



Women's Leadership and Gendered Experiences in Tech Cities

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Introduction

'Tech cities' are specific geographical areas where tech companies are clustered. They have been defined as areas of urban techno-regeneration (Nathan and Vandore, 2014; Martins, 2015), receiving large government grants to advance innovation and establish communities of high-tech professionals (Duvivier *et al.*, 2017; Vershinina *et al.*, 2019).

Investment in tech clusters has risen steadily for three decades. UK digital tech investment reached £6.8 billion in 2016 (Tech Nation, 2017), while US digital industries' productivity has grown 2.7% annually for 15 years, to over \$1.5 trillion in January–April 2017 (The Verge, 2017). And overall spending on information and communication technology in the Middle East, Turkey, and Africa is set to grow 2.5% year on year in 2019 to reach \$213 billion (Manek, 2019). Areas of high-tech financing report renewed urban development, diversity and global citizenship (Berger and Frey, 2017; Chacko, 2007; Lee and Rodríguez-Pose, 2016). This has prompted attention from geographers interested in patterns of inequality, power and segregation (Phillips *et al.*, 2014) and speculation about digital culture's role in a new politics of place (Amin, 2002; Cardullo *et al.*, 2018). Yet, as we celebrate opportunities for diversity and flexible working created by tech clusters (Fuchs *et al.*, 2017; Hollands, 2008), analysis remains limited of their character and the hierarchies within them. Women across a range of professional roles voice concerns about misogyny, unequal pay and difficulty achieving senior management positions (Author, 2017; McLaughlin *et al.*, 2017). Despite the relatively rapid rise in numbers of women working in what was traditionally seen as an all-male profession, high gender discrimination rates (Freeman, 2000; Tan, 2008), and the separation of women and men's work into digital labour and technical expertise (Conor *et al.*, 2015; Duffy, 2016), persist.

This study utilises a dual theoretical framework of feminist tech culture and spatial dimensions from urban and digital geographies. It analyses the gendered experiences of women leaders: the cultural and discursive burden affecting their professional experiences and the dominant cultural boundaries they regularly have to cross to legitimise their knowledge and expertise in the tech city. Three tech cities are

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3 studied: *Silicon Roundabout*, East London; *Silicon Valley*, Northern California; and *Silicon*
4 *Alley*, Midtown/Lower-Manhattan, New York. Each represents an area of rapid tech
5 growth and comparable government and foreign direct investment,¹ and was easily
6 accessible for multiple visits. At each site, qualitative interviews were carried out several
7 times over three years (2015–2017) with the same participants, to build a longitudinal
8 picture. The study contributes to the literature on spatial context, examining a new
9 micro-context within tech culture that amplifies hidden biases and restricts the
10 movement of women professionals. First, I make the case for spatial analysis, connecting
11 the concepts of tech cities, geography and work culture.
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20 **Spatial analysis of tech cities**

21 The analysis of place – specifically the intersection of digital culture and space –
22 has recently undergone profound intensification in the context of the rise of a connected
23 and, mostly, urban society (Ash *et al.*, 2018). Researchers must contend with what is ‘new’
24 in terms of modes of interaction, boundaries and (potentially) freeing representations of
25 identity. However, with the rise of spatial analysis – particularly around digital culture –
26 there is a need to readdress inequalities at the intersection of space, mediated contexts
27 and relations enabled by technology. The context of tech cities is uniquely suited to such
28 analysis, with a focus on masculine culture and the different experiences of women and
29 men who work in them. Spatial analysis allows us to evaluate prominent claims about the
30 scope of physical boundaries while beginning to decode the effects of masculine tech
31 culture. In this reading of tech cities I concentrate on:
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- 42 *i. Encoding space and the intimacies of labour*
- 43 *ii. Spatial boundaries and professional structures*

44 *Encoding space and the intimacies of labour*

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47 The juxtaposition of place and masculine tech culture is deeply embedded in the
48 stereotypes, and communication and language, of the intimacies of labour (Ford and
49 Wajcman, 2017; Rydzik and Ellis-Vowles, 2018). I use ‘intimate’ to emphasise the
50 undercurrent of sexual relations embodied within spaces heavily influenced by masculine
51 ‘high-tech worlds’ (Haraway, 1991: 111), and, in doing so, draw attention to ‘the
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59 ¹ In this respect the US and UK rank first and second globally, attracting \$391 billion and \$254 billion
60 respectively into the digital economy in 2015–2016 (World Investment Report, 2017).

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3 hegemonic form of masculinity ... still strongly associated with technical prowess and
4 power' (Wajcman, 1991: 454). Indeed, it is difficult to get away from the interpretation of
5 gender as a fixed and evident construction, and from the influence of heteronormativity
6 on the conceptualisation of women's roles and behaviour in tech (Landström, 2007). For
7 example, new employment opportunities are elevated using stylistic language with
8 implied gender differentiations: more often women fulfil roles as the 'creative' or
9 'community manager', while men are known as 'brogrammers', 'coders' or 'digital
10 engineers' (Author, 2017). Duffy and Schwartz identify the 'feminisation of labour' in
11 social media recruitment advertisements to include deft emotional management and
12 social empathy as characteristic of 'digital women's work' with low pay and marginal
13 status (2017: 2). While language has long encoded tech culture, greater attention is being
14 paid to the forms and place of work (Richardson, 2018) and qualities – such as empathy -
15 which place limits on feminine roles.
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27 Spatial analysis suggests a separation not only of the types of work supposed to
28 appeal to women compared with men, but of how each is portrayed (Elliott and Stead,
29 2017) and how success is reported (Watts, 2009). This separation is significant: the
30 portrayal is of 'men as strong, manually able and technologically endowed', compared
31 with women who are 'physically and technically incompetent' (Cockburn, 1983: 203).
32 The categorisation of expertise has long been problematic for feminist writers seeking to
33 address the boundaries around a 'macho culture' enabled by a 'peculiarly male spirit,
34 particularly unfriendly to women' (Turkle, 1984: 216). Thus, the intimate portrayal of
35 gender embedded in tech culture affords little diversity (Lagesen, 2007) and few
36 opportunities for women to secure senior roles (Duffy and Schwartz, 2017). Recently,
37 the Gender Media Monitoring Project (Mavin *et al.*, 2016) reported on how women's
38 leadership is subverted under the dominant masculine cultural gaze: female leaders are
39 glamourised, fetishised and sexualised. Public discourse around 'women in tech' entails
40 an emotional portrayal of professional achievements, popularised in self-help texts such
41 as Sandberg's *Lean In* and Huffington's *Thrive*, marketed separately from the detached
42 masculine management style and expertise (Arcy, 2016; Conor *et al.*, 2015). My interest
43 here is specifically in how the stereotypical labels placed on women ('women in tech',
44 'girls who code') constrain their movement and act as a materialisation of tech culture in
45 tech cities.
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Spatial boundaries and professional structures

While tech cities are not coded universally as masculine, gendered ideologies are distinctly present. The professional experiences of women in tech are notably different (both in form and identity) to those of men, as are the professional structures that support training and promotion (Dodge *et al.*, 2011; Gill and Pratt, 2008; Watts, 2009). The education of women entering the tech industry is largely based on segregated computing skills (Panteli *et al.*, 2001) and masculine dynamics, where ‘women have a small proportion of management posts and earn lower salaries’ (Wilson, 2003: 127). Such contextual factors speak to Gill and Pratt’s notions of ‘immaterial’ and ‘affective labour’, describing how women’s often subjective and ‘communicative and emotional capacities’ (2008: 8) are not considered real work. Here, Wajcman’s work (1991) delineates the macho work for tech boys, ‘male’ attributes and ‘male’ skills that clearly define the professional identity structures of tech cities. Alongside Wajcman and and Turkle, Vershinina *et al.*’s study of the high-tech industry in Russia is revealing of the ways in which technical ‘masculine skills’ enforce strong boundaries around gender and ascribe roles to women, leading them to be unrecognised or invisible (2019:3).

However, a significant risk here is what Grint and Gill called the ‘black-boxing’ (1995: 20) of gender as an analytical tool – closing off other points of analysis, biases and inequalities that influence tech-culture dynamics. While it is difficult not to project a gendered history of tech, in seeking to understand tech cities’ spatial boundaries we can begin to identify further structures in which tech professionals, workspaces and culture are enmeshed. We can tentatively point to an emerging global consciousness about the equalising possibilities of tech, such as in the new roles made possible through more mobile and connected working. This is not to dismiss gender as a point of differentiation, but to highlight how shifts in how we frame these debates echo some of the innovations coming out of the tech sector that relate directly to the sense of a global community and the characteristics attributed to Sassen’s (2016) ‘global city’. Poster’s work on women IT professionals in India, for example, suggests the equalising potential of a global high-tech culture: ‘the potential to undo, as well as exacerbate, some of the problems that women have been facing in IT’ (2013: 1). Alongside Poster’s cautious optimism, there is a case to be made about the heightened awareness of diversity in the tech industry shared to social media, and the ways in which the challenges of working in tech cities enable some to feel empowered by such dialogues (Author, 2017). However, despite the potential for change, the commercial environment of innovation in tech cities

reminds us that these are spaces that illustrate a certain masculine spatial privilege. Writing about the impact of new technologies and spatial infrastructures, Leszczynski and Elwood remind us of the ‘gendered differences’ that are ‘legitimated through ... the surrounding discourse of “open participation”’ (2015: 6–7). Like Poster and Sassen, the authors identify a potentially equalising value to the culture of ‘openness’, yet all the spatial aspects of the culture, technologies and physical use of place continue to support clearly gendered structures and relationships. The online profiles of tech cities provide examples of this. Here, we can find detailed digital narratives (e.g. TripAdvisor reviews); use social apps to map spatial trajectories (e.g. sharing ‘paths’ with friends through Smart Journal); and discover social media tags descriptive of feelings about or experiences of locational content. This user-generated content reveals *a little* about the cultural economy within which tech cities operate (Fuchs, 2017), but we remain outside the intimacies of labour, inattentive to the professional structures and enduring discrimination (Banks and Milestone, 2011; Richardson, 2018), and unaware of the configurations of gender division (Reimer, 2016).

In the following section, I describe the research carried out for this study.

Methodology

The data presented here are part of the ongoing Gender in Tech Cities project, which commenced in 2014, supported by University-ABC (Author, 2015; 2017; 2019). Its core purpose is to understand the experiences of women in leadership positions in tech cities. The University Ethics Committee approved the research protocol; signed consent was obtained from all participants.

The more extensive study involved two phases: an initial six-month pilot (2014–2015) and the subsequent three-year study (2015–2017). The project website (gitc.io, launched 2014) was used to engage and build rapport/trust with participants (Glesne and Peshkin, 1992) and inform others. During the pilot phase a questionnaire survey (n=865) about professional roles in tech cities was shared with tech networks in the UK and US. Female respondents with at least three years’ management experience were contacted to take part in a series of interviews concerning attitudes to working in tech cities, education in schools, professional networks, career development and career progression.

Participants

This study draws on the accounts of fifty women holding long-term management posts or board positions. These participants were the most senior respondents to the pilot questionnaire, with the most experience of working in tech cities. Thirty-eight were interviewed three times, with nine months between encounters (2015–2017); twelve were interviewed only twice owing to work commitments. Participant characteristics are shown in Table 1. Pseudonyms are used to preserve anonymity.

Participants' accounts are not intended to be representative of all women professionals in tech cities. Instead, they are 'in line with feminist emphasis on experiences and subjectivity, on close personal interaction, and on reciprocity of researcher and the researched' (Kvale, 2006: 481). Roles were varied and often broad in scope, encompassing staff management, business strategy, risk analysis, budget control/implementation, new projects/partnerships, overall business culture, and staff disputes/legal action.

Table 1. Participant characteristics

| | <i>N (%)</i> |
|--|--------------|
| <i>Marital status</i> | |
| Single | 14 (28) |
| In a relationship | 12 (24) |
| Married | 24 (48) |
| <i>Education</i> | |
| Educated to degree level | 49 (98) |
| Had taken time off/career break for family reasons | 37 (74) |
| At least one child aged 0–12 | 42 (84) |
| <i>Location</i> | |
| Silicon Alley, NY | 11 (22) |
| Silicon Roundabout, LDN | 18 (36) |
| Silicon Valley, CA | 21 (42) |

Interval interviews

Interviews took place in closed spaces, e.g. offices or private meeting areas, within each tech city site. Interviews were themed, with prompts (e.g. relevant press articles), and used open-ended questions. The first interview asked participants to reflect on experiences of leadership, with prompts about fundamental responsibilities. The second, a few months later, focused on participants' routes into tech, eliciting personal and professional histories. Then, discussion of participants' responsibilities compared with

those of male counterparts led to exploration of different routes to senior roles, accounts of misogyny, inappropriate professional working relationships, women's peer support, and leadership roles which participants felt were viewed differently to men's. Finally, the third interview allowed room to talk about broader structures and uncertainties faced by participants. The interval approach allowed exploration of evolving and complex situations; gave participants time to reflect on their experiences; and captured career progression. Half the participants changed leadership role during the study. This advancement was described as 'difficult' and as bringing additional responsibilities for equality initiatives. The interval approach also enhanced trust between researcher and participants (Murray *et al.*, 2009).

Analysis

Analysis was done using Atlas.ti, cross-referencing themes emerging from the data, (e.g. privacy, control, play and dominance) with *a priori* theoretical concepts (e.g. intimacies of labour, workplace structures); see Table 2.

Table 2: Example of coding

| First order-themes | Second order themes | Summary responses |
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| Privacy & boundaries | <ul style="list-style-type: none"> ▪ Encoding space ▪ Control ▪ Interaction | 'I don't feel safe all the time', 'aggressive and intimidating', 'I feel have no gender-neutral rights', 'This is a messed up, unsafe, unjust place and it really upsets me' |
| Presencing & visibility | <ul style="list-style-type: none"> ▪ Intimacies of labour ▪ Women as tech professionals | 'feeling captive', 'I have to be seen there' |
| Play & disruption | <ul style="list-style-type: none"> ▪ Macho culture ▪ Credibility | 'frat boys', 'boys and toys', 'being lads', 'playing, playing, playing', 'combat competition', 'one of the boys' |
| Personality & emotions | <ul style="list-style-type: none"> ▪ Heteronormativity ▪ Women's roles ▪ Language/terminology | 'you can see and hear the aggression', 'too much over-sharing', 'my attitude', 'ready for a fight' |
| Gender in place | <ul style="list-style-type: none"> ▪ Professional structures ▪ Role models | 'very narrow view of what you do and what you can do', 'major concern over women being called "girls"' |

Frequently occurring and overlapping codes were combined to identify major themes. For example, the codes 'presencing and visibility' (Atlas.ti) and 'intimacies of labour' (from theoretical deduction) were developed into the theme 'spatial misogyny'. The other themes were developed similarly.

Findings

Through the process described above, the following themes were identified:

- i. *Spatial misogyny and intimacies of labour*
- ii. *WiT and professional structures*
- iii. *Meaningful contact*

First, participants spoke of the culture of masculine ideology prevalent in the professional space of tech cities. Second, they talked of women's roles and the term 'women in tech', and ways to create more authentic narratives. The final theme focuses on opportunities to enact change and to mentor and guide other women professionals as 'meaningful contact'.

i. *Spatial misogyny and intimacies of labour*

All the women in the study were quick to identify gendered boundaries that defined the professional spaces of tech cities. Jennifer (CEO, online retail, London) shared her experience of 'authoritative', 'overbearing' and 'unnecessarily aggressive' male behaviour:

I recently went through a significant salary negotiation ... The experience I had was bloody awful. After I'd been offered the job, I was *put in front of the all-male board and really talked down to*. The finance director stated how 'shocked' he was by my 'attitude' [and thought] *I should work for less*. (My emphasis)

Gendered boundaries are clearly in play here, revealed by the masculine show of power against Jennifer's 'attitude' in the same space.. The spatial dimension is significant, in Jennifer's efforts to occupy her senior position in the same way as her male colleagues, and to identify how distancing by senior men is used to subordinate women (see emphasis above). In effect, in her attempts to cross a boundary to negotiate better salary terms she is constrained by masculine expectations about her place and worth. Other

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3 interviewees discussed ways to manage problematic and antagonistic male behaviour.
4 Elizabeth (director, games company, California) deliberately took on masculine traits –
5 including changing how she dressed – so that she could work within masculine
6 expectations: ‘when you get high up enough, you become one of the boys ... that’s
7 opened up more doors than any programme aimed at up-skilling young girls.’ Elizabeth’s
8 membership of the ‘boys club’ acts to equalise her status and allows her to reshape how
9 she is seen. While equalising, Elizabeth method relies on her working within masculine-
10 defined categorisation, possibly at the expense of opportunities to join more-equal
11 initiatives. While this method may not be typical, it demonstrates intensified forms of
12 gendered labour and ‘feminine’ ways of working (McDowell, 2018; Richardson, 2018).
13 Both Elizabeth and Jennifer’s experiences deal with gendered boundaries concerning
14 how behaviour is configured to a particular place, e.g. a boardroom or members club. As
15 their accounts show, these women professionals find ways to reshape themselves to align
16 with masculine culture, and with male norms (Rydzik and Ellis-Vowles, 2018). All this
17 serves as a way to cross gendered boundaries and situate themselves in a position of
18 strength.
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32 The alignment to a distinct masculine culture was a significant issue for Andrea
33 (CEO, New York), who, like Elizabeth, also described herself as ‘one of the boys’ and
34 observed ‘you get further faster with balls’, identifying with the sense of technical
35 prowess noted in Wajcman’s (1991) work. Thus, one kind of boundary-crossing entails
36 women changing how they present themselves in order to be allowed into and accepted
37 by privileged masculine spaces. Christina (senior partner, fintech company, California)
38 coined the term ‘man-zoning’ to describe feeling separated from men’s networks and
39 professional status: ‘sexism is tolerated as part of the culture ... you are the token woman
40 [and] exist just to be conspicuous in a man’s world’. Here, high-tech workspaces pivot
41 around instability in a way that prevents women from being seen as equal professionals
42 likely to achieve success (Gregg, 2011; Vershina *et al.*, 2019). Boundaries here include
43 both physical workspaces, and the visibility and presence of women in post-work spaces.
44 Indeed, Richardson considers the importance of post-work spaces ‘to feel the
45 possibilities of being “at” work’ (2018: 248), and in such situations these post-work
46 spaces have created opportunities for women to reshape and negotiate their roles.
47 However, the male-dominated members’ clubs and elite boards form part of the same
48 post-work spaces, inviting their own performance of work in tech cities. On being
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3 invited to share spaces with men, participants felt they were perceived in terms of gender
4 rather than professional status (Hirst and Schwabenland, 2017). This leads us on to
5 boundaries around professional structures.
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10 *ii. WiT professional structures*

11 The prevalence of the label ‘women in tech’ (WiT) was much discussed. Participants
12 articulated how the label produces another boundary within which women feel
13 constrained. Megan (CEO, online fitness brand, California) explained:
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18 being labelled a ‘woman in tech’ means that you end up with a *narrowed view of*
19 *what you do* and *what you can do* ... this label brings a whole range of issues that you
20 can see quite clearly (if you are woman). (My emphasis)
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25 Megan’s discussion reveals how *restricting* the WiT label is on her ability to communicate
26 her professional experience. The WiT shorthand amplifies her and others’ sense of a
27 male-dominated paradigm, the ‘strait-jacket of male-stream career frameworks’ (Mavin,
28 2001: 191), making it difficult to be vocal about alternative representation. As a result,
29 the WiT label is used as a means of (supposedly) acknowledging women’s role in the
30 sector. Drawing on such gendered terms indicates an important separation in the
31 conditions of use: as a means both of becoming more noticed (Rydzik and Ellis-Vowles,
32 2018) and of reinforcing gender stereotypes (Dodge *et al.*, 2011). Courtney (CEO, fintech
33 company, California) highlights derogatory language associated with the label, while
34 questioning men’s accountability:
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44 It’s wrong to keep asking women to address the issue on their own – why, can’t
45 men do this too? Or aren’t men ready? It sends totally the wrong message. I have
46 a major concern over women being called ‘girls’ in this industry.
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51 Kerr and Kelleher, studying women game community managers, note similar use of
52 language ‘to *create hierarchies* ... occupational roles that become known as “women’s
53 work” or “non-technical work”’ (2015: 180, my emphasis). Recent studies highlight the
54 increasing precariousness faced by women in the digital industry (Gill and Pratt, 2008,
55 McRobbie, 2010), and a range of practices and attributes that exclude women from
56 certain roles (Dodge *et al.*, 2011). In later interviews, participants described feeling further
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3 marginalised by the continued pervasiveness of the term WiT, and the attributes women
4 are expected to accept, conform to and operate within. In this way, the participants
5 experienced very limited ways in which they could express their competencies and be
6 successful. Mary (CEO, games company, California) felt ‘singled out just because I
7 happen to be a woman’. Julie (director, online gambling platform, London) described
8 feeling ‘downtrodden’ and ‘disappointed’ by the ‘conditions of the tech world’. Bronwen,
9 with ten years’ experience as a CEO and four as an angel investor, felt ‘forced to act’:

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17 I am invited to act as the woman in the room ... invited to talk at industry
18 conventions in places that I feel have no gender-neutral rights ... typically some
19 fucked up shit happens to you as a woman in this place ... This is a messed up,
20 unsafe, unjust place and it really upsets me that I’m expected to keep working in
21 this space over and over.

26
27 Bronwen’s being forced to act recalls Butler’s model of performativity: ‘the act that one
28 performs, is, in a sense, an act that has been going on before one arrived on the scene’
29 (2006: 160). Thus, WiT, more than a label, works as a cultural trope under which women
30 may enter and occupy tech spaces only if they take on the expected performative gender
31 acts within it. Indeed, a further distinct boundary is how women are designated as gender
32 equality problem-solvers and ‘forced to be the solution ... simply because I am a woman’
33 (Angela), where the focus was on ‘erasing difference ... rather than neutralising the
34 misogyny’ (Sara, manager, digital audio company, California). Monica (CEO, influencers
35 agency, New York) recalled a woman-only networking event:

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44 Samsung sponsored the event and everything was about the lack of diversity ...
45 not focusing on what we’re good at, or promoting commercial assets, we sit in a
46 room and [talk about] what we don’t have ... our male counterparts aren’t sat at
47 networking events worrying what women are up to.

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53 As a strategy around such restrictions, a couple of participants spoke about finding
54 opportunities to relocate some of their professional work outside tech cities – in effect
55 escaping the ‘regressive’ structures (Banks and Milestone, 2011: 73).

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59 *iii. Meaningful contact*

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5 This theme emerged from participants talking about how to ‘remedy’ masculine tech
6 culture and, in doing so, ‘escape from the discrimination that prevents *meaningful* contact’
7 (Sara, her emphasis). Efforts towards gender equity were ostensibly taking place beyond
8 workplace boundaries, while being framed as coming under the umbrella of company
9 efforts. Participants noted the ‘lack of support for women’ (Angela) at different levels of
10 their career, and lack of cohesiveness from large organisations (Microsoft, Google,
11 Apple, HP, Dell) concerning the promotion of diversity training and women-only events.
12 Jamie (director, games company, California) considered such ‘solutions’ a ‘PR exercise
13 [and] not a commitment to change’. The events are further evidence of the
14 seperatedness in tech cities, where women are burdened with taking any policies or
15 actions back into professional spaces. Thus, there is little integrated effort to make
16 headway on making things better for women.
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27 The most salient efforts to overcome negative attitudes were made in isolated spaces
28 created by women themselves. One participant felt ‘threatened’ as a woman and attended
29 women-only tech events to ‘feel equal’ (Megan). In this way, such events enable
30 important distancing from misogyny, in turn allowing opportunities to ‘send a positive
31 message to other women’ (Erica, director, digital ad agency, London). Indeed, solutions
32 identified from within such spaces had started to form a significant part of leadership
33 roles. Christine (director, digital sales company, California), for example, stated she had
34 ‘only ever hired women’. However, any empowerment the women felt simply reflects
35 their changing what they did within their own circle of power. Moreover, relying on
36 such spaces unhelpfully reinforces the context of difference (Richardson, 2018) and
37 gender separation (Grint and Gill, 1995; Landström, 2007), and serves to legitimise the
38 seperateness of masculine tech culture.
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49 **Discussion: Placing tech cities**

50 To sharpen the edge of the spatial analysis of tech cities requires renewed engagement
51 with the social constructs of tech culture and boundaries of professional conduct. The
52 findings here show how sharply women professionals working in tech cities feel
53 divisions. The popularity of and investment in tech clusters and, thus, creation of new
54 tech cities should give a sense of urgency to the need to focus on the forms of
55 professional experience, lack of diversity and barriers identified above. Furthermore,
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Landström (2007) demonstrates the need to strengthen this path of investigation beyond gender as a lone issue. While the WiT label is well-known and participants each had strong views of the ways in which it could be confining, a more sustained examination of career progression in tech environments is needed to understand the fixedness of categorisation and stereotypes (Ferm, 2017). Further research could enrich the present conclusions by including women's and men's voices and considering different types of tech cities, including those in less-developed economies (Oinas, 2017). Consideration of evidence on what conditions facilitate meaningful, positive, sustained contact would contribute to an understanding of practical ways to overcome the challenges identified.

Conclusion: A new micro-context for tech culture

The experiences above raise important questions about the pervasiveness of the male culture that exists within tech cities, and the dynamics of tech environments more widely. Understanding the intimacies of labour, workplace structures and enduring configurations of gender discrimination entails recentring – both of theoretical frameworks and in designing new approaches to achieving meaningful contact. I would underscore the significance of the role of micro-spaces within the tech cities. These are spaces where masculinity appears to be stronger – the board, the clubs and the practice of 'man-zoning'. Such spaces are not only discursively created, but tie in to the physical spaces in which women professionals who enter feel conspicuous and reshape themselves to act as a signal to others. Developing policies and practices to enable diversity requires careful attention to the relationships between physical place and professional practices in tech cities.

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Table 1. Participant characteristics

| | <i>N (%)</i> |
|--|--------------|
| <hr/> | |
| <i>Marital status</i> | |
| Single | 14 (28) |
| In a relationship | 12 (24) |
| Married | 24 (48) |
| <i>Education</i> | |
| Educated to degree level | 49 (98) |
| Had taken time off/career break for family reasons | 37 (74) |
| At least one child aged 0–12 | 42 (84) |
| <i>Location</i> | |
| Silicon Alley, NY | 11 (22) |
| Silicon Roundabout, LDN | 18 (36) |
| Silicon Valley, CA | 21 (42) |

Table 2: Example of coding

| First order-themes | Second order themes | Summary responses |
|-------------------------|--|--|
| Privacy & boundaries | <ul style="list-style-type: none"> ▪ Encoding space ▪ Control ▪ Interaction | 'I don't feel safe all the time', 'aggressive and intimidating', 'I feel have no gender-neutral rights', 'This is a messed up, unsafe, unjust place and it really upsets me' |
| Presencing & visibility | <ul style="list-style-type: none"> ▪ Intimacies of labour ▪ Women as tech professionals | 'feeling captive', 'I have to be seen there' |
| Play & disruption | <ul style="list-style-type: none"> ▪ Macho culture ▪ Credibility | 'frat boys', 'boys and toys', 'being lads', 'playing, playing, playing', 'combat competition', 'one of the boys' |
| Personality & emotions | <ul style="list-style-type: none"> ▪ Heteronormativity ▪ Women's roles ▪ Language/terminology | 'you can see and hear the aggression', 'too much over-sharing', 'my attitude', 'ready for a fight' |
| Gender in place | <ul style="list-style-type: none"> ▪ Professional structures ▪ Role models | 'very narrow view of what you do and what you can do', 'major concern over women being called "girls"' |