occurred in participants' home countries, previous work has found that girls cycle less than boys in Canada as well (McDonald, 2012). Furthermore, street harassment in not unique to certain participants' home countries: as discussed previously, some female participants shared their experiences of street harassment in Toronto.

Cycling's associations with poverty also intersected with age. For many, cycling was an appropriate activity for children, a milestone on the road to automobility, but an inappropriate activity for adults, one that signified the inability to own a motorcycle or car due to poverty. For example, Avani explained how in her home countries "*bicycle is ah…they feel it is only for teenagers or people who can't afford a car"* (Avani, India). As was the case with gender, the

mobility practices of participants of higher social status above a certain age were regulated through social norms. Specifically, they were either directly told or made to feel uncomfortable when they cycled. Arjun, a bike host participant from India, explained how he began cycling as a teenager and continued doing so into adulthood. While, according to him, cycling in adulthood was unusual in some places in his home country, he continued doing it because it was convenient, low-cost, and enjoyable. He would cycle to campus where he studied engineering, he said: *"Everybody was jealous of me, because I was, you know, reaching the college very fast"*. This all stopped at the age of twenty-five when he gave into social pressures. He explains how people would tease him by saying to him: *"What is this? Up to 25!"* or *"You are coming with cycle? Oh my god!"* or *"You are an adult now, why are you still riding?"*. He began by hiding his bicycle because *"it is not a symbol of status"* before eventually giving it up and buying a motorcycle. This participant's story is just one example of how discourse can be used to regulate identities, and that people engage with this discourse, at time by continuing to cycle, and at other times by giving it up.

Many gender and class regulatory practices intersected with age or life stage in the Canadian context as well. For example, two participants said they might have worried about maintaining their appearance while cycling when they were younger, but did not worry as much about their appearance now that they were older. One female participant discussed how she did not worry about maintaining a feminine appearance at the moment because she was a student. However, she anticipated facing challenges incorporating the bicycle into her daily mobility after graduation when she hoped to find good employment that would require a professional appearance.

Conclusion

By conceptualizing the cycling body using theories of performativity and material fluid boundaries, this paper contributes to the emerging literatures on embodied cycling and identity and cycling. While existing work in the first field focuses on the cycling body, it rarely considers how the cycling body is also gendered, classed, aged, and inherently material. On the other hand, research on identity and cycling rarely considers processes of embodied identity. This paper addresses this research gap by focusing on the ways in which material cycling bodies are regulated based on gender and class, as well as across age. Furthermore, by focusing on the body this research highlights the importance of people's first experiences cycling, i.e. when feelings of 'intense embodiment' may be strong. There can be discomfort in these first experiences, and some of this discomfort is shaped by gendered and classed identities (e.g.: not wanting to show too much of your female body to avoid attention, or not wanting to perform poverty by arriving at work sweaty). This discomfort may be a barrier to cycling, a barrier that may be stronger for people who are historically more regulated, harassed, and made vulnerable in other social domains, such as women and people from lower socioeconomic classes. However, participant accounts demonstrate how this 'intense embodiment' diminishes with time: people can resist narratives around cycling once they have experiences that counter these narratives. Therefore, ensuring that people are given the opportunity to try cycling, to gain enough experience to no longer feel the cycling body intensely, may be key to encouraging cycling. Gaining this experience is especially important for those bodies with identities regulated from cycling, such as women and those wishing to avoid being perceived as "poor". This finding is consistent with previous work arguing that cycling experiences change over time, often in a non-linear fashion (Bonham & Wilson, 2012; Larson, 2014; Lee, 2016; Schwanen et al., 2012), such as Larson (2014) who draws on auto-ethnography to argue that cycling, even over long distances, can become less bodily demanding over time and through experience. Cycling mentorship programs, such as Bike Host, organized bike rides, or

Bike-to-School programs, provide this valuable experience. Therefore, these types of programs should be included alongside other strategies to encourage urban cycling.

There has been growing recognition that some cyclists' needs are ignored by mainstream bicycle organization and planning – these "invisible cyclists" tend to include low income cyclists, immigrants, and cyclists of colour (Golub et al., 2016; Stehlin, 2014). To counter this lack of inclusion, many bike advocacy organizations have begun creating initiatives that target under-represented groups (Stehlin, 2014). Stehlin (2014) questions why some of these groups who have been cycling since long before the recent bike boom, such as immigrants, have become framed as "outside" of bike culture. Research has also shown the positive benefits of cycling organizations for immigrant and refugee communities (Barajas, 2018; Van der Kloof et al., 2014). This paper focuses on immigrants and refugees registered in the Bike Host program, a program run by a settlement organization that targets newcomers, a group often labelled as "invisible cyclists". As was detailed in this paper, participants engaged with ideas about gender, class, and cycling in relation to migration, and their comments may have been shaped by a desire to assimilate, to perform "Canadian-ness". Though an in-depth exploration of citizenship is outside of the scope of this paper, future work can examine the embodied nature of the politics of inclusion in programs targeting "invisible cyclists", and the frictions therein.

This paper also contributes to the literature on identity and cycling. Many researchers have identified a gender-gap in cycling in cities with low cycling participation rates whereby approximately two thirds of cyclists are male and one third are female (Emond, Tang & Handy, 2009). Others have commented on the racial, class, or age profile of those who cycle (Steinbach et al., 2011). This body of research relies heavily on surveys to compare "male" vs. "female" differences in cycling behaviours, concerns, and barriers, relying on a binary conceptualization of gender (Ravensbergen et al., 2019). In doing so, it identifies differences in men and women's cycling behaviours or attitudes, but it struggles to explain why these observed gendered experiences exist (Ravensbergen et al., 2019). By focusing on the gendered and classed body, this paper highlights how processes of embodied identity formation influence who can become a cycling body in the first place. For example, some girls may avoid the bike out of fear they will be called a "tom boy", some adults may worry they will be shamed for not owning a car, or people may want to avoid the embarrassment of arriving at work sweaty. Power relations work through and produce these embodied regulatory practices. Therefore, this paper highlights the importance of dismantling patriarchal and classist power structures in order to close the gender-gap, or more broadly any identity-based gap, in cycling.

The gendered and classed practices reported in this paper are not comprehensive: the ways in which regulatory frameworks such as gender norms and class expectations operate across the globe are far too rich and diverse to be described in one article. The focus on a diverse group of newcomers in Toronto in particular meant it was impossible to thoroughly explore norms around cycling in each of the participants' home countries. Even so, the lived experiences discussed in this paper still demonstrate some ways in which gender and class are produced though the bicycle and how the bicycle or cycling produces gender and class. Future work can provide more in-depth illustrations of how these processes take place in different contexts. Furthermore, all participants in this study were willing to cycle, therefore, future work exploring how processes of embodied identity influence those who refuse to cycle would be valuable. Finally, this paper focused primarily on gender, class, and to a lesser extent, age, future work exploring embodied processes of other intersecting axes of identity as well as the relationship between identity formation, cycling,

and other discourses (e.g. environmental or health) would make valuable contributions to the literature.

Acknowledgements

This project would not been possible without support from the Bike Host program and its many participants who made time in their busy lives to meet with me. I would also like to thank the anonymous reviewers and my PhD committee members, and Dr. Nicole Laliberté and Dr. Ron Buliung in particular, for their feedback on this article. I would like to acknowledge financial support for this project as well from the Joseph-Armand Bombardier Graduate Scholarship from the Social Sciences and Humanities Research Council of Canada (SSHRC).

References

Alcoff, L., 2006. Visible Identities, Race, Gender, and the Self. New York: Oxford University Press.

Aldred, R. (2010). 'On the outside': constructing cycling citizenship'. *Social & Cultural Geography*, 11(1), 35-52

Aldred, R. (2013). Incompetent or Too Competent? Negotiating Everyday Cycling Identities in a Motor Dominated Society. *Mobilities*, 8(2), 252-271

Allen-Collinson, J. & Owton, H. (2015). Intense Embodiment: Senses of Heat in Women's Running and Boxing. *Body & Society*, 21(2), 245-268.

Barajas, J.M. (2018). Supplemental Infrastructure: How Commuting Networks and Immigrant Identity Influence Cycling. *Transportation*. https://doi.org/10.1007/s11116-018-9955-7

Bauman, A.E., Blazek, K., Reece, L., Bellew, W. (2018). The emergence and characteristics of the Australian MAMIL. *The Medical Journal of Australia*, 209(11), 490-494.

Berg, L. D., & Longhurst, R. (2003). Placing masculinities and geography. *Gender, Place & Culture*, 10(4), 351-360.

Bernstein, J. (2016). No Choice but to Bike: Undocumented and Bike-Dependent in Rust Belt America. In Golub, A., Hoffmann, M.L., Lugo, A.E. & Sandoval, G.F. (Eds.) *Bicycle justice and Urban Transformation: Biking for All?* (pp. 143-155). New-York: Routledge Taylor & Francis Group.

Bonham, J., Wilson, A. (2012). Women Cycling through the Life Course: An Australian Case Study. In Parkin J., Ison S. & Shaw J. (Eds.) *Cycling and Sustainability* (pp. 59-81). Biggleswade: Turpin Distribution Services Limited.

Butler, J. (1990). Gender Trouble: Feminism and the Subversion of Identity. New-York, NY: Routledge

Butler, J. (1993). *Bodies that Matter: On the Discursive Limits of "Sex".* New York, NY: Routledge.

Butler, J. Gambetti, Z., Sabsay, L. (Eds.). (2016). *Vulnerability in Resistance*. Durham, N.C.: Duke University Press.

City of Toronto (2019). Cycling in Toronto. Retrieved March 2019 from https://www.toronto.ca/services-payments/streets-parking-transportation/cycling-in-toronto/

Cope., M. (2016). Organizing and Analyzing Qualitative Data. In Hay, I. (Ed.), *Qualitative Research Methods in Human Geography* (pp. 373-393). Oxford University Press: Don Mills, Canada.

Edensor, T. (2004). Automobility and National Identity: Representation, Geography and Driving Practice. *Theory, Culture & Society,* 21(4/5), 101–120. DOI: 10.1177/0263276404046063

Ehlers, N. (2012). Racial imperatives: Discipline, performativity, and struggles against subjection. Indiana University Press: Bloomington, IN.

Emond, C., Tang, W. & Handy, S. (2009). Explaining Gender Difference in Bicycling Behavior. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2125, Transportation Research Board of the National Academies, Washington, D.C., pp. 16–25.

Garrad, J., Handy, S., Dill, J. (2012). Women and Cycling. In Pucher, J., & Buehler, R. (Eds.), *City Cycling* (pp. 211-234). Cambridge, MA: MIT Press.

Golub, A., Hoffman,, M. L., Lugo, A., E., Sandoval, G. F. (2016). Introduction: Creating an inclusionary bicycle justice movement. In A. Golub, Hoffmann, M., Lugo, A. & Sandoval, G. (Eds.). *Bicycle Justice and Urban Transformation: Biking for all?* (pp. 1-19). Routledge: New York.

Grosz, E. (1994). Volatile Bodies: Towards a Corporeal Feminism, London: Routledge.

Haraway, D.J. (1991). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. In *Simians, Cyborgs, and Women: The Reinvention of Nature*. New-York, NY: Routledge.

Heim LaFrombois, M. E. (2019). (Re)Producing and challenging gender in and through urban space: women bicyclists' experiences in Chicago. *Gender, Place, and Culture*, 26(5), 659-679.

Johansson, P. & Liou, S. (2017). Public spheres on the move: the embodied deliberation of cycling in Los Angeles. *Space and Polity*, 21(1), 59-74.

Jones, P. (2005). Performing the city: a body and a bicycle take on Birmingham, UK. *Social and Cultural Geography*, 6(6), 813-830.

Jones, P. (2012). Sensory indiscipline and affect: A study of commuter cycling. *Social & Cultural Geography*, 13, 645–658

Larson, J. (2014). (Auto)Ethnography and cycling. *International Journal of Social Research Methodology*, 17(1), 59–71. http://dx.doi.org/10.1080/13645579.2014.854015

Law, S.F., Karnilowicz, W. (2015). 'In Our Country it's Just Poor People who Ride a Bike': Place, Displacement and Cycling in Australia. *Journal of Community & Applied Social Psychology*, 25, 296-309.

Leder, D. (1990). The Absent Body. Chicago, IL: Chicago University Press.

Lee, D.J. (2016). Embodied Bicycle Commuters in a car World. *Social and Cultural Geography*, 17(3), 401-422.

Longhurst, R. (1997). (Dis)embodied geographies. *Progress in Human Geography*, 21 (4), 486-501

Longhurst, R. (2001). Bodies: Exploring fluid boundaries. Routledge: London.

McDonald, N.C. (2012). Children and Cycling. In Pucher, J., & Buehler, R. (Eds.), City Cycling (235-255). Cambridge, MA: MIT Press.

McKenna, J., Whatling, M. (2007) Qualitative Accounts of Urban Commuter Cycling. *Health Education*, 107(5), 448-462. DOI 10.1108/09654280710778583.

McClintock, A. (1995). Imperial Leather: Race, Gender and Sexuality in the Colonial Contest, New York: Routledge.

Mohanty, C.T. (1984) Under Western Eyes: Feminist Scholarship and Colonial Discourses. *Boundary*, 2, 12(3), 333-358.

Narayan, U. (1997). Chapter 3: *Cross-Cultural Connections, Border Crossings, and "Death by Culture*". In Dislocating Cultures: Identities, Traditions, and Third-World Feminism. New York: Routledge.

Ravensbergen, L., Buliung, R., Laliberte, N. (2019). Toward Feminist Geographies of Cycling, *Geography Compass*, 1-24. https://doi.org/10.1111/gec3.12461.

Reid-Musson, E. (2018). Shadow mobilities: regulating migrant bicyclists in rural Ontario, Canada. *Mobilities*, 13(3), 308-324.

Roth, W.D., Kim, N.Y. (2013). Relocating Prejudice: A Transnational Approach to Understanding Immigrants' Racial Attitudes. *The International Migration Review*, 47(2), 330-373. DOI: 10.111 l/imre.12028.

Schwanen, T., Banister, D., Anable, J. (2012). Rethinking habits and their role in behaviour change: the case of low-carbon mobility. *Journal of Transport Geography*, 24, 522-532.

Shuck, G. (2006). Racializing the nonnative English speaker. *Journal of Language, Identity, and Education*, 5, 259–76.

Spinney, J. (2006). A place of sense: a kinaesthetic ethnography of cyclists on Mont Ventoux. *Environment and Planning D: Society and Space*, 24, 709-732.

Spurr, B. (January 21st, 2019). City's execution of 10-year bike plan 'has not delivered on expectations,' says advocate. *Toronto Star*. Retrieved May 2019 from: https://www.thestar.com/news/gta/2019/01/21/city-has-built-less-than-6-per-cent-of-bike-lanes-more-than-two-years-into-10-year-plan.html

Stehlin, J. (2014) Regulating Inclusion: Spatial Form, Social Process, and the Normalization of Cycling Practice in the USA. *Mobilities*, 9(1), 21-41.

Steinbach, R., Green, J., Datta, J., Edwards, P. (2011). Cycling and the City: A Case Study of How Gendered, Ethnic and Class Identities Can Shape Healthy Transport Choices. *Social Science and Medicine*, 72(7), 1123-1130.

Thobani, S. (2007). Multiculturalism and the Liberalizing Nation, p. 143-175, Chapter 4 in Exalted Subjects: Studies in the Making of Race and Nation in Canada. University of Toronto Press.

Toronto Cycling Think & Do Tank (2013). Mapping Cycling Behaviour in Toronto. Retrieved August 2019 from: www.torontocycling.org

Van der Kloof, A., Bastiaanssen, J., Martens, K. (2014). Bicycle lessons, activity participation and empowerment. *Case Studies on Transportation Policy*, 2, 89-95.

Van Duppen, J. & Spierings, B. (2013). Retracing trajectories: the embodied experience of cycling, urban sensescapes and the commute between 'neighbourhood' and 'city' in Utrecht, NL. *Journal of Transport Geography*, 30, 234-243.

Watts, L., Urry, J. (2008). Moving methods, travelling times. *Environment and Planning D: Society and Space*, 26, 860-874.

[i] Italicized participant quotes are verbatim and pseudonyms are used to ensure anonymity