CYCLING AND GENDER: PAST, PRESENT AND PATHS AHEAD

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Introduction

Cycling's possibilities and also its problems are not equally distributed or experienced. Discussions, reflections and questions of gender have formed an integral part of cycling inquiry for more than a century or for as long as the bicycle has been popularised, practiced and pilloried. The who, along with the what, where, when and why of cycling, has been a primary topic of debate. Since the 1990s, this debate has often started with the observation that in low cycling countries, like Australia, Brazil, Canada, Chile, the UK and US (to name a few), men are much more likely to cycle than women (e.g. Debnath, Haworth, Heesch 2021). By contrast, women in high cycling countries like The Netherlands and Denmark are as, if not more, likely to cycle than men (e.g. Aldred et al. 2017). These national differences, along with historical accounts of women cycling (e.g. Jungnickel, 2018), counter arguments that women have a 'natural' aversion to riding a bike (Garrard, Handy & Dill 2012). Much of the gender and cycling literature is concerned with examining how and why cycling is or isn't available to diverse populations and the barriers in place that impede its uptake.

This chapter focuses on why intersections of gender and cycling have long been and continue to be critical subjects attracting the attention of interdisciplinary and international writers, practitioners and researchers. This covers work in fields such as sociology, geography, cultural studies, history amongst others attempting to diversify and broaden the spectrums of cycling. While it is not possible to delve deeply into all of these rich debates, in

the following we present the "state of the art" overview of gender and cycling to provide a map of sorts.

We start with a discussion of gender and gendering practices, review historical underpinnings, consider present day themes in everyday cycling (understood as cycling to a destination such as work, shops, education, social and other activities), and conclude with some of the future challenges to broadening cycling reach.

From Gender to Gendering

Gender is used in cycling literature in various ways. At times it refers to a person's biological sex as one attribute among many. In other instances, it refers to the sets of attributes acquired by biologically sexed bodies (women and men) in the process of socialisation. The biological body is presumed to pre-exist and serve as the material basis for the socially constructed gender norms anticipated of it.

Alternatively, gender refers to the qualities, characteristics, behaviours and functions constituted as biologically sexed bodies (Butler 1990). In this understanding, biological sex and gender do not align with a nature/culture divide (Gatens 1996) but are co-constituted within practices (research, policy making, legal proceedings, industrial design etc.) referred to as gendering. These 'gendering practices' produce 'women' and 'men' as specific kinds of unequal political subjects (Bacchi 2017) and operate toward regulating populations (Butler 1990). However, because 'women' and 'men' are produced within practices (including a variety of scientific practices, Mol 2015) their production is ongoing, incomplete and open to change. Bringing this conceptualisation of 'gendering' into cycling (Bonham & Bacchi 2017) responds, in part, to calls for a more detailed and systematic examination of the relation between gender and mobility (Ravensbergen, Buliung & Laliberté, 2019).

Recent scholarship is providing insights into how gender identities are produced and how they are claimed, consolidated, contested and reconfigured through entanglements on and off the bicycle. The proliferation of identities – trans (transsexual, transgender), sex non-specific, non-binary, genderqueer – demonstrates the possibilities for reconstituting gender. These identities are being produced in the cycling literature with researchers enabling respondents to claim different gender statuses. Importantly, we expect research on gender and cycling to open up new ways of doing bicycling beyond the dichotomous female/risk-averse/slow/defensive and male/risk-taking/fast/aggressive that often populates cycling literature. Our review of the current state of gender and cycling research points to opportunities for disruption as a way of re-shaping bicycling and making it available to diverse populations.

We begin with an overview of cycling in the late nineteenth century where research has focused on how mobility reconfigured gender in Australia, Europe, New Zealand and North America.

Recovering cycling histories

One of the primary reasons cycling is intertwined with gender relates to the social and cultural contexts of its invention. In 1895, Frances E. Willard wrote a book '*A Wheel Within a Wheel: How I learned to ride the bicycle with some reflections by the way*' during the cycling craze that swept England. She took up cycling at fifty-three years of age on a bicycle she named "Gladys". Willard evangelised cycling for people of maturing years like herself and more broadly for women in general. She believed it held the power to mitigate some of the many restrictions on Victorian women's freedom of movement in the late nineteenth century, in relation to clothing styles, social lives, physical health and political expression. To

Willard, the bicycle was a ‘new implement of power’ that held ‘special value for women’ and would ‘help women to a wider world’ (1895, p. 73).

Women of all ages, like men, have long been enthusiastic cyclists. Yet, there are far fewer records that document their interest and achievements. From the advent of popular cycling in the 1890s to today, still this blindness lingers. Researchers are continuing to recover the history of women’s engagement with cycling around the world and using it to argue for the importance of representational equality and diversity. At the end of the nineteenth century, women embraced bicycle racing (Simpson 2007), were early adopters of popular ‘Bike Portraits’, a fusion of new technologies (Kinsey 2012), recreational cycling and multi-day cycle touring (Fitzpatrick 2015) and inventors of radical new forms of early cycle clothing (Jungnickel 2015, 2018). Then, through to the mid-twentieth century women took up endurance cycling (Bootcov 2019) and utility cycling as enthusiastically as men (Carstensen & Ebert 2012). Remarkably, and as noted below, this engagement persisted despite many social, political, physical and institutional barriers to women’s cycling.

Bicycling provided a means for women to challenge a life largely anchored to the domestic sphere. It gave middle-and-upper class women especially ‘a taste of independence, and much desired access to broader social worlds and physical freedoms’ (The Sketch 1896, p. 311). Changes in bicycle and clothing designs afforded opportunities for women to take up cycling in different ways. In contrast to many accepted accounts, women also drove many of these shifts, as keen consumers and also as actively engaged inventors.

‘What’ a person cycled, and cycled in, was shaped and socially regulated in terms of gender. Victorian society was highly differentiated by class, race and gender. How a person spoke, what they wore and the places they inhabited determined their course in life and how they were treated. By the mid-1890s, bicycles with a lowered top-tube, and chain and skirt guards, featured in bicycle manuals and marketing materials as ‘ladies’ safety bicycles

(Bonham, Bacchi & Wanner 2015). In creating the ladies' safety bicycle, engineering, design, metals, clothing, biology and class were brought together in a gendering practice. Differentiating safety bikes into ladies' (and necessarily men's) 'safeties' — rather than 'safety with'/'safety without' a top-tube – produced bicycles as gendered objects (ibid). Gender was being co-constituted with the vehicle itself. Ladies' bicycles both consolidated femininity as a performance of 'modesty' and began reconfiguring it by opening the possibility of more vigorous exercise and greater travel distances (Carstensen & Ebert 2012).

Bicycle designs were also a response to what became known as the 'dress problem'. While men's clothes were more oriented towards physical activity, women's were not. Middle-and-upper class women's fashions, with tightly bound and heavy cumbersome layers, were perilously problematic on bicycles. The Rational Dress movement recognised the bicycle boom sweeping the nation as another way to continue their campaigning for lighter, looser layers to enable women to lead more active lives. Some pioneering women even patented radical new forms of cycle wear (Jungnickel 2015, 2018). However, while shorter skirts and bloomers or knickerbockers were safer and more comfortable to cycle in, they potentially exposed wearers to harassment from shocked onlookers who viewed wearers as masculine and threatening the status quo.

One of the reasons cycling has been so political through the centuries is related to the public spaces it inhabited. Located outside, often in highly populated streets and parks, meant cycling garnered much more attention than other popular sports such as horse riding, gymnastics and swimming. It was far less controlled by sporting's rules and regulations and young women could occasionally 'lose' their chaperones and experience personal private time, which was a rarity for some. This was considered especially problematic in Victorian society, as unaccompanied upper-class women in public were considered highly vulnerable to social disgrace and ruin. In contrast, swimming was considered more acceptable for women

because bodies were largely concealed within the confines of swimming enclosures and the water.

'How' a person cycled was shaped by the bicycle they had access to, the advice available and the accumulated development of their capacities. Like bikes and clothing, advice on riding a bike was gendered thereby making cycling available to women at the same time as altering the content of gender categories. Cycling catalyzed many new periodicals and newspapers at the time, which provided a visual imaginary and encouragement to cycle. While men's media were more often oriented to racing, speed records and new technologies, many women's titles pressured riders to maintain ladylike decorum even while cycling.

Highwheel Bicycles were first available to men and they established clubs to support their cycling participation. Cycling was one of many Victorian sports considered the 'natural domain of men and that to be good at them was to be essentially ''masculine'' (Hargreaves 1994 p. 43). Another reason men's cycling progressed at such a rate, and attracted much media attention, was due to the advancements made in racing that trickled down into more ordinary men's cycling cultures. This meant it was more fitting for men to exert themselves on bicycles and also enter in bicycle retailers and claim expert consumer identities.

Club activities included staging bike races and fostering expert bicycle knowledge but perhaps more importantly providing advice on how to conduct oneself on the roads (Mackintosh and Norcliffe 2007, p. 153). Clubs rejected the practice of scorching (riding recklessly fast) that involved young men and has been regarded as an assertion of masculinity especially with the 'domestication' of cycling by women (2007, p. 163). This point on domestication deserves further research attention. It flags how qualities constituted as 'feminine' might have modified the performance of cycling thereby ensuring streets continued to be available for leisure, recreation and, eventually, utility cycling.

Women's engagement with bicycles continued into the twentieth century. Bootcov (2019) writes about female endurance athletes riding the post war bicycle boom of 1930s Australia. Many women's clubs emerged at this time with a focus on endurance racing. Despite similar accounts of discrimination and resistance, such as stubborn notions that extreme exercise was dangerous for women's bodies, they persisted and even matched and broke men's records and, in the process, 'challenged residual nineteenth century fears of "fast women" and the notion that strenuous exercise had deleterious consequences' (2019, p. 1448).

Part of the recovery project by researchers to piece together lesser-known cycling stories focuses on the global south. Leedy (2020) writes about the history of competitive racing culture made up entirely of black cyclists in South Africa from 1930-1960. He notes how this cycling culture was not 'hidden' from 'the hundreds of participants or the many thousands of spectators who cheered them' but this vibrant history has been systematically erased due to the social and political divisions of the time (2020, p. 542). While this work importantly reclaims black racing stories, Leedy notes it was 'an almost exclusively masculine pursuit' (2020, p. 544). There may well have been similar active women's cycling cultures at this time.

Recovering bicycling histories demonstrates that women's 'lack' of participation in cycling is a relatively recent phenomenon. While past practices suggest future potential these histories focus on leisure, recreation and sport cycling in countries of the global north. More work on the early uptake of cycling in South America, Africa and Asia will enrich these stories. We also need to flesh out histories of gender and everyday cycling. While much has been written about the highs and lows of everyday cycling through the twentieth century more attention on gender is needed. Many of the themes flagged in historical research provide insights into the gendering of everyday cycling in the present day.

Gendering cycling today

Over the past 30 years, activists, researchers and policy makers have promoted bicycling as a healthy and sustainable mode of transport. Gender has been a key theme in developing the discourse on everyday cycling with women (and girls) consistently reported as less likely to ride than men (<30% and >70% respectively). Examining differences in cycling rates and recommending policies to facilitate participation is important in highlighting inequalities and it is also risky when women are produced as 'lacking' – lacking assertiveness, lacking speed, lacking skill, lacking knowledge, lacking time and lacking courage (being fearful or risk averse). Research into *how* women engage with bicycling can challenge the concept of 'lack' and provide new ways of thinking about both gender and cycling. The following discussion is organised around conventional themes of 'challenges to cycling' and 'enabling cycling'. However, we have paid closer attention to gender attributions and how these attributes are claimed, consolidated, contested or reconfigured by both researchers and their research subjects.

Challenges to cycling

Riding a bike in public space can be as fraught today as in the late nineteenth century. Cultural heritage and local cultural context – what cycling means and how it is 'done' – influences engagement with cycling (Aldred & Jungnickel 2014). As cyclists are in full public view, they can be observed, objectified and judged in that local context. At the heart of this surveillance is regulation of presence, appearance and conduct in public space. Four issues related to 'public scrutiny' and self-regulation are often raised in cycling studies: physical exercise, maturity, sociality and personal safety.

Physical exercise, exertion and associated bodily secretions and odours are often given as reasons for girls and women not cycling. This concern has been widely discussed in

the gender and health literatures with representations of femininity and masculinity in popular culture often called out as the problem. However, we have barely considered how norms in present day preventive health and related literatures, such as 'women walk and men ride bikes', encourage people identifying as girls/women and boys/men to regulate their mobility. We laugh at nineteenth- century health warnings about women and children cycling yet Davara Bennet's (2017) work indicates how ambiguous medical advice available or given to pregnant women can regulate their cycling.

In low cycling countries, physical activity and the bicycle itself have been linked to childhood and immaturity (Frater & Kingham 2018). Migrants in Toronto, reported bike riding in their home countries was acceptable for young boys but it was unacceptable in adulthood (Ravensbergen 2020). Similarly, boys and men who cycle have been infantilised in US popular culture (Furness 2010) and Australian anti-drink driving advertising (Nielsen & Bonham 2015). This representation resonates with views among some teenage girls in New Zealand that cycling is not 'cool' and adults do not ride bicycles. We return to this issue of infantilisation below.

The third aspect of self-regulation is sociality. Frater and Kingham (2018) reported girls speaking of cycling as a barrier to sociality as it risked rejection (friends would laugh at them) and the bicycle was an awkward object when accompanying friends who chose to walk (the 'norm' for women). Yet for boys the bicycle could serve as a vehicle for social engagement which resonates with the participation of men in fitness bunch rides. By contrast, girls and boys in The Netherlands appreciated the social interaction provided by cycling (Frater & Kingham 2020). Exploring this link between gender, cycling, sociality and local context could open up new ways to make cycling available to teenagers.

Concern for personal safety, such as being sexually assaulted, mugged or harassed is often cited by women as a reason for not cycling or limiting their cycling to particular times

and certain places (Ravensbergen, Buliung, & Laliberté 2020). Targeting women (and gender diverse populations) via sexual assault and harassment produces public space as masculine and fosters women's self-regulation. However, in some contexts, bikes are preferred at night as women can travel more quickly (Montoya-Robledoa & Escovar-Álvarez 2020). Women cyclists in Bogotá, Columbia, reported property theft as their biggest concern with some running red lights to avoid or minimise targeting by thieves (Montoya-Robledoa et al. 2020). But harassment and threats to personal safety in Bogotá often came from male cyclists who challenged women's competence and admonished them for how they dressed. We return to this point below. The issue of harassment significantly shapes the journeys of minority women (and men) who are as concerned about the conduct of law enforcement officers as other citizens (Lubitow, Tompkins & Feldman 2019). While cycling in these contexts is fraught, it participates in contesting the masculinisation (and in some contexts whiteness) of public space.

Related to public space is the issue of motor vehicle traffic. Traffic and potential for traffic related injuries are frequently given as the reason women don't cycle or are selective about where and when they ride. This concern is explained as the different 'risk' tolerance of men and women. Rather than risk aversion, some are 'fed up' with the hypervigilance required to safely negotiate traffic (Bonham & Wilson 2012). Women are characterised as either 'naturally' more risk averse than men or socialised as potential mothers and carers into risk aversion (see Garrard et al. 2012). Alternatively, traffic related concerns have recently been explained in terms of differences in childhood cycling. Based on research with migrants in Canada, Sersli et al (2021) argue in countries where girls are forbidden to ride or discouraged from cycling, they do not have an opportunity to develop the skills, knowledge and capacities necessary for cycling. However, as they acquire knowledge and practice cycling in their new country, they became more confident in negotiating road environments

(Sersli et al. 2021). We return to this point of developing the cycling body and the co-production of gender and cycling below.

Nineteenth century women celebrated the bicycle for the escape it offered from the domestic sphere. In twenty-first Century heterosexual households, women's greater share of domestic and carer responsibilities account for their lower rates of cycling (Emond, Tang & Handy 2009). These complex journeys often requiring trip chaining, accompanying others (children, elderly parents, relatives with disabilities) and carrying goods all make riding a difficult option particularly in car-oriented cities. By contrast, research from The Netherlands comparing women with (n=20) and without (n=17) children reported all respondents felt very positive about cycling. The analysis noted variations in when and where women cycled and only marginal differences in distances travelled (Eyer & Ferreira 2015). Unlike many of their counterparts in low cycling countries, having children did not spell the end of cycling for mothers.

Households that negotiate or share domestic and carer responsibilities more equitably could provide greater opportunities for each partner to ride. Bonham and Wilson (2012) noted that for some women, carer responsibilities provided an opportunity for women to cycle. Accompanying children to school by bike was relationship building and allowed mothers to model personal health and environmental sustainability. We need more research on how men perform the journey-to-childcare and/or the journey-to-school with their children. Research from Bogotá on father's accompanying children suggests the persistence of toxic masculinity with men performing aggressive, fast, risk taking riding (Montoya-Robledoa et al. 2020). Research across different countries and cultures will provide alternative productions of masculinity.

Enabling participation

Provision of infrastructure and developing cycling skills and capacities are two key policy recommendations aimed at increasing women's cycling participation and reducing the disparities between women and men. Surveys, interviews and observation studies consistently report women prefer or are more often observed using separated cycling facilities, like buffered cycle lanes, than men (Aldred et al. 2017). This raises questions about the very possibility of designing, constructing and regulating streets and roads that do not ensure the safety of *all* users, including cyclists. We might ask what knowledge (data collection, travel surveys) has informed the exclusion of cyclists, does catering to cyclists constitute them as a 'special needs' group that can be ignored in tight budgets and do infrastructure 'preference' studies participate in gendering cycling spaces? With the latter question, we might add what are the effects of this gendering practice?

Over the past decade, attention has turned to developing cycling knowledge, skills and capacities that address people's (but especially women's) 'lack' and, arguably, prepare them for 'fitting into' existing conditions. These courses range from checking and maintaining bike components and learning about bike-handling to moderate or advanced riding skills.

School based bicycle education and training is widespread in The Netherlands and Denmark but it is variable in most other countries. Courses are usually conducted by private companies or bike advocacy organisations with the latter also catering to adults. There have been surprisingly few evaluations of the impact of these programs on increasing participation in cycling (Sersli et al. 2019). Importantly in the current context, Transport for London found the disparity in cycling rates of women and men reduced after training. However, studies among migrant women have been mixed (van der Kloof, Bastiaanssen & Martens 2014). Many women develop the skills necessary to riding independently but whether they actually commence cycling is another matter, especially if they have children. Other benefits of

bicycle training, such as expanding the social networks of migrant women have also been noted.

Taking a different approach, alley cat races initiated by the women's collective Carishina en Bici (Bad Housewives that Bicycle) in Quito, Ecuador, develop cycling knowledge, skills and capacities (Gamble 2019). Deep play is used strategically by the collective to shift the physical and emotional experience of cycling in public space. In place of violence and aggression alley cat produces public space as entertaining, playful and safe. It produces women as funny, fun loving, courageous and determined although these qualities are not emphasised by Gamble. In Gamble's analysis, women continue to be constituted as caring and relationship oriented but, importantly, these characteristics become a positive attribute of bicycling. Rather than women being problematized for their risk aversion, lack of speed and lack of assertiveness, cycling is being constituted as a site of care and joy.

Working on the cycling body via formal programs, informal groups or individually has been critically examined for the production of gender itself. Using Butler's theorisation of performativity, Ravensbergen (2020) has examined the translation of gender performance into cycling. Based on interviews with mainly migrant women and men completing a cycle training program, she reports on how participants regulate themselves toward gender norms when riding a bike. As noted above, bicycling in itself contests gender norms of some cultures. Participants' selection of clothing, times and places of travel, and practices of the journey begin to reconfigure gender performances.

Indeed, this links to the discussion of violence and aggression as performances of masculinity. Reporting on their work in Bogota, Montoya-Robledoa et al (2020) constitute aggressive and violent behaviour by male cyclists toward female cyclists and other road users as 'toxic masculinity'. In identifying this version of masculinity, can question how it has

become possible to ‘perform’ this type of masculinity and what other versions of masculinity are being produced within and beyond the academic literature.

Addressing the first question, we could look more closely at the cultural context in which cycling takes place. In countries like Australia and the US, adulthood has become closely associated with getting a driver’s licence. Representing the driver licensing process as a ‘right of passage’ speaks volumes about the place of driving in these societies. Just how it has become a ‘right of passage’ is rarely interrogated (see Nielsen and Bonham 2015). Driving is presumed to replace rather than add to mobility options so that men, in particular, who continue to ride can be characterised as having some shortcoming.

This raises the question of how men that ride bicycles in car-oriented cities can perform masculinity. The behaviour directed at female cyclists in Quito and Bogota is an assertion that a certain type of physical strength and willingness to fight are qualities necessary to cycling in these cities. Only strong, aggressive men (not women) can cycle. Alternatively, in Australian, British, New Zealand and North American contexts performances of masculinity involve fast speeds, risk taking, competition and, arguably, bike positioning (e.g. in front of women queued at lights). Barrie et al (2019) examine how sport cyclists located within virtual, material and social networks work on themselves to foster these attributes associated with masculinity. Sersli et al (2021) argue John Forester’s ‘vehicular cycling’ (whereby cyclists are encouraged to ride like they are driving a car) as a performance of masculinity. We might ask whether ‘vehicular cycling’ made bike riding available to some men at a time when driving a car was being entrenched as the transport norm. Further, in constituting speed, competition and risk taking as masculine, men are encouraged to ride or speak of their riding in this way (Steinbach et al. 2011). Research by Barrie et al (2019), is directing attention toward men doing cycling differently thereby reconfiguring or providing alternative masculinities.

It is in the enactment of networks of relations that bikes, bicycling and bicyclists are gendered. Tracing these relations, we can see how gendering happens and how it can be disrupted. For example, the 'ladies safety bikes' of the nineteenth century (discussed above) were produced in the entangled relations of engineering, design, metals, clothing, biology, and class. Today, bicycles without a top tube are differentiated by the action in mounting/dismounting (step-through) or the places they are likely to be ridden (town bikes) rather than the body of the rider. But 'road' bikes, previously referred to as men's bikes, are being gendered in new ways. 'Women's (and consequently men's) specific' road bikes are produced within relations of engineering, biomechanics, anatomy, materials and design. Height, reach and hand size (to name a few) are used in differentiating both people and bikes. This new gendering practice produces 'women' as engaged in vigorous physical exercise. It has implications for bodies within and between populations that don't fit 'women' and 'men' constituted in this way (Bonham, Bacchi & Wanner 2015).

Conclusion

While many things have changed since the first cycle boom swept much of the world at the turn of last century, a number of challenges remain remarkably similar. This chapter has attempted to map intersections of gender and cycling from the 1890s through to today and into the near future. We approached this ambitious task by marking how gender is claimed, consolidated, contested and reconfigured in the process of interacting with the bicycle. We journeyed through the why, what, where, and how of historic cycling and more contemporary discussions of cycling cultures around themes of 'challenging' and 'enabling' cycling. Throughout, we re-iterated the potential for further research, inviting deeper investigation of ideas. We conclude with words by Frances E. Willard whose many reasons to cycle in the 1890s remain prevalent for all genders today:

> I did it from pure natural love of adventure... Second, from a love of acquiring this new implement of power and literally putting it underfoot. Last, but not least, because a good many people thought I could not do it at my age (1895, p. 73).

References

Aldred, R., Elliott, B., Woodcock, J., Goodman, A. (2017). Cycling provision separated from motor traffic: a systematic review exploring whether stated preferences vary by gender and age, *Transport Reviews*, 37:1, 29-55.

Aldred, R., Jungnickel, K. (2014). Why culture matters for transport policy: the case of cycling in the UK. *Journal of Transport Geography*. 34, 78–87.

Bacchi, C. (2017). Policies as Gendering Practices: Re-viewing Categorical Distinctions. *Journal of Women, Politics and Policy* 38 (1): 20–41.

Barrie, L., Waitt, G., & Brennan-Horley, C. (2019). Cycling Assemblages, Self-Tracking Digital Technologies and Negotiating Gendered Subjectivities of Road Cyclists On-the-Move. *Leisure Sciences*, *41*(1-2), 108–126.

Bennet, D.L. (2017). Bumps and bicycles: Women's experience of cycle-commuting during pregnancy. *Journal of Transport and Health*, 6: 439-451.

Bonham, J., Bacchi, C. (2017). Cycling "subjects" in ongoing-formation: The politics of interviews and interview analysis. *Journal of Sociology, 53*(3): 687–703

Bonham, J., Bacchi, C., Wanner, T. (2015). Gender and cycling: gendering cycling subjects and forming bikes, practices and spaces as gendered objects. In J Bonham, & M Johnson (eds.), Cycling Futures. University of Adelaide Press, Adelaide, Pp. 179–201.

Bonham, J., Wilson, A. (2012). Women cycling through the life course: An Australian case study. In J Parkin (ed.) *Cycling and Sustainability* (*Transport and Sustainability, Vol. 1*), Bingley, UK: Emerald. Pp. 59-81.

Bootcov, M (2019) Australian Female Endurance Cyclists of the 1930s and the Commercialization of Their Athletic Femininity, *The International Journal of the History of Sport*, 36:15-16, 1433-1456.

Butler, J. (1990). *Gender Trouble*. New York: Routledge.

Carstensen, T., Ebert, AK. (2012). Cycling Cultures in Northern Europe. In J Parkin (ed.) Cycling and Sustainability. Bingley, UK: Emerald. Pp. 23-58.

Debnath, A., Haworth, N., Heesch, K. (2021). Women cycling in Queensland: Results from an observational study. *Accident Analysis and Prevention*, 151, 105980.

Emond, C., Tang, W., Handy, S. (2009). Explaining gender difference in bicycling behaviour. *Transportation Research Record*, 2125: 16-25.

Eyer, A., Ferreira, A. (2015). Taking the tyke on a bike: mothers' and childless women's space-time geographies in Amsterdam compared. *Environment and Planning A*, 47: 691-708.

Fitzpatrick, J. (2015). A Glimpse at Australia's cycling history. In J. Bonham and M. Johnson (eds.) Cycling Futures. Adelaide: University of Adelaide Press. Pp. 25-41.

Frater, J., Kingham, S. (2018). Gender equity in health and the influence of intrapersonal factors on adolescent girls' decisions to bicycle to school. *Journal of Transport Geography*. 71: 130-138.

Frater, J., Kingham, S. (2020) Adolescents and bicycling to school: Does behaviour setting/place make a difference? *Journal of Transport Geography*. 85:

Furness, Z. (2010). *One less car: Bicycling and the politics of automobility*. Philadelphia, PA: Temple University Press.

Gamble, J. (2019). Playing with Infrastructure like a Carishina: Feminist Cycling in an Era of Democratic Politics. *Antipode*, 51(4): 1166-1184.

Garrard, J., Handy, S., Dill, J. (2012). Women and Cycling. In J Pucher, R Buehler (eds.) *City Cycling*, Cambridge, MA: MIT Press. Pp.211-234.

Gatens, M. (1996). *Imaginary Bodies: Ethics, Power and Corporeality*. London: Routledge.

Hargreaves, J. (1994) Sporting Females: Critical Issues in the History and Sociology of Women's Sports, London and New York: Routledge , p. 43 .

Jungnickel, K. (2015). "One needs to be very brave to stand all that": Cycling, rational dress and the struggle for citizenship in late nineteenth century Britain. *Geoforum*, *64*, 362–371.

Jungnickel, K. (2018) *Bikes & Bloomers: Victorian women and their extraordinary cycle wear*, Goldsmiths Press.

Kinsey, F. (2012). Reading Photographic Portraits of Australian Women Cyclists in the 1890s: From Costume and Cycle Choices to Constructions of Feminine Identity. *The History of Sport,* 28: 8-9, 1121-1137

Leedy, T, H. (2020) Racing on the Rand: Black Competitive Cycling around Johannesburg, 1930–1960, *The International Journal of the History of Sport,* 37:7, 542-558

Lubitow, A., Tompkins, K., Feldman, M. (2019) Sustainable Cycling For All? Race and Gender-Based Bicycling Inequalities in Portland, Oregon. *City & Community,* 18(4): 1181-1202.

Mackintosh, PG, & Norcliffe, G. (2007). Men, women and the bicycle: Gender and social geography of cycling in the late-nineteenth century. In D Horton, P Rosen, & P Cox (Eds.), *Cycling and Society* Aldershot: Ashgate. Pp. 153-177.

Mol, A. (2015). Who knows what a woman is … On the differences and the relations between the sciences, *Medicine Anthropology Theory* 2:1, 57–75.

Montoya-Robledoa, V., Calerob, L. , Carvajala, L., Molinac, D., Pipicanod, W., Peñad, A., Pipicanod, C., Valderramae, J., Fernándezd, M., Porrasd, I., Ariasd, N., Miranda, L. (2020) Gender stereotypes affecting active mobility of care in Bogotá. *Transportation Research Part D*, 86: 102470

Montoya-Robledoa, V., Escovar-Álvarez, G. (2020). Domestic workers' commutes in Bogotá: Transportation, gender and social exclusion. *Transport Research Part A*, 139: 400-411.

Nielsen, R., Bonham J. (2015). More than a message: Producing cyclists through public safety advertising campaigns. In J Bonham & M Johnson (eds.) *Cycling Futures*, Adelaide: University of Adelaide Press. Pp. 229-250.

Ravensbergen, L. (2020): '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, *Social & Cultural Geography*,

Ravensbergen, L, Buliung, R., Laliberté, N. (2019). Toward feminist geographies of cycling. Goegraphy Compass, 13:7, e12461.

Ravensbergen, L, Buliung, R., Laliberté, N. (2020). Fear of cycling: Social, spatial, and temporal dimensions. *Journal of Transport Geography*, 87, 102813

Sersli, S., DeVries, D., Gislason, M., Scott, N., Winters, M. (2019). Changes in bicycling frequency in children and adults after bicycle skills training: A scoping review. *Transportation Research Part A: Policy and Practice*, 123, 170–187

Sersli, S., Gislason, M., Scott, N., Winters, M. (2021). Easy as riding a bike? Bicycling competence as (re)learning to negotiate space, *Qualitative Research in Sport, Exercise and Health*,

Sersli, S., Scott, N., & Winters, M. (2019). Effectiveness of a bicycle skills training intervention on increasing bicycling and confidence: A longitudinal quasi-experimental study. *Journal of Transport & Health*, *14*, 100577–.

Simpson, C. (2007). Capitalising on curiosity: Women's professional cycle racing in the late nineteenth century. In D Horton, P Rosen, & P Cox (Eds.), *Cycling and society* Aldershot: Ashgate. Pp. 47-65.

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 & Medicine, 72(7), 1123-1130.

The Sketch. (1896) *Society on Wheels*, 11 March, p. 311.

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