



UNIVERSIDADE
CATÓLICA
PORTUGUESA

EXPLORING GENDER BIASES IN INFORMATION AND
COMMUNICATION TECHNOLOGIES:
AN ANALYSIS OF WOMEN'S EXPERIENCES IN THE TECH
INDUSTRY

Dissertation submitted to Universidade Católica Portuguesa to
obtain a Master's Degree in Communication Studies, with a
specialisation in Internet and New Media

By

Joanna da Cunha Boavida Cawley

Faculdade de Ciências Humanas

September 2020



UNIVERSIDADE
CATÓLICA
PORTUGUESA

EXPLORING GENDER BIASES IN INFORMATION AND COMMUNICATION
TECHNOLOGIES:
AN ANALYSIS OF WOMEN'S EXPERIENCES IN THE TECH INDUSTRY

Dissertation submitted to Universidade Católica Portuguesa to obtain a
Master's Degree in Communication Studies, with a specialisation in
Internet and New Media

By

Joanna da Cunha Boavida Cawley

Faculdade de Ciências Humanas

Under the supervision of Professor Cátia Ferreira

September 2020

Abstract

Over recent decades, the use of information and communication technologies (ICTs) has increased dramatically. The potential benefits of ICT use on women's socio-economic, psychological and political empowerment has been outlined by several authors. However, the growing importance of ICTs is characterised by a substantial gender imbalance in the creation of technological products and services. The technology industry continues to be male-dominated, with women under-represented at all levels in the sector. This study analyses research questions involving the potential empowerment of women via their use of ICTs and their representation in the technology sector. The empirical work examines the experiences of eight women working in the technology industry in Europe and the United States. Data was collected using semi-structured interviews, and via qualitative analysis, significant themes were identified. Eleven themes emerged, and results showed a number of facilitators and barriers to job satisfaction, well-being, career advancement, and empowerment. Although many of the findings support existing literature on gender, technology, ICTs, empowerment, and the workplace, the objective of this research was not to generalise findings, but rather to give voice to women working in the tech sector with the aim of understanding their needs and what they believe is important to create positive, equitable, and sustainable changes to the industry which benefit all employees, regardless of gender identity. Additionally, this thesis identifies important themes for further investigation by researchers, as well as significant implications for companies and managers.

Keywords: women in tech, information and communication technologies, networks, empowerment, tech industry

Resumo

Nas últimas décadas, assistiu-se a um aumento drástico do recurso às tecnologias da informação e comunicação (TIC). Diversos autores têm salientado os benefícios potenciais do uso das TIC para o empoderamento das mulheres tanto a nível socioeconómico, como psicológico e político. No entanto, a importância crescente das TIC tem sido marcada por um enorme desequilíbrio de género na criação de produtos e serviços tecnológicos. O sector tecnológico continua a ser predominantemente masculino, estando as mulheres sub-representadas a todos os níveis. Este estudo analisa uma série de questões de investigação relativas ao potencial empoderamento das mulheres através da sua representação no sector tecnológico e da utilização que fazem das TIC. O trabalho empírico examina as experiências de oito mulheres que trabalham no sector tecnológico, tanto na Europa como nos Estados Unidos. Para a recolha de dados recorreu-se a entrevistas semi-estruturadas e, através de uma análise qualitativa, foram identificados onze temas relevantes. Os resultados revelaram uma série de facilitadores e obstáculos tanto no que diz respeito à satisfação no trabalho, como ao bem-estar, progressão na carreira e empoderamento. Apesar de muitas das conclusões irem ao encontro da literatura existente sobre género, tecnologia, TIC, empoderamento e local de trabalho, o objetivo deste estudo não foi de chegar a conclusões generalizadas, mas sim dar voz às mulheres que trabalham no sector tecnológico a fim de compreender as suas necessidades e aquilo que elas acreditam ser importante para gerar mudanças positivas, equitativas e sustentáveis no sector que beneficiem todos os trabalhadores, independentemente da sua identidade de género. Para além disso, esta tese identifica temas importantes para investigação futura, bem como implicações significativas para as empresas e gestores.

Palavras-chave: mulheres no sector tecnológico, tecnologias da informação e comunicação, redes, empoderamento, sector tecnológico

Acknowledgements

My sincerest gratitude to the women who participated in this study, whose contributions made this research possible. Thank you for taking time out of your day to share your experiences with me, but more importantly, thank you for empowering me and teaching me the importance of recognising our value and not being afraid to ask for what we believe we deserve. I truly hope that others that read this will learn and gain as much from your stories as I have.

A big thank you to my supervisor, Professor Cátia Ferreira, for her guidance.

To my mother who helped correct my Portuguese, obrigada. To my father, thank you for helping proof-read my work, and who can finally stop asking me if I've finished my thesis. It's done now, please stop.

This thesis arose from my own experiences of working in the tech industry and from my own little network of amazing and inspirational women that provided a safe space in a place where I often felt undervalued, thank you to all the women that have supported me throughout my life.

My participants showed me the importance of acknowledging your own achievements and accomplishments, and “shouting these from the rooftops”. So lastly, I'd like to acknowledge myself for completing this thesis, in the words of Schmidt, from the sit-com *New Girl* (Season 1, Episode 19), “*Can we just take a moment to celebrate me.*”

Table of Contents

Introduction	1
PART I – THEORETICAL FRAMEWORK	7
Chapter 1 – The Age of Networks: A Networked Society	8
1.1 Communication in the Digital Age: The Rise of Mass Self-Communication	11
1.2 The Social Network: A Closer Look at Social Media	14
1.3 Chapter Conclusion	19
Chapter 2 – Information & Communication Technologies as a Source of Empowerment	20
2.1 Understanding Power	21
2.2 Empowerment as a Dynamic Process	23
2.3 Women’s Empowerment and the Role of Information & Communication Technologies	26
2.4 Collective Action as an Agent of Empowerment	30
2.4.1 Case Study: The Impact of #MeToo	34
2.5 Chapter Conclusion	39
Chapter 3 – How Digital and Media Content Affects our Attitudes, Beliefs, and Views	41
3.1 Content Matters: Gender, Power, and Visibility	43
3.2 Changing Content and Choice: An Opportunity for Change	48
3.3 Producing More Representative Content: Netflix Case Study	51
3.3.1 <i>Someone Great: A Love Story Dedicated to Women Choosing Themselves</i>	53
3.3.2 <i>Always Be My Maybe: The Romantic Comedy the Internet Willed Into Existence</i>	54
3.4 Chapter Conclusion	55
Chapter 4 – Shaping the Future: Women’s Experiences in the Tech Industry	57
4.1 Shaping the Future: Reflections of Gender Biases in Technology	58
4.2 Exploring the Gender Gap in Tech Companies: Why Are There Not More Women?	60
4.3 It’s a Man’s World: The Side Effects of Working in a Male-Dominated Industry	63
4.4 Chapter Conclusion	66
PART II – EMPIRICAL STUDY	68
Chapter 5 – The Current Research	69
5.1 Methodology	70
5.2 Results	73
Chapter 6 – Discussion	88
6.1 Limitations	92
6.2 Directions for Future Research	94
Conclusion	97
Bibliography	100
Appendix A – Concept Cards	122
Appendix B – Concept Card Definitions	183
Appendix C – Concept Card Memos	187

Index of Tables:

Table 1: Types of networks9

Table 2: The 6 types of social media applications16

Table 3: Classification of social media by social presence/media richness & self-presentation/self-disclosure16

Table 4: 7 main findings on the potential benefits of women’s use of ICTs29

Index of Figures:

Figure 1: The 7 major functionalities of social media18

Figure 2: A schematic of women’s empowerment as a process24

Figure 3: Usage of the #MeToo hashtag on Twitter from September 2017 to September 201835

Figure 4: Employees who have experienced micro-aggressions during the normal course of business (%)64

Index of Models:

Model 1: Conceptualisation of the female experience working in the tech industry73

Introduction

“The history of technology still represents the prototype inventor as male” (Wajcman, 2006: 8)

The technology (tech) industry¹ is expanding dramatically. However, women continue to be under-represented at all levels in the sector, in Europe and globally (European Commission, 2019). Hence, the growing importance of information and communication technologies (ICTs) is characterised by a substantial gender imbalance. The history of gender and technology is complex. Ada Lovelace, a British mathematician and writer, who has now been credited with being the first “computer programmer”, provides an early example of the challenges women have faced in technological ventures (McGee, 2018). Known for her work on mathematician, Charles Babbage’s Analytical Engine in the 1800s, Lovelace saw the potential of a machine that performed basic mathematical functions and was the first to fundamentally conceptualise computer programming, as well as the first to write what is often considered the first computer program in history, thereby separating the science of mathematics from the science of computing (Morais, 2013; Thompson, 2019). However, years later, as people began to realise the significance of computer programming, male scholars attempted to discredit Lovelace and undermine her contribution to technology in an attempt to reclaim computer science as a male activity:

“As people realized how important computer programming was, there was a greater backlash and an attempt to reclaim it as a male activity. In order to keep that wealth and power in a man’s hands, there’s a backlash to try to redefine it as something a woman didn’t do, and shouldn’t do, and couldn’t do.” (Morais, 2013)

Science and technology have often historically been seen as all-masculine and high-status fields, with femininity seen as incompatible with technological pursuits (i.e., women being perceived as technologically incapable) (Rossiter, 1982; Wajcman, 2006). As a result, women have had a complex historical relationship with science and technology, including limited participation, marginalisation, and exclusion from the high-status fields of science, technology, engineering, and mathematics (STEM) (Harding, 1986; Noble, 1992). Moreover, women’s contributions to, and accomplishments in technology throughout

¹ A sector that: “contains businesses revolving around the manufacturing of electronics, creation of software, computers or products and services relating to information technology” [As defined by Investopedia: https://www.investopedia.com/terms/t/technology_sector.asp]

history have often been erased, over-looked, or appropriated by men, as illustrated by the case of Ada Lovelace (Rossiter, 1982; Wajcman, 2006).

Oldenziel (1999) and Abbate (2012) write about the untold history of women's contribution to the areas of engineering, science, and technology, as well as their erasure from history and their marginalisation. For example, in the 1950s, before the creation of machines known as 'computers', women were employed to carry out complex calculations and were referred to as "computers". Furthermore, in the early days of computing, women were employed as programmers, and made up the majority of that particular workforce. However, as the status of technology and computer science began to be recognised, it became viewed increasingly as a male activity where women were physically and socially excluded from the 'boy's club'. Thus, throughout history, women's contributions to STEM have often been discredited, undermined, or swept under the rug. While diverse voices have always contributed to technological developments, their participation frequently fails to gain public recognition and is erased from historical records. As a result, historical narratives about digital machines and their development tend to be linked to white, well-educated men in the fields of science and technology (Millar, 1998; Wajcman, 2010).

Why is this important? Not only does the above demonstrate the historical discrimination, but, the result is a "*culture of digitality that is presumed to be gendered male*" (Davis, 2019: 133). A theoretical view from a techno-feminism perspective posits that gender and technology are mutually shaped, where technology is conceived as both a source and a consequence of gender relations (Wajcman, 2007). Accordingly, technological innovation itself is shaped by the social circumstances within which it takes place. Feminist researcher and author, Cynthia Cockburn (1985) posited that men's traditional monopoly of technology resulted in technology designed and produced by men, with men in mind. Accordingly, other socialist feminist analyses viewed masculinity as embedded in technology itself, arguing that technology reflects gender divisions and inequalities as gender is integrated into the technology itself (e.g., Wajcman 1991). As stated by Wajcman (2007: 290): "*Technology was seen as socially shaped, but shaped by men to the exclusion of women*". Thus, not only is the field of technology masculine, so is the technology itself which carries important implications.

There has been recent interesting research on gendered technology² and its consequences, especially in the area of artificial intelligence (AI). Experts have defined AI as a computerised system that understands, learns, and performs actions seen as requiring human intelligence, or a system designed for understanding and analysing data, complex problem-solving, and taking action when encountering the real-world situations for which it was created (Russell & Norvig, 2010). Although there are many potential benefits to AI, unfortunately, it is not truly objective (Buolamwini & Gebru, 2018). The quality of AI depends on how well its creators program the software. Consequently, AI may inherit biases from its creators if they are unintentionally written into the AI's code, or if biases are learnt following its inception. For example, researchers from Boston University and Microsoft showed that software trained on text collected from Google News exhibited gender stereotypes to a disconcerting extent (Bolukbasi et al., 2016). Other studies have also found severe gender biases in AI algorithms, including in face-analysis software, and hiring tools. Amazon, for example, spent years attempting to create an AI hiring tool whose function was to review applicant resumes and recommend the top candidates (Dastin, 2018). To train the system, Amazon used past resumes from people who had applied for jobs at Amazon. However, as the tech industry is male-dominated, most of the resumes came from men. They found that the algorithm favoured male applicants over women, and eventually started to downgrade resumes from women, even favouring ones with more "masculine" words. Amazon was eventually forced to stop the project as the AI was unable to "unlearn" its gender bias. Thus, algorithms can make decisions that perpetuate existing biases in society which may in turn exacerbate existing inequalities in society. As stated by Alexandria Ocasio-Cortez, a politician and activist, during an interview in 2019:

"[Algorithms] always have these inequities that get translated because algorithms are still made by human beings, and those algorithms are still pegged to basic human assumptions. They're just automated assumptions. If you don't fix the bias, then you are just automating the bias." (Resnick, 2019)

The Internet can be a vital tool for female empowerment, and create spaces where women can express themselves, find support, learn, network and ultimately, enhance their lives

² i.e., the association of a technology primarily with one sex (Chandler & Munday, 2011)

(Buskens & Webb, 2009). Cyber-feminists³ now view ICTs as having the potential to empower and liberate women, and transform gender relations. For example, Wajcman (2006: 12) argued that digital technologies have the potential to change gender dynamics and break down gender inequalities, by enabling women to access: “*unprecedented economic opportunities, technical skills, and cultural powers*”. Plant (1998) viewed the Internet and cyberspace⁴ as feminine media, where women, rather than men, are uniquely suited to it. Stereotypical characteristics associated with women, such as flexibility, adaptability, and communication skills are more suited for navigating life in a digital era than traditionally masculine associated characteristics. For instance, the widespread use of the mobile phone for texting and maintaining social ties was an unexpected side effect, unanticipated by the original designers. Innovative female users used the mobile phone to popularise texting, establishing, and consequently changing the original function of the mobile phone conceived by the designers (Fischer, 1992). Research comparing how men and women use the Internet found that women have adapted better to using mediated communication technologies than men (Kimbrough et al., 2013). Women tend to use ICTs for interpersonal communication, whereas men tend to use it more for reading the news and playing games. Although originally technology was primarily designed by men and more suited for male use, the increasingly communal nature of ICTs may be advantageous for women, as it seems to be more suited to stereotypical female gender roles (Wajcman, 2006).

The demonstrated biases existing in AI illustrate the importance of the inclusion of women in the design and production of technologies to ensure a “de-masculinisation” of technology. Increasing the representation of women at all levels in the tech sector is one way to reduce biases in the creation of new and existing products and services, including in AI, thus building tech to more accurately reflect a diverse and inclusive society. Furthermore, increasing diversity brings different perspectives, new ideas, and creativity to the work environment (Dallaway, 2016). Women and men tend to approach problems from

³ Cyber-feminism is the term used to describe feminist work examining the intersection between gender, cyberspace, the Internet, and technology (Consalvo, 2012)

⁴ Cyberspace is defined as the “*world and domains generated by digital information and communications technologies*” (Nayar, 2010: 186)

a different perspective, as a result of differences in upbringing and socialisation, which can lead to greater innovation and the development of stronger and better ideas, as well as safer and more accessible software and tech (Slaughter & Weingarten, 2016; Pifer, 2017; Criado-Perez, 2019). Therefore it is important to understand the power of ICTs and new technologies in shaping society, and moreover, to better understand how women experience the tech sector as these may be key to transforming uneven gender dynamics and developing a more equitable and sustainable society.

The Current Research.

This thesis aims to shed light on the experiences and needs of women working in the tech industry to further contribute to existing literature on gender, empowerment, and ICTs. Moreover, this research endeavours to provide an insight into how existing organisational policies, practises, and power structures in the tech industry may be biased and how these may work against employees, regardless of gender identity. It does this by drawing on existing theoretical literature and case studies exploring relevant aspects of information technology, communications, new media, society, and the workplace, as well as drawing from the empirical materials presented in this study based on semi-structured interviews with women in the tech sector, working across a variety of technical and non-technical roles.

The theoretical framework (*Part I*) seeks to provide a contextualisation for the empirical work (*Part II*). Chapter 1 begins by delving into the concept of the ‘network society’ and looks at the evolution of ICT use and how these have changed the nature of traditional social networks, leading to the development of new social structures and communication patterns. Chapter 2 explores the concepts of empowerment and power through a feminist lens, delving further into ICTs as a tool for women’s empowerment with the potential to transform gender dynamics and break down gender inequalities. The #MeToo movement is used as a relevant case study of the relationship and impact of digital networks to collectively amplify women’s voices and power. Chapter 3 examines how digital and media content affects our attitudes, beliefs, and ideas, and how these can reproduce and disseminate damaging stereotypes and inequalities that exist in society. Chapter 4 focuses on the workplace, specifically in the tech sector, and how gender biases and power

dynamics embedded within the industry may affect the experiences and career progression of women working in the tech sector.

The empirical work focuses on understanding the subjective realities and experiences of women working in the tech industry in Europe and the United States (US). The core questions guiding this research are the following:

- (1) What are women's experiences of working in the tech industry, and are there common themes that emerge?
- (2a) Do women perceive technology to be empowering?
- (2b) Do women consider the tech industry as having the potential to be an empowering space for women?

As a non-dominant group in society, academic research, and also the technological workforce, the aim of this thesis was to focus on and highlight women's voices and experiences. Existing research and statistics on the technology industry often focuses on comparison⁵, which although important can sometimes gloss over the subjective realities that result in these differences between men and women working in the sector. It is equally important to listen directly to women's experiences to truly understand their journey through the industry, their wants and needs, and the unique challenges they face. Although uneven power structures and dynamics also negatively impact men, it is important to give a voice to women and listen to what they are experiencing and asking for, as these also help to understand how uneven power dynamics impact everyone, including men, as supported by this thesis. Only by listening to and analysing the views of those working in the tech industry, especially to non-dominant voices, can organisations fully understand how to implement realistic, equitable, and sustainable change, which in turn can lead to more innovative, accessible, and empowering ICT products and services.

⁵ e.g., women in science, engineering and technology are 45% more likely to leave within the first year than men (Next Generation, 2018)

PART I – THEORETICAL FRAMEWORK

Chapter 1 – The Age of Networks: A Networked Society

“With little exaggeration, we may call the 21st century the age of networks. Networks are becoming the nervous system of our society, and we can expect this infrastructure to have more influence on our entire social and personal lives than did the construction of roads for the transportation of goods and people in the past.” (van Dijk, 2006: 2)

Since the beginning of humanity, human beings have established social networks, which form the foundation of our society. In the last fifty years, society has transformed drastically, largely due to the evolution of the Internet and information and communication technologies (ICTs) (Cardoso, 2006). The development of the Internet and ICTs has influenced human social networks, changing the nature of traditional social networks. Aided by technology, social networks have extended from simple family ties and friendships, to a complex and vast network of connections that include not only acquaintances, but additionally, total strangers. Due to these fundamental changes in society, sociologist Manuel Castells states that we are living in a ‘network society’, which he defines as *“a society whose social structure is made of networks powered by microelectronics-based information and communication technologies”* (Castells, 2004: 3). The network society is characterised by a change in its form of social organisation made possible by the evolution of information technologies. The term network society represents various different phenomena related to the social, political, economic and cultural changes caused by the spread of networked, digital ICTs. Accordingly, this has led to the development of new social structures, organisation, and forms of power.

In his book *The Network Society*, van Dijk (2004) breaks down the concept of networks, specifying different types of networks in nature and society (see *Table 1*). Networks are a mode of organisation of complex systems in nature and society. A network can be defined as *“a collection of links between elements of a unit”*, where the elements are called nodes, units are often referred to as systems, and a single link between two elements is known as a relationship (van Dijk, 2006: 24). Alternatively, Castells defined networks as *“a set of interconnected nodes”* (2009: 19). Thus, in social networks, which van Dijk defines as *“social systems with concrete ties in abstract relationships”* (2004: 25), elements are social agents such as individuals, groups and organisations, and the links are formed by communicative action. For example, a person’s social network demonstrates the ways in

which an individual is connected to others through various social familiarities, ranging from casual acquaintance to close familial bonds.

Physical networks	Natural systems of higher complexity: ecosystems, river networks
Organic networks	Organisms: nervous system, blood circulation, strings of DNA in cells
Neuronal networks	Mental systems: neuronal connections, mental maps
Social networks	Social systems with concrete ties in abstract relationships
Technical networks	Technical systems: roads, distribution networks, telecommunication and computer networks etc.
Media networks	Media systems connecting senders and receivers and filled with symbols and information

Table 1: Types of networks
Source: Van Dijk (2004: 25)

With the evolution of the Internet and ICTs, social networks have been influenced by technical and media systems, changing the nature of traditional social networks. Together, social, technical, and media networks form the infrastructure of the network society. For van Dijk (2012), the network society is a form of society where relationships are increasingly being organised within computer-mediated networks, which he defines as:

“A modern type of society with an infrastructure of social and media networks that characterises its mode of organisation at every level: individuals, group/organisational, and societal. Increasingly, these networks link every unit or part of this society (individuals, group, and organisations).” (van Dijk, 2012: 24)

In our modern society, communication is now marked by a pervasive use of Internet-based new media, mobile phones, and a variety of other communication tools. As stated by Castells: *“Our society, the network society, is constructed around personal and organisational networks powered by digital networks and communicated by the Internet and other computer networks”* (2009: 27). The network society builds upon a global web of communication networks, enabling a new realm of communication. In the network society, face-to-face communication remains the most important kind of communication. However, face-to-face communication is being partly replaced, as well as supplemented by media and technical networks (van Dijk, 2004). Information and communication technologies have the power to expand social experiences in a way that enables people to access more geographically distant communities than face-to-face relationships alone. The Internet and social media allow communication among family, friends, co-workers, and even strangers across great spatial and cultural distances, breaking down the traditional barriers between public and private spheres (Gardner & Davis, 2013). As a result, these

networks are global and know no boundaries; online social networks are able to expand beyond traditional social networks, by both reinforcing an individual's existing networks and increasing the possibility of communication with others globally (Castells, 2013). According to Castells (2013) there has been a shift towards the reconstruction of digital social relationships, where individuals develop strong online cultural and personal ties, that is, what could be considered web-based communities, on the basis of individual interests, values, and projects. These web-based communities are an important new form of sociability called 'networked individualism'.

In their book, *Networked: The New Social Operating System*, Rainie and Wellman (2012: 12) defined a new form of sociability termed 'networked individualism', a new social structure and culture based on network technologies, which describes the increasing importance of personal networks:

"Many meet their social, emotional, and economic needs by tapping into sparsely knit networks of diverse associates rather than relying on tight connections to a relatively small number of core associates. [...] Networked individuals have partial membership in multiple networks and rely less on permanent memberships in settled groups."

This new form of sociability arose due to the evolution and widespread use of digital ICTs. The authors elaborate on how the Social Network, Internet, and Mobile Revolutions shifted people's social lives away from more tight-knit, face-to-face relationships, towards more diverse personal networks, resulting in networked individualism. Firstly, the Social Network Revolution enabled people to reach beyond their physical world networks, providing people with the opportunity to produce digital networks and create more diverse relationships. Secondly, the Internet Revolution gave people greater "*communication and information-gathering capacities*", as well as allowing individuals to become their own content producers and publishers, further enabling new methods of social networking and allowing people to create their own tailored internet experiences (Rainie & Wellman, 2012: 11). Finally, the Mobile Revolution allowed people to access friends, networks, and information at all times, wherever they go, where physical separation by time and space are no longer as important. These three revolutions have made networked individualism possible, where people can create personalised, self-tailored, extended digital networks:

"Moving among relationships and milieus, networked individuals can fashion their own complex identities depending on their passions, beliefs, lifestyles, professional

associations, work interests, hobbies, or any number of other personal characteristics.” (Rainie & Wellman, 2012: 15)

These web-based communities are an important new form of sociability. The evolution of mobile phones and the Internet have changed the way people interact with each other, offering individuals the opportunity to meet their social needs. Networked individuals have partial membership in multiple networks, rather than permanent memberships in settled groups. Thus, individuals can create communities around themselves and their interests, either online, through personal connections, or a combination of these. These personal online networks can serve a variety of functions, for example; being a valuable tool and resource for working professionals across industries. A study seeking to understand how software developers used digital networks to support their development activities found that social media helped developers keep up with the fast-paced development landscape (Singer, Filho, & Storey, 2014). Developers frequently used social media as a valuable resource to help them stay aware of industry changes, including remaining aware of software engineering tools and practices, as well as for learning new skills and information, and for building and maintaining relationships with other developers. Thus, access to these networked communities can be a beneficial resource in both personal and professional arenas.

1.1 Communication in the Digital Age: The Rise of Mass Self-Communication

“The diffusion of Internet, mobile communication, digital media, and a variety of tools of social software have prompted the development of horizontal networks of interactive communication that connect local and global in chosen time.” (Castells, 2007: 246)

With the convergence of the Internet and mobile communications, the communication power of the Internet is being distributed in all realms of social life, creating increasingly networked communities, that is, the ‘network society’. In his book, *Communication Power*, Castells (2009) theorises about the transformation of communication in the digital age. According to Castells, there are three forms of communication; interpersonal (or face-to-face communication), mass, and mass self-communication, which all coexist, interact, and complement each other. However, Castells argues that the most important change in communication in the last few years has been the shift from mass communication which is based on mass media, to a new form of socialised communication; mass self-

communication which is based on the Internet. Mass self-communication is characterised by the following three attributes (Castells, 2007):

- It is mass communication as it has the potential to reach a global audience through the Internet and peer-to-peer networks.
- It is multimodal, because the digitisation of content and advanced social software allows the circulation and reformatting of almost any content in almost any form (which is being increasingly distributed via wireless networks).
- It is considered “self-communication” as it is self-generated in content, self-directed in emission, and self-selected in reception by many that communicate with many.

As explored in the previous section, there has been a growing tendency towards networked individualism with the evolution and widespread use of digital ICTs, which focuses on the importance of individual networked and web-based communities. From the history of technology, we know that people adopt, use, and modify new technologies in ways which fit their needs and desires (Castells, 2013). In this digital age, people have appropriated new forms of communication to build their own systems of mass communication, whether via social media, text messages, blogs, vlogs, and podcasts. Social media for example, allows for the creation and mass exchange of self-generated content, as well as the establishment of extended digital social networks (Kaplan & Haenlein, 2010). Social media use has grown drastically with the emergence of several social media platforms that have become market leaders. Facebook for example, has had a phenomenal growth since its creation. At the beginning of 2010, it had only 431 million users, fast forward to June 2019, Facebook had nearly 2.41 billion active users each month (JDN, 2019). YouTube is another example of user-generated content, regarding video production. Launched in 2005, YouTube now counts over 1.9 billion active users each month, with about 500 hours of content uploaded every minute, and with one billion hours of YouTube content viewed per day⁶. By firstly bringing communication to a global level through broadcasting (mass communication), and secondly allowing people to communicate globally through the use of global technologies (mass self-communication), such as the Internet and mobile networks, a communications network has been built that can be moulded to the needs of its

⁶ YouTube in numbers (2019). Retrieved from <https://www.youtube.com/intl/en-GB/about/press/>

users, whether it be to access digital contents, people, or both (Cardoso, 2008). As stated by Castells (2007: 248): “*We are indeed in a new communication realm, and ultimately in a new medium, whose backbone is made of computer networks, whose language is digital, and whose senders are globally distributed and globally interactive*”.

The rise of mass self-communication has also increased the autonomy of individuals, especially in terms of communicative autonomy (Cardoso, 2008). In this new communication context, users around the world can advance their goals, defend their interests, and assert their values. Digital global technologies have lowered the threshold for participation in the digital space, enabling users to network, share data, collaborate and co-produce content. Users have increasingly become main innovators in the network society, not only because of dissemination of the Internet and open source technologies, but also due to the individualisation of media. In a 2008 journal paper, Cardoso outlined two major areas of innovation by users. Firstly, users domesticate and appropriate new technologies, and mould these to fit their everyday needs, values and habits. For example, the mass use of the mobile phone for texting was not expected by the original designers. After taking notice of the texting uses by younger users, the mobile phone industry then incorporated these technologies in new mobile phones and services offered (Fischer, 1992). Secondly, a major area of innovation by users is content (Cardoso, 2008). The user has become an active participant, creating content either individually or collectively to be disseminated on the Internet, as well as influencing the content production and distribution of traditional and broadcasting media such as newspapers, radio and television (TV). Thus, users have become an important player in the digital space, acting as innovators in specific areas, where communication is seen as most important for them:

“The user has become an active participant: (s)he co-produces content (e.g. blog, wiki, Flickr, MySpace), shares tastes and gives relevance (e.g. Amazon, de.li.cious, Google pagerank), builds reputations and provides feedback (e.g. eBay, TripAdvisor), shares storage and server capacity (peer-to-peer), expands connectivity (e.g. wifi-sharing, mesh networks), and (s)he is a part of a collective intelligence (e.g. business web 2.0). Time Magazine’s selection in December 2006 of ‘You’ as the person of the year, may be viewed as a recognition of the new digital democracy. The people behind the social computing trends go mainstream.” (Pascu et al, 2009: 75)

Due to widespread connective networks, digital platforms offer great potential for participation, with social media in particular encouraging participatory culture (Baer, 2016;

Jenkins, 2009; Loader & Mercea, 2011). As mentioned previously, several authors have argued that the rise of mass self-communication has increased the autonomy of individuals, where users have become active participants in the digital space (Cardoso, 2008; Castells, 2007). Accordingly, within participatory culture, online users are not simply passive receivers of media content, but active creators as well. Henry Jenkins (2009: 7) defined participatory culture as having five characteristics:

*“Participatory culture is culture with relatively **low barriers to artistic expression and civic engagement, strong support for creating and sharing creations; and some type of informal mentorship** whereby experienced participants pass along knowledge to novices. In a participatory culture, members also believe their **contributions matter** and feel some degree of **social connection** with one another (at the least, members care what other’s opinions of what they have created).”*

Participatory culture puts online users as active creators and reactors to media content, and not simply passive receivers. Most importantly, a user is able to self-generate and distribute content, interact with others, as well as with the content created by others, and feel that their contributions are significant. Social media, which will be explored in the next section, has lowered the threshold for participation, encouraging a more active and interactive usage of the Internet. This trend is shown by the increased number of potential interactions on the Internet, enabling users to network, share and exchange information, and collaborate and co-produce content like never before. New platforms like TikTok, as well as the substantial rise of podcasts available illustrate the increasing number of people becoming active participants and creators in the digital and social media space.

1.2 The Social Network: A Closer Look at Social Media

Social media platforms have transformed the way we communicate, collaborate and establish relationships. Defined as “*a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0⁷, and that allow the creation and exchange of user-generated content*”, social media has become an important part of people’s daily lives (Kaplan & Haenlein, 2010: 61). The term social media has been defined differently by various authors. According to Cheng, Fu, and de Vreede (2017: 25)

⁷ Web 2.0 is a term that was first used in 2004 to describe a new way in which software developers and users began to use the World Wide Web. It refers to the second stage of development of the Internet, which was characterised by the change from static web pages to dynamic or user-generated content, as well as a platform for the evolution of social media (Power & Phillips-Wren, 2011)

social media can be defined as “*a particular consumption of digital media that provides a mechanism for users to connect, communicate, and interact with each other through social networking sites and instant messages*”. Based on an extensive literature review, Kapoor et al. (2018: 536) defined social media as being:

“Made up of various user-driven platforms that facilitate diffusion of compelling content, dialogue creation, and communication to a broader audience. It is essentially a digital space created by the people and for the people, and provides an environment that is conducive for interactions and networking to occur at different levels (for instance, personal, professional, business, marketing, political, and societal).”

To summarise these various definitions, social media relates to the use of Internet-based technologies to amplify human communication and produce dynamic, interactive conversations.

Social media can be used by anyone to increase knowledge, share information, build networks, advertise products and services, and improvise on information or ideas being distributed (Sullivan & Koh, 2019). Multiple and diverse types of social media exist, and given this, researchers have sought to define what social media applications are and classify different types of social media applications based on their unique characteristics. Kaplan and Haenlein (2010, 2012), for example, created a list of six types of social media applications: collaborative projects, blogs and micro-blogs, social networking sites (SNS), content communities, virtual game worlds, and virtual social worlds. A brief summary of the six types of social media applications as defined by Kaplan and Haenlein (2010, 2012) are presented below (*Table 2*).

Collaborative projects	Collaborative projects permit the combined and simultaneous creation of content by multiple users (e.g., <i>Wikipedia</i> which enables users to add, remove, and change text-based content).
Blogs & micro-blogs	Blogs are the social media equivalent of personal web pages and can come in a several different formats. They are unique types of websites that often present date-stamped entries in a specific order (usually chronological). Micro-blogs (e.g., <i>Twitter</i> , <i>Tumblr</i>) have become an increasingly popular form of social media. These allow users to exchange small elements of content such as short text, images, and video.
Content communities	The main aim of content communities is the sharing of media content between users, these exist for a broad range of different media types; including text, photos, videos, and PowerPoint presentations. The most popular and widely known content community is the video-sharing platform, <i>Youtube</i> .

Social networking sites	Applications that enable users to connect by creating personal profiles, where friends, family, and colleagues can be invited to access those profiles, and users can send instant messages between each other (e.g., <i>Facebook</i>). Personal profiles can include any type of information, including photos, video, and blogs.
Virtual game worlds	Platforms that replicate a three-dimensional environment in which users can appear in the form of personalised avatars and interact with each other as they would in real life. (e.g., multiplayer online role-playing games such as <i>World of Warcraft</i>).
Virtual social worlds	In a virtual social world, users can create and personalise avatars and interact in a three-dimensional virtual environment, essentially living a virtual life similar to real life (e.g., <i>Second Life</i>).

Table 2: The 6 types of social media applications

Each classification of social media applications is distinguished from the other by the degree of self presence (or media richness) and the degree of social-presentation (or self-disclosure) they enable. Self presence, derived from social presence theory (Short, Williams, & Christie, 1976), allows the classification of social media via their degree of social exposure allowed to emerge between two communication partners. Media richness, is based on media richness theory (Daft & Lengel, 1986), which allows the categorisation of social media by the amount (or ‘richness’) of information that can be transmitted in a given time interval. With respect to the concept of self-presentation (Goffman, 1959), this is based on the desire of people to control the impressions other people form of them during social interactions. Social media requires people to create personal pages which allows people to decide on how they wish to present themselves in cyberspace (Schau & Gilly, 2003; Turkle, 1995), this presentation is done through self-disclosure; that is, the unconscious or conscious divulgence of personal information (Kaplan & Haenlein, 2010). Combining both dimensions leads to a classification of social media which can be seen below (*Table 3*).

		Social presence/ Media richness		
		Low	Medium	High
Self-presentation/ Self-disclosure	High	Blogs	Social networking sites (e.g., Facebook)	Virtual social worlds (e.g., Second Life)
	Low	Collaborative projects (e.g., Wikipedia)	Content communities (e.g., YouTube)	Virtual game worlds (e.g., World of Warcraft)

Table 3: Classification of social media by social presence/media richness & self-presentation/self-disclosure

Source: Kaplan & Haenlein (2010: 62)

With respect to the concepts of social presence and media richness, Kaplan and Haenlein (2010) argued that blogs/micro-blogs and collaborative projects allow the lowest levels of social presence, while virtual social and game worlds promote the highest levels of social presence. The first applications are often text-based and thus only allow for a fairly simple exchange, whereas in the latter types of applications, users are able to interact synchronously, more similarly to how they would in face-to-face interactions. On the medium level are content communities and social networking sites which, in addition to text-based communication, enable the sharing of pictures, videos, and other forms of media. This research may need a more recent update to reflect the evolution of social media and the Internet, as for example, the functionalities of micro-blogs, SNS, and content communities are increasingly converging and becoming more similar (Kapoor et al., 2018). Taking the example of Twitter, in addition to text-based communication, the platform now enables the sharing of pictures, videos, and other forms of media, as well as direct messaging. Facebook also recently launched *Facebook Watch*⁸, a video-on-demand service, which has a lot of similarities to the content community platform, Youtube.

Other researchers have also attempted to classify different types of social media applications. For comparison, Kietzmann et al. (2011) used the seven major functionalities afforded by social media as their method for classification. These functionalities include identity, conversation, sharing, presence, relationships, reputation, and groups. A comprehensive overview of each functionality and their definition can be viewed below (*Figure 1*).

⁸ Facebook Watch: <https://www.facebook.com/watch/>

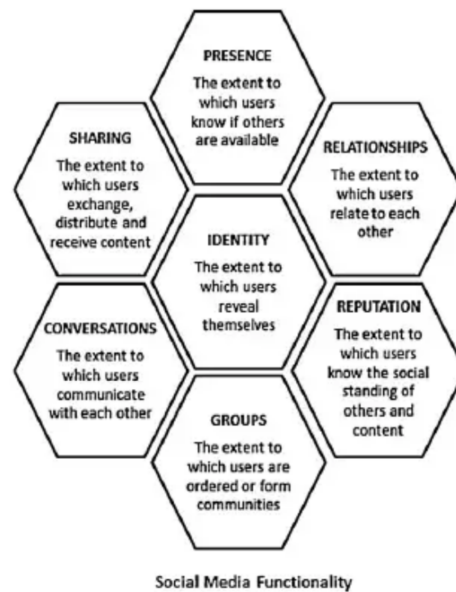


Figure 1: The 7 major functionalities of social media
 Source: Kietzmann et al. (2011: 243)

In the case of Kietzmann et al. (2011), social media applications can fall into multiple categories. For instance, Facebook fits into the identity function-oriented social media type, since users set up profiles which reveal their identities. However, it can also be considered a relationship-oriented application, as Facebook focuses on the maintenance of social connections. Twitter, on the other hand, falls within both the conversation and sharing types of social media. The majority of location-based applications fall into the presence category, geo-tagging features on both Instagram and Facebook provide an example of this. Both Twitter and Facebook can fit within the reputation category as they include the ‘like’ button on Facebook, and the number of followers on Twitter. Finally, both Facebook and Twitter can be considered group social media applications as they allow users to build online communities.

However scholars choose to classify types of social media applications, it is clear that social media platforms have redefined the ways in which people decide to communicate and collaborate. As demonstrated, social media allows for the creation and mass exchange of information and self-generated content, as well as the establishment of extended digital social networks and communities (Kaplan & Haenlein, 2010). As seen throughout this chapter, people use and appropriate new forms of mass communication in ways which fit

their needs and desires to build their own systems of mass communication which ultimately benefit them (Castells, 2013).

1.3 Chapter Conclusion

This chapter illustrated that society is increasingly based on and influenced by networks. Furthermore, the rise of mass self-communication has transformed the way people communicate, increased the autonomy of individuals, and lowered the threshold of participation in the digital space, enabling more people than ever to become active creators within this space instead of simply passive receivers. Digital networks may be an important resource for women and girls' empowerment. Although there has been little investigation on the general impact and influence of digital networks on women and their empowerment, research has found that social media serves as a valuable tool to enhance the networking and mentoring of women in male-dominated environments (Luc, Stamp, & Antonoff, 2018). A study investigating social media use amongst surgeons, found that social media was particularly valuable at enhancing the networking and mentorship of women in surgical specialties who lacked exposure to same-sex mentors at their own institution. Their results showed that social media enabled women in surgical specialties to grow their professional networks, increase their knowledge, validate positive social identities, find community, and obtain social support and information from same-sex mentors. Thus, digital networks may enable women to create personal feminine-centric networks that cater to their specific needs: from creating their own identities and empowering themselves; to creating networks that cultivate woman-to-woman support; to sharing information and articles that can benefit them professionally; to helping them network and find jobs; to providing a space for them to share their experiences and connect (Buskens & Webb, 2009). The next chapter will explore the concepts of female power and empowerment, and delve further into social media as a tool with the potential to transform gender dynamics and break down gender inequalities (Wajcman, 2006).

Chapter 2 – Information & Communication Technologies as a Source of Empowerment

“What are men so afraid of? Maybe they're scared that if they teach us how the world works, we'll figure out how to take over.”

–Emily Dickinson, Dickinson⁹

Digital ICTs can be important resources for female empowerment. The extent to which technology and the Internet have revolutionised social structures is evident. Over the course of the last century, the lives of women in particular have undergone massive social, economical, and political transformation due to the evolution of ICTs (Wajcman, 2004). Both the Internet and ICTs offer the potential for women to harness these technologies to both empower themselves, empower others, as well as break down traditional and patriarchal gender dynamics. Research has found that women have adapted better to using mediated communication technologies than men (Kimbrough et al., 2013). Furthermore, the increasingly communal nature of social networking sites seem to be more suited to stereotypical female gender roles (Wajcman, 2006). If women are dominating the social media and digital space, perhaps there is the potential for women to take advantage of these platforms to not only empower themselves and other women, but to gradually break down gender dynamics and dismantle gender stereotypes, ultimately changing the landscape to become more female-centric and female-positive (Blakley, 2010).

The concept of empowerment has been widely debated amongst scholars and professionals as it does not necessarily have a clear-cut definition and can change depending on the context (Kabeer, 1999). Put simply, empowerment can be seen as any process whereby people are able to gain increased control over their lives either independently or collectively (Somerville, 1998). Other researchers have defined empowerment as a process that enhances autonomy, self-confidence, self-efficacy, self-worth, and self-direction (Narayan, 2005). Gutiérrez (1990: 149) conceptualised empowerment as “*a process of increasing personal, interpersonal or political power*”, so that the lives of marginalised people can be improved. Empowerment has become a key part of feminist theory and, as such, seeks to increase the personal, interpersonal and political power of women

⁹ “I Have Never Seen Volcanoes” *Dickinson*, created by Alena Smith, performance by Hailee Steinfeld, season 1, episode 2, Tuning Forks Production and Apple Inc., 2019

(regardless of race, ethnicity, sexuality, age, and social class), for both individual and collective transformation (Turner & Maschi, 2015). Turner and Maschi (2015: 152) state:

“Central to feminist theory is the belief that the inferior status delegated to women is due to societal inequality, that the personal status of women is shaped by political, economic and social power relations and that women should have equal access to all forms of power.”

Feminist analyses seek to help women understand inequality, marginalisation and oppression, and using the concept of empowerment, to positively transform the individual and collective lives of women globally, and bring about important social change relating to gender power dynamics. As such, women’s empowerment can be defined as *“a process of personal and social change through which women gain power, meaningful choices and control over their lives”* (O’Neil et al., 2014: 1).

This chapter focuses on the concept and interrelationship of empowerment and power to ultimately centre on the role of ICTs as a source of female empowerment. The first section starts with the concept of power (to better understand the concept of empowerment) and its implications for female empowerment, and then examines the different dimensions of empowerment. The second section further explores the concept of empowerment as a dynamic process of change rather than a static means. The third section focuses on digital ICTs as resources for women’s empowerment. The final section considers the use of digital ICTs as a channel for collective action where women can come together to collectively make their voices heard and challenge gendered structures on a larger scale. The #MeToo movement is used as a case study to further explore the notion of collective action and power.

2.1 Understanding Power

Power is central to the concept of empowerment. Thus, to better understand empowerment, the concept of power needs to be examined. However, like empowerment, power itself is a debated concept across social sciences. Fortunately, Rowlands (1997) explored and defined the concept of power, and its implications for female empowerment. In order to understand the process of empowerment, she distinguished four different forms power can take, ‘power over’, ‘power to’, ‘power with’, and ‘power within’:

- Power over – controlling power (i.e., the ability to control others). Changes in the distribution of power (e.g., when women gain power over men) may be met with resistance, compliance, or manipulation, and can result in new forms of domination and injustice.
- Power to – generative or productive power which can create new possibilities and actions without domination, leading to the ability for women to exercise choice and change external conditions. In this case, if women are to challenge and change power hierarchies (i.e., transform others power over them), it is essential to increase women’s individual capabilities.
- Power with – power that comes from collective action. Rowlands (1997: 13) defines this as: “*a sense of the whole being greater than the sum of the individuals, especially when a group tackles problems together*”. Collective action increases women’s solidarity, as well as their capacity to question and change power structures.
- Power from within – greater critical consciousness and self-respect. This refers to a women’s awareness of socially constructed identities and hierarchies, as well as self-acceptance and acceptance of others as equals, as being the basis of a woman’s wish for personal and structural change. Rowlands (1997: 13) defines this as:

“The spiritual strength and uniqueness that resides in each one of us and makes us truly human. Its basis is self-acceptance and self-respect which extend, in turn, to respect for and acceptance of others as equals.”

It is important to note that empowerment is a multidimensional concept. Women can gain different types of power in different dimensions of their life, including psychological, political, social and economic (Luttrell et al., 2009; Mandal, 2013; O’Neil et al., 2014):

- *Psychological empowerment* refers to when women build their self-confidence and recognise their self-worth, and consequently, believe they should be able to make or influence decisions that affect them and gain the confidence to act on this.
- *Political empowerment* occurs when women are able to influence the rules and norms that govern society, and thus, influence decisions that affect their rights and entitlements (e.g., equal pay for equal work). Political empowerment also implies the ability for women to access and participate in political domains and various decision-making bodies to defend their rights and interests.
- *Social empowerment* addresses the social discriminations existing in society. Social empowerment enables women to strengthen their position in social structures, and

occurs when women gain the ability to make and influence decisions about their education, reproduction, health, and social interactions (e.g., association with others or mobility).

- *Economic empowerment* happens when women are able to participate in labour markets, obtain secure and sustainable incomes and livelihoods, and thus have access to assets and resources. Additionally, economic empowerment means access to equal work opportunities, organisational benefits, and equal working environments.

According to UN Women, the United Nations Entity for Gender Equality and the Empowerment of Women (2020):

“Women’s economic empowerment is central to realising women’s rights and gender equality. Women’s economic empowerment includes women’s ability to participate equally in existing markets; their access to and control over productive resources, access to decent work, control over their own time, lives and bodies; and increased voice, agency and meaningful participation in economic decision-making at all levels from the household to international institutions.”

As mentioned above, empowerment is seen as a process. Gaining empowerment in one area of a women’s life does not necessarily mean she will be empowered in others; however it may lead to changes in other dimensions, resulting in future improvements.

2.2 Empowerment as a Dynamic Process

Kabeer (1999) conceptualised women’s empowerment as a dynamic process. She defined women’s empowerment as a process of change by which women gain the ability to make and enact strategic life choices in a context where this ability was previously denied to them. By strategic life choices, is meant decisions about education, employment, and reproduction, to name a few. To represent empowerment as a dynamic process, Kabeer (1999) created a framework which can be visualised below (*Figure 2*). Kabeer argued that women’s ability to exercise choice can be thought of in terms of three interrelated dimensions: resources, agency, and achievements. In this three-dimensional model, each dimension builds on, and contributes towards the other. Within this dynamic process of empowerment, women acquire resources that enable them to develop a voice (i.e., the capacity to articulate preferences), and thus agency (i.e., the capacity to make decisions), enabling them to achieve their goals and aspirations.

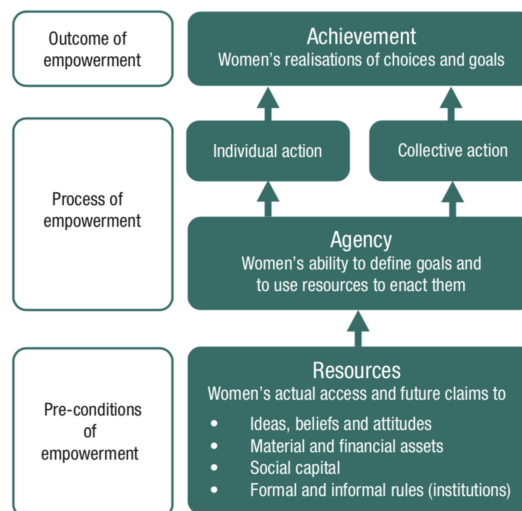


Figure 2: A schematic of women's empowerment as a process
 Source: in O'Neil et al. (2014)

As seen in the schematic, access to resources is a pre-condition to empowerment. Resources, not only refers to economic resources or material assets (such as employment, financial earnings, and property), but also includes human resources (like self-efficacy, education, and skill development), and social resources (such as participation in political organisations, access to peer networks, and access to role models), which all serve to enhance the ability to exercise choice. Resources may enable, but do not necessarily guarantee empowerment, as access to resources can depend on the rules and norms which govern a particular society (Kabeer, 2005). If a woman is living in a disempowered community, it will be more difficult to gain access to resources which will help develop voice and agency. Resources are distributed through various institutions and relationships in a society, thus it is instrumental to change the way that material, financial, human and social resources are distributed and controlled to ensure more equal gendered power relations and dynamics. Therefore, as seen previously, it is important to have women in positions of power that can participate in the creation and decision of societal and governmental norms and rules.

Agency relates to women's ability to define goals and use the resources defined above to put their goals into effect (Kabeer, 1999). Agency also encompasses women's changes in consciousness, or sense of agency (i.e., 'power within'), including senses of self-worth, self-confidence and social identity, and ultimately their capacity to exercise strategic

control over their own lives. Agency has both positive and negative connotations in relation to power (Kabeer, 2005). In its positive sense (i.e., ‘power to’), it refers to people’s ability to define their own life choices and act on them, even in the face of criticism or resistance from others. In its negative sense (i.e., ‘power over’), it refers to the capacity of people or institutions to override the agency of others, for instance, through the use of violence, manipulation, coercion, or the exercise of authority. Therefore, empowerment entails change: “*Women’s empowerment is a multi-dimensional process that involves transforming ideas, norms, relationships and structures of resource and power allocation*” (O’Neil et al., 2014: 12).

Resources and agency together constitute women’s capabilities, that is, their potential for living the lives they want. The term ‘achievements’ refers to the extent to which women’s goals and choices are realised; that is, the outcomes of empowerment efforts. As stated by Kabeer (2005: 14): “*Resources are the medium through which agency is exercised; and achievements refer to the outcomes of agency.*” Thus, the three dimensions that comprise the concept of empowerment represent pathways through which processes of empowerment can occur. Transformations in any one of the three dimensions can lead to changes in others. For example, achievements in one area of life can form the basis on which women pursue improvements in other areas in the future. Therefore, in this view, women are agents of their empowerment, and empowerment is about the pathways through which they individually or collectively acquire power.

Empowerment can be experienced on both a personal, individual level, or on a collective level. In its personal sense, empowerment involves “*developing a sense of self and individual confidence and capacity, and undoing the effects of internalised oppression*” (Rowlands, 2013: 15). On a collective level, individuals cooperate and work together to achieve a more substantial impact on societal gendered power relations and dynamics than they could accomplish alone. Collective action enables women to challenge, transform, and overcome gendered structures on a larger scale (Gammage et al., 2016). By coming together based on common goals and interests, this allows women to amplify their

collective voice¹⁰ and increase the possibility of influencing patriarchal structures in ways that would not be possible for an individual woman acting in isolation. Collective action is especially important, as women acting individually to oppose patriarchal structures may suffer higher costs; as the adage goes; there is safety in numbers. Individual and collective empowerment, as well as collective action, will be explored more closely throughout this chapter.

2.3 Women's Empowerment and the Role of Information & Communication Technologies

Digital ICTs may be important resources for women's empowerment. Over the last few decades, the lives of women have undergone massive social, economical, and political transformation due to the evolution of ICTs: "*The electronic revolution has coincided with massive social transformations associated with increasing emancipation of women worldwide, economically, culturally, politically*" (Wajcman, 2006: 17-18). Techno-feminist Wajcman (2006: 12) posited that digital technologies have the potential to change gender dynamics and break down gender inequalities by enabling women to access: "*unprecedented economic opportunities, technical skills, and cultural powers*".

Corroborating this, a report by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) stated: "*Information and communication technologies could give a major boost to the economic, political and social empowerment of women, and the promotion of gender equality*" (Primo, 2013: 9).

For several years now, research has explored the increasing use of ICTs in rural and low-income communities. For instance, in their book, *African women & ICTs: Investigating gender, technology, and empowerment*, Buskens and Webb (2009) provide various examples of how women across Africa are gradually participating in the information society and using ICTs as a tool for empowerment. They found that women used ICTs to create 'female only' spaces for themselves. These spaces enable women to find refuge, express themselves, learn, network and trade. In certain situations, where women's

¹⁰ Voice is an aspect of agency, and is the "*ability to articulate practical needs and strategic interests, individually and collectively, in the private domain and in the public*" (Gammage et al., 2016: 6). For change to happen, voices must be heard, listened to, and acted on.

environments are so gender imbalanced they cannot participate in existing physical public spaces, the creation of virtual ‘female only’ spaces allow women to make use of and enjoy new freedoms. Furthermore, they discovered that women use ICTs to increase control over their time and space in both their personal and professional lives. Not only did women experience independence through the act of using ICTs, they were able to create socio-economic gains for themselves and their families. In general, development organisations see empowering women as a way to boost a country’s economic growth. This is because investing in women results in a reinvestment into the entire community (Porter, 2013). Greater gender equality boosts economic growth, as women’s economic empowerment augments productivity, increases economic diversification, and, in turn, supports economic resilience (IMF, 2018). Furthermore, recent studies by the International Monetary Fund (IMF) and others, estimate that closing the gender gap may boost Gross Domestic Product (GDP) across countries worldwide. This supports the notion that improvements in female economic participation tends to be associated with positive economic growth.

Research is increasingly exploring the potential role of ICTs in the promotion of women’s empowerment and gender equality. Abubakar and Dasuki (2018) conducted a study to explore the relationship between women’s empowerment and ICTs, by investigating how women in Nigeria use mobile phones, and specifically WhatsApp¹¹, to enhance different aspects of their capabilities. They found that WhatsApp overall served as a tool that contributed to the freedom of women to participate in social, economic, and political activities. Their findings showed that the use of mobile phones provided women with social opportunities to enhance their information capabilities, and feel a sense of belonging to a community. Through the use of WhatsApp, women improved their media literacy and gained knowledge in the areas of health and education. Findings also showed increased political freedoms in terms of the ability of women to voice their opinions, hold elected officers responsible, and contribute to political decisions within their societies (especially within a society which restricts the participation of women in policy-making). The use of WhatsApp also provided women with opportunities to generate economic capabilities via employment opportunities, income generation, saving opportunities, and for business

¹¹ A cross-platform messaging and Voice over Internet Protocol (VoIP) service owned by Facebook

purposes. Lastly, WhatsApp provided women with opportunities and mechanisms to improve their sense of security. As demonstrated by Abubakar and Dasuki (2018), the use of mobile phones and ICTs have given women the freedom to exercise their agency by acting as agents of their own lives, and as a result, the resources to empower themselves.

The literature on both digital and non-digital ICTs and female empowerment is substantial. However, the majority of studies focus on women's economic empowerment (Cummings & O'Neil, 2015). Secondly, significant research has focused on the role of ICTs in the promotion of women's empowerment and gender equality in developing countries (such as in parts of Africa, Asia, and the Middle East). This literature centres on how and what women gain from access to and usage of technology, where, as previously discussed, women tend to have more socially controlled roles which may lead to a lower sense of autonomy and freedom, and consequently, well-being (Trajectory Partnership, 2010). Globally, women gain more than men from access to and use of technology (Trajectory Partnership, 2010). Although this is particularly true for women in developing nations, this also applies to women in the Western world. A major study for the British Computer Society (Trajectory Partnership, 2010) found that in the United Kingdom (UK), women also gain greater life satisfaction than men from the use of ICTs, with social contact facilitated by ICTs as particularly important to women in the UK. Additionally, the study showed that the use of ICTs not only benefits people in many different ways, it appears to empower the disempowered. The study revealed that Internet use empowers people by increasing their feelings of personal freedom, security, and influence, which have a positive effect on happiness and personal well-being. This effect was shown to be particularly positive for women. This is because the Internet helps women to organise their lives and overcome isolation, particularly in patriarchal societies, and contributes to greater autonomy. According to Castells (2013), there is increasing evidence of the direct relationship between the Internet and the rise of social autonomy, including: personal, individual autonomy; bodily autonomy; professional development; entrepreneurship; sociopolitical participation; and communicative autonomy. Greater autonomy results in stronger empowerment, leading to women having more freedom and independence to make their own decisions, without being controlled by others.

Cummings and O’Neil (2015) conducted a literature review examining research on how women and girls use digital ICTs and how these can increase their voice and influence, and established seven main findings on the potential benefits of women’s use of ICTs (*Table 4*):

1.	The process of learning to use digital ICTs can strengthen women and girls’ self-confidence and enable them to critically reflect on traditional gender roles, as well as their own role in society (i.e. increased <i>power within</i>)
2.	Use of digital ICTs can expose individuals to alternative representations of women. Existing social attitudes towards women, on the part of both men and women, can be influenced by presenting women in non-traditional roles. Presenting women in non-traditional roles can also change women’s personal aspirations (i.e. increased <i>power within</i>)
3.	The use and ownership of ICTs, as well as learning new digital skills, can increase women’s social status (i.e. increased <i>power to/over</i>)
4.	Gaining access to digital ICTs, including ICT skills, can provide women and girls with different channels for self-expression and participation in public affairs, regardless of both their physical location and whether they face gender-based constraints on their voice locally (i.e. increased <i>power to</i>)
5.	The independence of women can increase with ICT use, giving them a sense of greater power and freedom to engage in activities, such as education and entrepreneurship, including those outside traditional gender roles (i.e. increased <i>power to</i>)
6.	By using ICTs women can gain access to new opportunities in the public sphere, and obtain access to new sources of information and knowledge, as well as online access to education or business services. Through this, women can develop greater control over their own lives (i.e. increased <i>power to</i>)
7.	Female networking is made easier as ICTs provide a new channel of communication and engagement, enabling women to increase social capital, exercise oppositional voice, build a sense of solidarity locally and internationally, and facilitate the creation and growth of women’s movements. Moreover, the sharing of ideas and information online can improve offline mobilisation (i.e. increased <i>power within</i>)

Table 4: 7 main findings on the potential benefits of women’s use of ICTs
Source: adapted from Cummings & O’Neil (2015)

Women harness digital ICTs and social media not only to empower themselves, but to empower other women and girls through female networks. There are several real-world examples that illustrate Cummings and O’Neil’s (2015) findings on how women use digital technologies to empower themselves and others. For example, American supermodel and entrepreneur Karlie Kloss, used her success and platform to empower girls to learn to code and become leaders in tech by founding *Kode With Klossy*, a free summer program for girls aged 13-18 to learn coding skills and inspire them to pursue careers in the tech industry (Strehlke, 2016). In an interview with Forbes magazine, Kloss talked about why she decided to found a coding bootcamp for girls: “*There are so many young women who*

really could change the world with this kind of opportunity, girls who self-select out because they don't see others in the industry that look like them" (Robehmed, 2017). Since being founded, the program has grown considerably, teaching girls the fundamentals of programming languages such as HTML, CSS, Ruby, and Javascript, and ultimately how to build a mobile app or website:

"The girls at our camps not only learn the ABCs of code, but real-world examples of tech that touches our lives today. They're learning what a loop is or how to interpolate using concepts or ideas that touch their lives, like Instagram, Twitter, or Postmates." (Gallucci, 2018)

To cultivate a supportive and safe environment where the girls feel they are welcome in tech, all of the camps have women instructors and incorporate activities such as hosting inspirational women in technology as part of a speaker series. Although it is difficult to measure the success and impact of these programs considering that they are still relatively new, several girls have gone on to use what they learned to win 'hackathons'¹², build their own web and mobile apps, and set up coding clubs in their own communities. Programs like these may be the first step to empowering young girls to go into the tech industry, increasing the number of women in science, technology, engineering and mathematics (STEM) subjects and industries, and consequently, closing the gender parity gap. This example illustrates several of the potential benefits of digital ICTs denoted by Cummings and O'Neil (2015) to increase the power of girls through increases in their self-confidence and critical consciousness. Through learning new skills and using digital ICTs, girls are not only able to build self-confidence, but also increase their independence, social status, power, and gain access to new opportunities and networks, as well as see themselves represented in a traditionally male-dominated field.

2.4 Collective Action as an Agent of Empowerment

Digital ICTs therefore have the potential to increase the power of women and girls through: increases in their self-confidence and/or critical consciousness; their impact on gendered social norms and relations; increases in their social status; increases in their independence; new economic opportunities; provision of new resources for communication and public engagement; and as catalysts for collective action (Cummings & O'Neil, 2015). The last,

¹² An event, typically lasting several days, in which a large number of people meet to engage in collaborative computer programming [as defined by *Oxford Languages*]

using digital ICTs as a channel for collective action relates directly to women's expression of voice and potential influence. Voice and empowerment are closely related, Cummings and O'Neil (2015: 3) defined voice as "*making one's preferences, demands, views and interests known, whether individually or collectively and whether at the household, community or national level.*" As mentioned above, empowerment can be experienced on both an individual level or on a collective level. Referencing a literature review by O'Neil et al. (2007), Cummings and O'Neil (2015: 3) state:

"In many societies women are expected to remain silent in debate, denied the right of consent and seen as irrational or trivial. This diminishes the perceived validity and reliability of their voice, even when these discriminatory norms and assumptions are historical."

This can be seen across the world, such as women not having a voice or influence on their own reproductive health and safety (Weitz & Yanow, 2008; Banet-Weiser, 2018).

Collective action enables women to act collectively with others to advance their views and interests, and thus challenge, transform, and overcome gendered structures on a larger scale (Gammage et al., 2016). By coming together based on common goals and interests, women cooperate and work together to amplify their collective voice to achieve a more substantial impact on patriarchal structures and societal gendered power relations and dynamics than they could accomplish alone. Engagement with ICTs can be passive (i.e., an individual uses ICTs to receive information and ideas) or active (i.e., people use ICTs to communicate information and ideas to others). Through their use of digital ICTs, women and girls can be passive recipients of information, or active conveyors of information and ideas (Asiedu, 2012; Cummings & O'Neil, 2015). For women to use ICTs to voice their views and influence others, they need to be active users of these. However, even when women passively use ICTs, this can increase their access to information and services in ways that empower them and provide an important foundation for voice and influence.

Digital platforms offer great potential for disseminating discourse about gender and sexism due to widespread connective networks that encourage participatory culture (Baer, 2016; Loader & Mercea, 2011). On social media, conversations about gender and sexism, as well as racial and LGBTQ+ inequality, immigration and several other topics are a frequent theme of discussion spread across wide social networks. Research has found that digital

ICTs can break boundaries between public and private spheres, providing new opportunities for women to participate in public and socio-political arenas (Cummings & O’Neil, 2015). Digital ICTs can provide new opportunities for women to express themselves, and thus be effective tools for spreading campaign messages widely and efficiently. However, even when women are active online, they may struggle to have presence and influence offline, as online public and political engagement does not guarantee power. Public visibility is the first step in creating significant socio-cultural and political impact (Gurumurthy et al., 2012). A study explored how *Likhaan* (a centre for women’s health and grass-roots organisation based in the Philippines), tried to generate public support for a reproductive health bill by sharing experiences of women and girls from marginalised communities who were most in need of sexual and reproductive health services and rights via an online magazine (Estrada-Claudio & Guitierrez, 2012). While the sharing of these stories was found to be empowering, there was little evidence that the movement was promoted by mainstream media or that the magazine influenced relevant government policymakers. This example highlights the notion that women are not always able to translate voice into influence. Although public visibility is an important first step, influence is a factor not just of women having a voice, but also the nature of that voice, of women’s movements and of the wider environment in which these operate.

Social media platforms such as Facebook, Twitter, Instagram, and more recently TikTok, act as valuable resources for activism, enabling people “*to share ideas and tactics*” and “*distribute key messages for collective action*” (Al-Abdin & Costello, 2015: 116). These social media platforms are well-suited for digital activism, allowing individuals to share information, educate others, coordinate action, and crowdfund, as well as enable conversations to go viral quickly via ‘hashtags’ (Peters & Besley, 2018). Hashtag activism has been defined as the “*act of fighting for or supporting a cause with the use of hashtags as the primary channel to raise awareness of an issue and encourage debate via social media*” (Tombleson & Wolf, 2017: 15). Research has demonstrated that digital activism through online platforms reflect framing processes that can then be conducive to the establishment of public attitudes and beliefs around salient issues (Xiong, Cho, & Boatwright, 2019). Hashtags can serve as a tool to create awareness and discussion, spread ideas, better unite individuals within a community, integrate resources from the Internet,

and facilitate social change. On social media, hashtags have been widely used to generate conversations about gender, sexism, and women's rights. Some of the most popular across the last few years include:

- #YesAllWomen – emerged on Twitter in May 2014 after a man killed six people in Santa Barbara, stating that the reason for the attack was a deep-rooted hatred towards women and because he wanted to punish women for rejecting him. Following the attack, users utilised the hashtag to share examples or stories of misogyny and violence against women (UN Women, 2019)
- #EleNão (Portuguese for “not him”) – created in September 2018 by the Facebook group “Mulheres Unidas Contra Bolsonaro” (women united against Bolsonaro) which was used to organise protests and demonstrations during the 2018 presidential elections in Brazil against Jair Bolsonaro, the candidate of the Partido Social Liberal (PSL) who is well known for making derogatory remarks concerning women and minorities (Gonçalo Ferreira, 2018; Oliveira, 2018)
- #EverydaySexism – which started trending on Twitter in April 2015 after Laura Bates, founder of The Everyday Sexism Project (an online catalogue of instances of sexism experienced on a daily basis), encouraged individuals on social media to share their stories of subtle, sexist micro-aggressions they experience on daily basis in honour of the project's third anniversary (Blay, 2016)

Hashtag activism has tended to stay confined to the social media space. For example, in 2006, social activist Tarana Burke coined the phrase “me too” to raise awareness of the pervasiveness of sexual abuse and assault, in an effort to support survivors of sexual violence (Xiong, Cho, & Boatwright, 2019). However, #MeToo only became a viral and global movement a decade later after The New York Times published an investigation into almost 30 years of rape and sexual violence allegations against major Hollywood producer Harvey Weinstein (Munshi-Kurian et al., 2019). Although hashtag activism has traditionally not made a remarkable impact offline, since the Weinstein scandal there has been a significant cultural shift. Not only did the world take significant notice when the movement began to trend in 2017, the conversation has continued both online and offline with social movements moving into the real world where several women are gradually feeling more comfortable to speak up, and real accountability, action and influence is starting to take place: “*We are living through what is known as the #MeToo moment, where*

the impact of a viral conversation about gender-based violence is currently being felt in many places worldwide, at local, national, and global levels” (O’Donnell & Sweetman, 2018: 217).

2.4.1 Case Study: The Impact of #MeToo

On October 5th 2017, The New York Times published an investigative report revealing multiple allegations of sexual harassment, dating back to 1990, against Hollywood mogul Harvey Weinstein (Kantor & Twohey, 2017). Shortly after the story broke, more women, including high profile women such as Gwyneth Paltrow and Angelina Jolie, started coming forward with accusations of sexual harassment and assault against Weinstein. By the end of October, more than fifty women had made public or private allegations against Weinstein (Davies & Khomani, 2017). Although rumours of Weinstein’s behaviour had been trailing him for decades, previous attempts at publishing stories fell through due to a lack of evidence from people who were too scared to speak up. However, in the wake of the Weinstein scandal, more women and men began to come forward with accusations against other high profile men, many in the entertainment and news media industries, prompting a wider conversation about sexual misconduct and gender equality (Almukhtar et al., 2018). This conversation was sparked in part by a tweet by actor Alyssa Milano: *“If all the women who have been sexually harassed or assaulted wrote ‘Me too’ as a status, we might give people a sense of the magnitude of the problem”*. (Rodino-Colocino, 2018). #MeToo quickly went viral as women flooded social media with their stories of assault and harassment: *“The hashtag was widely used on Twitter, Facebook, Snapchat and other platforms; on Facebook, it was shared in more than 12 million posts and reactions in the first 24 hours”* (Garcia, 2017). Additionally, Twitter reported that within 48 hours, #MeToo had been used or retweeted by more than 1.7 million users and started trending in 85 countries, making it one of the top influential social media events of the year, alongside tweets relating to fake news and Russian interference in the US election (Park, 2017). According to a study by the Pew Research Center, this number increased to more than 19 million tweets nearly a year later with hashtag usage often surging around significant relevant news events as visualised below (*Figure 3*) (Anderson & Toor, 2018). As #MeToo spread through social media, it attracted more and more media coverage, rapidly becoming a worldwide phenomenon. Although, the #MeToo movement had actually already been

around for years, as a campaign originally launched by activist Tarana Burke seeking to achieve “empowerment through empathy” for sexual assault survivors, it took the Weinstein scandal, celebrity voices, and the power of social media for it to become a worldwide phenomenon.

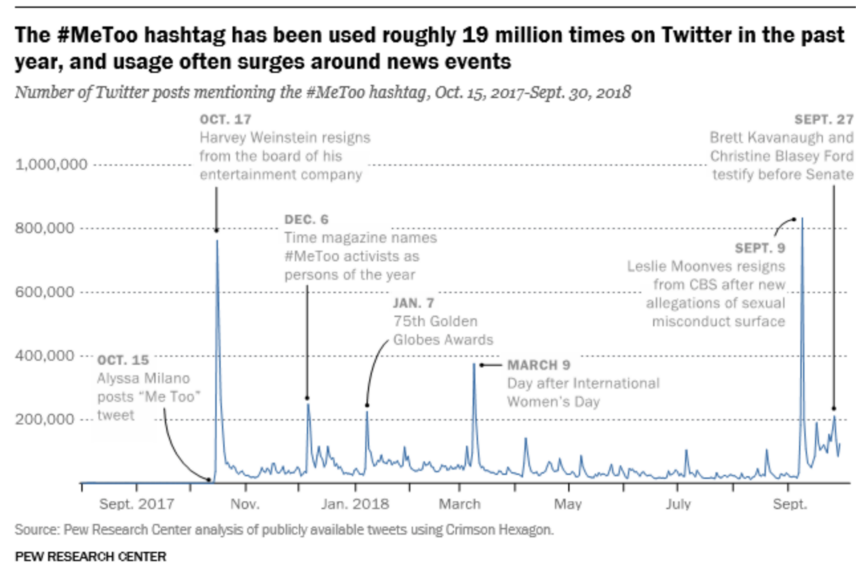


Figure 3: Usage of the #MeToo hashtag on Twitter from September 2017 to September 2018
 Source: Study conducted by the Pew Research Center (Anderson & Toor, 2018)

The most notable feature of the #MeToo movement was that the strength of the momentum persisted and continues to be felt today, with the conversation on gender dynamics and equality still dominating the media. Traditionally, viral hashtags tend to spike once and fizzle out soon after, often in a matter of days. As stated by Michael Cohen, a professor at George Washington University’s Graduate School of Political Management and chief data scientist of the PEORIA (The Public Echoes Of Rhetoric In America) Project, in an interview with The Washington Post: “*Twitter users move from topic to topic relatively rapidly*” (Ohlheiser, 2018). What makes the #MeToo multimedia movement distinct from other sexual harassment conversations on social media was its sustained interest, as well as its ability to cement itself as a strong social movement in a year crowded with news, and continued spotlight in public and private conversations.

In a piece written for The New York Times, actor Salma Hayek, a key voice in the #MeToo movement, as well as a Weinstein victim, captured the essence of the #MeToo movement:

“Men sexually harassed because they could. Women are talking today because, in this new era, we finally can” (Hayek, 2017). In this digital era, where women are dominating social media they seem to have harnessed these platforms to make themselves heard and dominate the global conversation, create support networks, and work on changing traditional patriarchal gender dynamics. In the media industry in particular it seems that some positive change is taking place for women; actor Vella Lovell stated that she has felt a palpable shift in the industry since the #MeToo movement, where people on set are more responsive to complaints of harassment, rather than sweeping things under the rug (Gray, 2018). At the Cannes Film Festival, Salma Hayek also talked about the real industry change that she had felt had happened since the Weinstein scandal: not only has she personally sold a number of female-led projects she had been trying to make for 10 years; female writers and directors are suddenly in high demand and difficult to hire, as studios are attempting to “cater to the public mood” and give women the opportunity to tell their stories (Topping, 2018).

The TIME’S UP movement was created as a solution-based, action-oriented next step in the #MeToo movement. An organisation started by a group of over 300 women in Hollywood, with high profile leaders including Reese Witherspoon, Natalie Portman and Shonda Rhimes, their aim is to create concrete change in the world, focusing specifically on safety and equality in the workplace:

“TIME’S UP is an organization that insists on safe, fair and dignified work for women of all kinds. We want women from the factory floor to the floor of the Stock Exchange to feel linked as sisters as we shift the paradigm of workplace culture. Powered by women, TIME’S UP addresses the systemic inequality and injustice in the workplace that have kept underrepresented groups from reaching their full potential.” (Time’s Up, 2018)¹³

The organisation wants to focus on changing policies and getting legislation passed surrounding gender parity issues such as equal pay, increased opportunities for women, and safe work environments, particularly for women in low-wage industries and women of colour. Additionally, the organisation created a crowdfunded legal defence fund (TIME’S UP Legal Defence Fund), that raised \$21 million in the first two months, a source of legal and financial support for women and men who have experienced workplace sexual

¹³ Retrieved from the official TIME’S UP website: <https://www.timesupnow.com/>

misconduct and want to fight it through the justice system (Langone, 2018). According to the TIME'S UP website the organisation is fighting for change in three key ways: changing culture (so harassment and inequality are no longer tolerated); changing companies (so work is safe and equitable); and changing laws and policy (so women's rights are protected and expanded). At the beginning of 2020, a little over two years after the launch of the TIME'S UP Foundation, the TIME'S UP Entertainment initiative debuted the *Time's Up Guide to Working in Entertainment*, a free three-part resource covering areas where both women and men have historically been exploited or harassed (Kilkenny, 2020). These guides cover individual's rights during auditions, in nude, intimate and simulated sex scenes, as well as how to report sexual misconduct and harassment. Although TIME'S UP was born in the entertainment industry, the organisation has now launched further initiatives focusing on other industries including: TIME'S UP Healthcare (to reduce sexual harassment and gender discrimination in health care); TIME'S UP Advertisement (to shift how the advertising industry and society portray women); and TIME'S UP Tech (to make the tech industry safer and empowering for women of all kinds)¹⁴. Not only did a cultural shift occur in the media industry and wider society, concrete action has started to be taken to change sexual harassment, discrimination, and gender power dynamics.

Intimacy coordinators have been one of the biggest evolutions to hit Hollywood since the #MeToo movement took off in 2017, helping to create Hollywood's first set of standards around simulated sexuality (Piñero, 2019). Intimacy coordinators are experts that work with both directors and actors to help choreograph physical and emotional intimacy, including overseeing intimate scenes and making sure that boundaries are set and respected, and that the actors involved feel safe and comfortable while doing their job. As seen previously, there's been a history of sexual misconduct, misogyny and abuse of power in Hollywood. When filming sensitive material, such as sex scenes it has been no different. For example, in 2013, director Bernardo Bertolucci, admitted to deliberately humiliating an actress when filming a rape scene in *Last Tango in Paris* (North, 2018). Although intimacy coordinators are new to the world of TV and film, the New York City nonprofit Intimacy Directors International (IDI) has been coordinating onstage intimacy in theatre for the last

¹⁴ Retrieved from the Industries section of the TIME'S UP website: <https://timesupfoundation.org/work/#industries>

15 years (Piñero, 2019). Last year, thanks to *The Deuce* actress Emily Meade who asked for somebody to be present during intimate scenes and help liaise with the director, intimacy coordinators are starting to be implemented in Hollywood: “*IDI’s pilot program with The Deuce was so positive that in October 2018, HBO agreed to hire an intimacy coordinator for all series across the network.*” (Piñero, 2019). Since then, other companies have been including intimacy coordinators on their staff for shows with intimate scenes. For example, Netflix hired intimacy coordinators for their series *Sex Education* as they want to encourage their “*young cast members to start their careers with a language to speak up for themselves*”. Alicia Rodis, an intimacy coordinator at IDI stated:

“After Me Too, people are realizing they don’t have to just go along with it. That they have a right to sovereignty of their bodies and their experiences. We have specifically trained ourselves to have those conversations and to do the work, so that if you don’t have the language for it, we’ve got language for you.” (Piñero, 2019)

As illustrated by this case, social media platforms have enabled a wider visibility of feminism due to widespread networks (Banet-Weiser, 2018). For example, the public awareness of #MeToo helped to reveal how widespread and normative sexual harassment is. Although the #MeToo movement was made visible by very public figures in the entertainment industry, the surrounding conversations it produced has spread to other areas including politics, healthcare, the service industry, and the tech industry. Perhaps more importantly, it seems that the related conversations are potentially changing traditional norms. MTV News recently conducted a survey asking 1,800 people between the ages of 18 and 25 how the #MeToo movement had affected them. Their findings revealed that the movement has affected young men and the way they think about gender dynamics in society, inspiring personal reflection about their past behaviour, as well as influencing their thinking towards approaching current and future romantic interactions (Zeilinger, 2018). A study examining social change and whether social norms can change over time, found that dynamic norms may play an important role in social change:

“Just learning that other people are changing can instigate all these psychological processes that motivate further change. People can begin to think that change is possible, that change is important and that in the future, the norms will be different. And then, if they become persuaded and decide to change, it starts to become a reality.” (Sparkman & Walton, 2017: 1670)

The #MeToo movement has been a trigger for creating a deafening dialogue surrounding gender power dynamics and equality, and may have the potential to change norms, as well as influencing real social, cultural, and political change in our society.

2.5 Chapter Conclusion

Both empowerment and power are important concepts to feminism and the well-being of women and girls across the globe. Empowerment has become a key part of theory, seeking to increase the personal and interpersonal power of women (regardless of race, ethnicity, sexuality, age, and social class), for both individual and collective transformation. As defined by O'Neil et al. (2014: 1) female empowerment is "*a process of personal and social change through which women gain power, meaningful choices and control over their lives*". Empowerment is a multidimensional concept, and women can gain different types of power in different dimensions of their life, including psychological, political, social and economic (Luttrell et al., 2009; Mandal, 2013; O'Neil et al., 2014). Feminist analyses seek to help women understand inequality, marginalisation and oppression, and using the concept of empowerment, to positively transform the individual and collective lives of women globally, and bring about important social change relating to gender power dynamics.

Why is the role of ICTs significant in female empowerment? Digital ICTs have the potential to increase the power of women and girls, and through this their ability to express their views, interests and preferences. Research has found that women have adapted better to using mediated communication technologies than men (Kimbrough et al., 2013). In accordance with this, although men tend to globally use the Internet more than women, data has consistently demonstrated that in technologically developed countries, women dominate social networking technologies, outnumbering men on all major social media platforms, as well as on the amount of time spent on social media websites (Pew Research Center, 2018). Poushter, Bishop, and Chwe (2018) found that in developing economies social use media tilts towards men, however, in advanced economies it tilts towards women. For example, in Sweden, even though men (94%) are more likely to use the Internet than women (90%), women (72%) are significantly using social media more than men (63%). As women are the ones dominating the social media space, they may use this

to create spaces where women can express themselves, find support, learn, and network, ultimately appropriating masculine technology to suit feminine desires and needs, as well as change gender dynamics and break down gender inequalities (Buskens & Webb, 2009). As exemplified by the #MeToo movement, women harness digital ICTs and social media not only to empower themselves, but to empower other women and girls through female networks. As further demonstrated, the digital media space provides platforms of visibility where women can make their voices heard and dominate the conversation, creating a deafening dialogue surrounding gender power dynamics and equality, with the potential to influence real social, cultural, and political change in our society.

Therefore, digital tools offer the potential to network and organise, as well as challenge the structural inequalities in society. However, the digital and media space also have the capability to perpetuate inequalities and stereotypes, and prevent equitable and sustainable development that benefit all human beings. Thus, it is crucial to recognise how digital content affects our attitudes, beliefs, and ideas, and how these can disseminate damaging stereotypes and inequalities, or challenge the status quo. This will be the focus of the following chapter.

Chapter 3 – How Digital and Media Content Affects our Attitudes, Beliefs, and Views

“Media has the power to educate, to shape people’s thoughts, it also has an incredible power when you get to see somebody who’s like you on-screen.” (Rhimes, 2019)¹⁵

The Internet and wireless communications are fundamentally altering the way we communicate, and therefore behave (Cardoso, 2006). In 2010, Johanna Blakley, a media scholar at the University of Southern California, gave a TEDtalk on social media and the end of gender: *“The future entertainment media that we're going to see is going to be very data-driven, and it's going to be based on the information that we ascertain from taste communities online, where women are really driving the action”*. Social media has the potential to influence the media landscape. Traditional media companies used to look at basic age and gender demographics to understand their audiences. However, the increased usage of social media is changing the way consumers are viewed across industries. On social media, individuals congregate around their tastes and interests, essentially around what they like and do not like. To understand their audiences, companies are now paying attention to online communities and their tastes, as knowing what consumers are interested in is more useful in attracting and maintaining business than basic demographics. The revival of the sitcom, *Brooklyn Nine-Nine*, is a concrete example of the power of audiences using social media to voice their interests and change outcomes (Goldberg, 2018). Within minutes of broadcast television network FOX announcing the series cancellation, *#Brooklyn99* and *#RenewB99* became trending topics on Twitter, with actors and fans of the show voicing their disappointment and outrage at the cancellation and demanding a revival. Due to the massive fan-generated interest, and the added bonus of having an already built audience base, it was reported that multiple outlets were interested in potentially reviving the show, and 48 hours later, it was revealed that another network had picked up the show for a sixth and seventh season (Otterson, 2019). *Brooklyn Nine-Nine* generated so much interest, that following the cancellation, the show managed to pick up new fans, who began watching after seeing how passionate others were about it on social media. Thus, the impact of audiences and taste communities on social media can be sizeable. Communities online can attract new consumers due to the dissemination of media

¹⁵ Shonda Rhimes in: Good Deed Entertainment (June 13, 2019). This Changes Everything Official Trailer | FATHOM EVENT JULY 22. Video File. Retrieved from <http://www.creativechaosvmg.com/genderinhollywood>

content, such as posting humorous commentary, funny gifs¹⁶, memes¹⁷, and videos that catch the eye of individuals who are not part of these taste communities and start to want to become part of the conversation. Taste communities can explain why certain products and services are popular, from technology devices such as the iPhone, to what people are watching worldwide. For example, the global power of social media and taste communities can partly explain the recent global popularity of British comedy series, *Fleabag*. *Fleabag* went from being relatively niche and unknown in the UK, to moving from BBC Three to BBC One, to being picked up by Amazon Prime for a global audience. The show became such a hit, in 2019 it received eleven Emmy nominations, and ultimately won six awards (Nguyen, 2019). Thus, online communities can be a collectively powerful influence on both users and power structures.

Public communication continues to be processed by mass media (e.g., TV and print). However, there is an increasing interaction between these and computer mediated communications. Mass media has both the capability to perpetuate inequalities and stereotypes, as well as disseminate content that counters these. The Internet and social media have the potential to be appropriated to challenge and influence content depicted in mass media. As stated by Cardoso (2006: 17): “*the Internet does not eliminate television, it transforms it*”. Furthermore, the Internet is a new vehicle for traditional media, providing new ways of reaching audiences and creating new ones. Thus, it is crucial to recognise how digital content affects attitudes, beliefs, and ideas, and how these can disseminate damaging stereotypes and inequalities, or challenge the status quo. Accordingly, in this chapter, the first section explores why content matters, drawing on cultivation theory and social cognitive theory frameworks to understand how and why the representation and characterisations of women in media content are meaningful. The second section delves into creating diverse media content, presenting data-driven streaming services as an opportunity to change content production to be more female-centric, to ultimately improve representations and portrayals of women, challenge gender stereotypes, encourage

¹⁶ A lossless format for image files that supports both animated and static images [as defined by *Oxford Languages*]

¹⁷ An image, video, piece of text, typically humorous in nature, that is copied and spread rapidly by Internet users, often with slight variations [as defined by *Oxford Languages*]

empowerment, and create positive female role models. The chapter concludes with the influence of media representation on the career decisions of girls and young women, ultimately encouraging or discouraging them from certain industries.

3.1 Content Matters: Gender, Power, and Visibility

“When we are not seen, when we are not heard, we do not exist.” (This Changes Everything, 2019)¹⁸

Women are drastically under-represented in the media industry (Lauzen, 2017). Although women consume more media content than men, they are overall twice as likely to see a male character on screen than a female character, and when women are on-screen they tend to be represented in a stereotypical way. Diverse and accurate representation in media content is of great social significance, as media exposure is highly influential on people. Television is the most prevalent form of media in our society (Witt, 2000). Television is not simply a passive medium; media exposure is highly influential on self-perceptions, broader gender conceptualisations, and the development and reinforcement of stereotyped beliefs (Sink & Mastro, 2017). Consequently, exploring gender portrayals and representation in TV and film is of great social significance. Although viewers may not be aware of the impact media representation may have on them, research has shown that media content has the ability to influence viewers’ beliefs and behaviours. Harmful gender representations of women is common, particularly in the context of entertainment media, which can reinforce negative gender stereotypes and be a form of oppression (Gurumurthy et al., 2012). Research has found that media presentations of women in non-traditional roles can be emancipatory, exposing women and girls to alternative representations of women and gender roles (Cummings & O’Neil, 2015). This can gradually change women’s own personal aspirations (i.e., increasing power within), as well as change global social attitudes towards women and girls. Accordingly, there has been significant research on how audio-visual media content has the potential to impact gender role attitudes.

Cultivation theory and social cognitive theory provide theoretical frameworks for understanding how and why the representation and characterisations of female characters

¹⁸ Good Deed Entertainment (June 13, 2019). This Changes Everything Official Trailer | FATHOM EVENT JULY 22. Video File. Retrieved from <http://www.creativechaosvmg.com/genderinhollywood>

in audiovisual media (like TV) are meaningful. Cultivation theory directly addresses how the pervasive themes incorporated in media and audiovisual content can affect beliefs and opinions about the nature of society (Abrams, Eveland, & Giles, 2003). Cultivation theory suggests that long-term exposure to media content makes viewers (especially heavy consumers) more susceptible to media messages and the belief that these are real and valid (Gerbner et al., 2002). Consequently, the presentation of different social groups (e.g., gender, race, ethnicity, or age), in terms of how frequently they are seen and how they are portrayed, may shape viewers' cultural perceptions and how they perceive the world around them. For example, children that watch TV become significantly more stereotyped in their gender role attitudes compared to children that do not watch TV (Harwood & Anderson, 2002; Witt, 2000). Furthermore, research has also shown that children who watch programs with non-traditional gender roles will tend to have non-traditional gender role perceptions, and thus less gender stereotyped beliefs (Aubrey & Harrison, 2004). Moreover, the level of representation of a social group in mainstream media is very meaningful as it projects a message about the relative value and strength of that group in society (Harwood & Anderson, 2002). Accordingly, if a social group is absent or under-represented in media content, it suggests that this group is unimportant in society. As stated by Ryan O'Connell, creator and lead actor of *Special*, a series based on his experience as a gay man with mild cerebral palsy trying to rewrite his identity:

“When you don't see yourself being reflected back at you on screen, you are implicitly told that you don't matter, that your story is not worth being told. And I think that hurts a lot, and it's engrained in you at a very young age, and it affects the way you move through the world.” (Netflix UK & Ireland, 2019)¹⁹

If the lack of women on-screen, particularly the lack of diverse and representative female lead characters, points to the relative unimportance of women compared to men in society, and the idea that women's complex and diverse stories are not of much interest, this can be harmful towards women and girls' well-being, sense of self and development, as well as detrimental to men and boys' conceptualisation of and behaviour towards women. As emotionally expressed by Indian and American actor Mindy Kaling in an appearance on *A*

¹⁹ Netflix UK & Ireland (2019, April 18). The Cast of Netflix's *Special* Talk LGBT, Disability and Minority Representation | Seeing me on TV. Video File. Retrieved from https://www.youtube.com/watch?v=yP37n5LoC_o

*Little Late With Lilly Singh*²⁰, the first American broadcast major network late-night talk show to be hosted by a woman, as well as the first openly bisexual person and the first person of Indian descent: “*If I had, growing up, seen you on TV, it would have been huge. I was already obsessed with late night TV, but it was like loving something that didn’t love me back. I can’t wait for my daughter to watch the show*”. Thus, the representation of women, in terms of how frequently they are seen and how they are portrayed, are important in shaping women and girls’ identity and sense of belonging, as well as viewers’ socio-cultural perceptions, and how they perceive the world around them.

Social cognitive theory posits that an individual’s knowledge acquisition can be directly related to observing others; by observing the behaviours of others, an individual can develop rules that guide subsequent thoughts and behaviour (Sink & Mastro, 2017). Media, especially TV, is an influential source of socialisation. For example, research investigating social learning theory has found that already at a young age, children can model roles and behaviours seen on TV (Bandura, 2002). A study conducted by Witt (2000) found that children who saw pro-social behaviours on TV, such as sharing, were more likely to exhibit the same type of pro-social behaviours. Why is representative content important? Media is an important source for identity development and social identity gratifications, especially for children and adolescents (Ellithorpe & Bleakley, 2016). Identity development generally involves a process of trying to understand what it means to be a member of a relevant social group such as gender, and the expectations that society has. As such, to support their identity development and help them understand their group membership, as well as expose themselves to what other members of their identity group are doing, adolescents are likely to seek out relevant exemplars in media content. Accordingly, studies conducted by Trepte and Krämer (2007), found that individuals in the US, Germany, and Great Britain rated TV series that featured protagonists that matched their sex more highly and were more likely to watch these series, than those that featured protagonists of the opposite sex. In terms of a theoretical perspective, social identity gratification suggests that individuals are more likely to look for content with characters that are like them, especially messages which support their social identities, and experience greater enjoyment from these (Harwood,

²⁰ A Little Late With Lilly Singh (2019, September 16). Mindy Kaling Discusses Updating The Office for 2019. Video File. Retrieved from https://www.youtube.com/watch?v=TbIB8la_y6s

1997). In support of this, a study conducted by Ellithorpe and Bleakley (2016) found that TV series popular with female adolescents exhibited more gender diversity (i.e., had more female characters), than series popular with male adolescents. Thus, seeing yourself represented on-screen can be incredibly meaningful, and positively or negatively influence identity development.

Identity processes can be of great importance, as strong identity formation is linked to positive outcomes for psychological well-being and self-esteem, and strong group identity may even act as a buffer against negative psychological effects of discrimination (Harwood, 1997; Ellithorpe & Bleakley, 2016). Thus, the characters in media content that adolescents watch are important not only for identity processes, but also for models of behaviour. For example, when navigating a novel or complex situation, individuals' behaviour may be influenced by the characters they see on-screen and online. According to social cognitive theory, models for behaviour have greater impact when the model is: deemed to be similar to the message receiver; when the model experiences positive outcomes in response to the behaviour; and when the model is socially attractive (Bandura, 2001). As demonstrated, research has found that individuals tend to gravitate towards and prefer content that contains characters from their own social groups (like gender), and will avoid content when it does not depict their group members or does not depict them positively (Abrams & Giles, 2007). As individuals relate primarily to characters that are personally relevant and most resemble them, it is important to have a diverse array of characters that are accurately representative of the whole population, so that for example, all young girls and women can look at popular media and feel that there are characters that relate to them. Furthermore, better representation of women and girls on-screen may have an important impact on inappropriate and violent behaviour towards women, as research has shown that men and boys exposed to media content with violence against, and sexual objectification of female characters, had a greater tendency to develop less progressive judgments (e.g. in terms of sexual harassment) and more supportive rape attitudes (Dill, Brown, & Collins, 2008). Thus, representative media where women have a place to safely and accurately tell their stories may have the potential to not only break down gender dynamics and dismantle gender stereotypes, but to also influence and diminish sexist and stereotyped attitudes and behaviours towards women (increasing women's feelings of

safety and security both on- and off-line). Representations of minority and oppressed communities can humanise people, and consequently positively influence the attitudes and behaviours of people that do not belong to these communities (Shakespeare, 1994). Thus, positive, diverse, and accurate representations of women on-screen can lead to more positive attitudes and behaviours towards women.

As explored in the previous chapter, a first step towards power is visibility, which in turn can lead to creating significant socio-cultural and political impact (Gurumurthy et al., 2012). However, visibility is a double-edged sword, it can be both empowering as well as disempowering. According to Gross (1994: 143), popular culture is embedded in power and status quo, and those that control media decisions can distort or keep women's voices from being positively and accurately represented in the "reality" of media constructions:

“Those who are at the bottom of the various power hierarchies will be kept in their place in part through their relative invisibility; this is a form of symbolic annihilation. When groups or perspectives do attain visibility, the manner of that representation will reflect the biases and interests of those elites who define the public agenda. And these elites are mostly white, mostly middle-aged, mostly male, mostly middle-and upper-middle class, and (at least in public) entirely heterosexual.”

Historically, entertainment content has portrayed dominant groups in a positive light, and non-dominant groups in either a negative light or not at all (Abrams, Eveland, & Giles, 2003). Although representations of women have significantly improved over the last few decades, there continues to be prevalent underrepresentation and stereotypical depictions of women (Signorielli & Bacue, 1999). Thus, it is important to have representative voices in the creation of media, that in turn produce diverse media content so that women attain visibility, but more specifically, achieve positive visibility. As stated by Mandal (2013: 20): *“Power also means having women's contributions recognised and valued.”*

Increasingly, audiences are able to voice their opinions and have an impact on the stories that are told. Digital ICTs and media present new opportunities for women and girls to create content. As explored in both Chapter 1 and 2, the Internet has evolved to be a space where everyone who has access can become creators and express themselves through media. There has been an explosion of subscriptions to content communities, such as YouTube and TikTok, which enable media sharing and the creation of original content. These digital platforms combine media production and distribution with social networking

features, making them a great place to create and circulate content, as well as connect and collaborate with others. These digital media platforms encourage individuals to become media creators, offering a participatory culture in which people can learn, develop, and interact. It also allows individuals to create content relevant to them, and potentially to challenge gender stereotypes by playing with and opposing notions of both traditional masculinity and femininity. The active involvement of women and girls in the creation of media content is important for improved representations of women, challenges to gender stereotypes, and the creation of role models.

3.2 Changing Content and Choice: An Opportunity for Change

“The future entertainment media that we're going to see is going to be very data-driven, and it's going to be based on the information that we ascertain from taste communities online, where women are really driving the action.” (Blakely, 2010)

Streaming services, such as Netflix, Hulu, and Amazon Prime present an opportunity to change content production outside of traditional Hollywood structures, and turn a traditionally male-dominated industry into a more diverse one (Molina-Guzmán, 2016). Lauzen (2017) found that streaming services featured a greater number of TV series with major female characters than traditional broadcast network programs. In line with this, an interview with Cindy Holland, vice president of original content for Netflix, revealed that the platform is committed to producing “*diverse*” and “*eclectic*” shows with the goal of serving “*an increasingly global audience*” (Ryan, 2015). The online nature of streaming platforms enables the services to be very data-driven and create content that directly reflects the interests of their consumers. Operating on subscription payment plans, streaming platforms are able to see: who is paying to access their content; what content they are accessing; and the type of content the consumer likes or does not like (Leonard, 2013):

“Netflix registers hundreds of millions of such [data] events. As a consequence, the company knows more about our viewing habits than many of us realize. Netflix doesn't know merely what we're watching, but when, where and with what kind of device we're watching. It keeps a record of every time we pause the action – or rewind, or fast-forward – and how many of us abandon a show entirely after watching for a few minutes.”

Although, this data collection does not tell Netflix the reasons for people's behaviour on the platform, it does allow them to make calculated inferences on what people like and do

not like. In a saturated media market, being able to predict what viewers want can give streaming platforms an edge over traditional broadcasting networks and the film industry. For example, in a blog post for GigaOm.com, about Netflix original content and how Netflix understands how millennials watch TV, millennial staff writer Eliza Kern (2013) stated:

“I’m currently using my parents’ Netflix subscription, but if they ever rescinded that generosity or stopped subscribing, I’d happily pay up. And the reason I suspect that my friends and I are willing to fork over for Netflix is that, in general, it feels like the company understands how we want to watch TV.”

The rise of these online streaming services as well as content creation platforms (like Youtube and TikTok) have dramatically altered global media habits, especially in teenagers and young adults. The development of the Internet, including tools that promote the production and dissemination of content have changed the nature of entertainment, as well as how it is consumed (Cardoso, 2006). A survey conducted by the Pew Research Center in 2017, found that about six-in-ten young adults (61%) between the ages of 18 to 29, watched TV primarily via streaming services on the Internet. Whereas only 31% of participants said they mostly watched TV from a cable or satellite subscription. They also found that a growing number of households now either do not own a TV, or only have a TV to watch content via digital streaming services. Older age groups were less likely to use internet streaming services and were much more likely to cite cable TV as the primary way they watch television. Furthermore, according to market research done in 2013, 60% of viewers born after 1981 regularly consume entertainment content across different types of screens including laptops, tablets, phones, and TV sets, often juggling two screens at once (Matrix, 2014). For example, individuals may watch TV on their laptop, while using their smartphones to scroll through social media platforms or communicate with friends. Streaming services have better understood their consumer base, creating features that integrate with their users’ viewing habits. For example, in 2016, Netflix announced they had developed a mobile app that allowed offline playback, meaning that anyone with a Netflix subscription could download movies and TV shows to the app and watch while not connected to the Internet (Nunez, 2016). The app also allows users to be able to consume Netflix across multiple devices including: computers, smartphones, tablets, and TV. These global media habits have become so influential, that this trend of offering video on demand

across multiple devices can now be seen for a variety of streaming services, as well as traditional broadcast networks (e.g. The HBO app²¹ which offers video on demand access of the network's programming via its website and mobile app), and media providers (e.g. App NOS TV²² which allows you to watch their programming live across various devices or download programmes to watch offline). In an interview with The Washington Post, Beau Willimon, creator of the Netflix series *House of Cards* described this trend as “viewer empowerment”: “*What you have is really a trend in viewer empowerment. People getting to watch what they want to watch when they want to watch it, and on what device they want to watch it.*” (Goldstein, 2013). Thus, the Internet has led to the increased digitalisation of TV, as broadcasting moves towards an Internet presence, often including web-based television (Beyer et al., 2007).

The evolution of the Internet and tools that promote the production and dissemination of content has also altered the media landscape, with media companies changing their entertainment offers to focus on audience diversity demands (Syvertsen, 2004). Data-driven technological advances have allowed media companies to capture diverse markets by creating content that directly appeal to these, producing content which represents and positively portrays social groups. Streaming platforms have more flexibility in the content they create (Stoddart, 2017). Netflix, Amazon, and Hulu began as content distribution platforms before they started investing in creating original content. Thus, as they already have their own established form of content distribution, they do not need to play by the same rules as traditional studios. Essentially, as streaming services are not accountable to, or restricted by, the same strict regulations of Hollywood studios, these have the creative freedom to commission content from a more diverse range of people. For example, in an effort to expand their development of original programming and bring “*bold and innovative series and films from up-and-coming creators to customers*”, Amazon Studios launched an online portal to allow writers and creators to directly submit film scripts and TV series ideas for production (West, 2012). This system is beneficial to those who are

²¹ “*Stream new movie releases and classic favorites on HBO.com or on your device with an HBO app*” Retrieved from <https://www.hbo.com/>

²² “*A sua televisão, em qualquer lugar*” (Translation: “Your television, anywhere”). Retrieved from <https://www.nos.pt/particulares/televisao/nos-tv/Pages/nos-tv.aspx>

under-represented in the media industry, such as women and minority creators, as they can pitch directly to streaming platforms, rather than needing the right industry contacts to have their content produced. Consequently, streaming services have the creative freedom to push representational boundaries and invest in more diverse content, as well as unconventional narratives. As stated by Lisa Taback, Vice President of Talent Relations and Awards at Netflix: *“Broadcast television is limited by its need to serve a mass audience, which can sometimes mean a one-size-fits-all programming mentality. At Netflix the culture encourages experimentation”* (Variety Staff, 2019).

Marcelle (2002) argues that women’s active involvement in the creation of media content and programming is essential for improved representation and portrayals of women, challenges to gender stereotypes, and the creation of positive role models. Streaming services are developing more representative female-centric narratives, with stories written by women, about women, to satisfy their large and diverse female audience. For Amazon Video in particular, audiences have a significant role in influencing what content gets made (Robertson, 2012). The pilot from each successful pitch is produced and posted on the platform, where consumers can vote and give feedback. Amazon reviews this information, and invests in a full season accordingly. Consequently, audiences are directly involved in deciding what content gets made. As women tend to be the largest viewer demographic of TV and film, it follows that there will be an increase in the production and popularity of women-centric content.

3.3 Producing More Representative Content: Netflix Case Study

Netflix provides an interesting case study (especially as it represents a huge global market segment), in the production and popularity of women-centric content and how changes in how media is consumed can subvert traditional stereotypes and power dynamics. Launched in 1997 as a DVD-by-mail service, Netflix has evolved to be one of the most well-known and popular distributors of film, TV, and original content, becoming the world’s leading video on demand content delivery platform (Adhikari et al., 2015; McDonald & Smith-Rowsey, 2016). More commonly denominated as an “online streaming platform”, Netflix is

also the most globally accessible service, available in 190 countries²³. Currently, Netflix is only not available in China (although they are exploring options for providing the service), as well as in Crimea, North Korea, and Syria due to US government restrictions on American companies. By the end of 2019, Netflix had surpassed more than 150 million subscribers worldwide, with many more accessing the platform through partners, friends, and family members (Kafka & Molla, 2019).

Netflix has been investing in more women-led shows with the goal of creating more opportunities for women working on and off-screen, as well as, diversifying their programming and making it more representative: “*Netflix has committed to building a strong and supportive network of female talent on and off screen, who gravitate towards storytelling that is more reflective of what complex female relationships look like today.*” (Gemmill, 2017). An example of this initiative in action is *Jessica Jones*, where each episode of the second season was directed by a different woman (Ryan, 2016).

Melissa Rosenberg, executive producer and show-runner, wanted to increase the number of female directors in the second season of the show, and then following a suggestion from the production team, a conscious decision was made to only book women, especially given the growing demand for female directors.

Two Netflix original films which exemplify women-created entertainment that subvert traditional stereotypical narratives have been selected as examples. The first, *Someone Great*, diverts from traditional gender tropes to present a more unfiltered version of women’s lives. The second, *Always Be My Maybe*, presents an example of a film that exists simply due to an audience calling for the creation of the movie which also subverts usual romantic comedy tropes. However, it is important to note that although more new stories by diverse voices are being created by film companies and streaming services, these businesses are not exempt from bad practises or controversy simply by investing in more representation and diversity. Most recently, Netflix has come under public fire for an inappropriate promotional image for award-winning French film *Cuties* (BBC News, 2020). Created by Maïmouna Doucouré, a Franco-Senegalese film-maker, the film aims “to

²³ Netflix Help Center (2020). Where is Netflix available? Retrieved from <https://help.netflix.com/en/node/14164>

highlight how social media pushes girls to mimic sexualised imagery without fully understanding what lies behind it or the dangers involved". Netflix's promotion of the film showed a picture of four young girls posing provocatively. Following public controversy, Netflix replaced the image stating it was not representative of the film.

3.3.1 Someone Great: A Love Story Dedicated to Women Choosing Themselves

When Jennifer Kaytin Robinson sat down to write *Someone Great*, she knew she wanted to make a movie about a woman who chooses herself: *"I really wanted to make a romantic comedy that was rooted in self-love, and about choosing yourself"* (Entenman, 2019).

Writer and director Robinson decided to break the traditional romantic comedy mould, instead of 'girl gets boy, girl loses boy, girl gets boy back', she chose to write a film about 'girl gets boy, girl loses boy, girl chooses herself and her career'. Although the movie focuses on the break-up of 20-something protagonist Jenny, the story is equally as much about strong female friendships and their importance: *"I wanted to make something about female friendship and base-level, genuine love that I don't see as often as I'd like to on screen."* (Kaufman, 2019). As stated above, Netflix is committing to creating and developing stronger female stories that are *"more reflective of what complex female relationships look like today"*, and this film fits that notion (Gemmell, 2017). The women in *Someone Great* are a model for what friendships are supposed to look like: fun, supportive, holding each other accountable, and even when they are fighting, being able to understand and listen to each other. The film provides accurate and realistic representations of millennial women, presenting strong, flawed, emotional, and complex women navigating their – at times – messy and complicated lives; as well as women who swear, talk loudly about sex, and take illicit substances. Other than the "night out" scenes in the film, the characters do not wear much make-up, a purposeful choice from Robinson who wanted the characters to look like real everyday people (Highfill, 2019). Furthermore the film subtly celebrates diversity and queerness, with a cast and storylines that are diverse, inclusive, and representative of the real world. As the story is set in New York City, Robinson wanted the casting to be representative of the diversity of the city:

"I wanted this movie to reflect all the people that it's for and to have it feel very inclusive, but without it feeling like a political statement. It's just a movie about love and friendship, and we happened to be able to cast really, really incredible people who

are diverse and who make this movie feel correct and inclusive and wonderful.” (Entenman, 2019)

The film has been very well received, with a large number of both men and women talking about it on a variety of social media platforms. In an interview with HelloGiggles, writer/director Jennifer Kaytin Robinson stated:

“It’s been really exciting to share this film and have women and men feel really seen by it. [...] To have so many women come up to me and tell me that this movie meant something to them—whether it’s through the romantic part, the female friendship, Erin’s queer storyline, the way Jenny chooses herself, or the way Blair lets her hair down and decides she’s going to disrupt the path she thought she wanted to be on – it’s been a really incredible experience.” (Entenman, 2019)

3.3.2. *Always Be My Maybe: The Romantic Comedy the Internet Willed Into Existence*

Netflix recently revealed that their new film, *Always Be My Maybe*, was a “rom-com the internet quite literally willed into existence” (Cheng, 2019)²⁴. In an interview with *The New Yorker* back in 2016, lead actor, Ali Wong, revealed that she and her *Fresh Off the Boat* collaborator and longtime friend, Randall Park, wanted to make their own version of *When Harry Met Sally* (Levy, 2016). This comment attracted a great deal of attention from both journalists and fans on social media, who demanded to see Wong and Park’s romantic comedy immediately (Jung, 2019). Soon after, the two actors and their teams started receiving calls about the film's script. Randall Park said in a recent interview:

“I think you guys are probably responsible for the movie happening. I don’t think it would’ve happened without that article about the article. After that came out, both our respective teams got inundated with calls for the script, and we thought we should write it.” (Jung, 2019)

A film review of *Always Be My Maybe* by *Variety* stated:

“The positive influence of “When Harry Met Sally” is noticeable in the undercurrents, but Netflix’s politically correct romantic comedy has its own unique identity, savouring aspects of Asian-American culture and treating both protagonists as equal partners.” (Howard, 2019)

Starring a primarily Asian-American cast, the film subverts many negative stereotypes and tropes typically applied to East Asians, creating fully fleshed three-dimensional representations, that may make audiences who often do not see themselves on-screen feel seen in subtle, yet powerful ways (Fang, 2019). Furthermore, the film received lots of

²⁴ Cheng, Susan (@NetflixFilm). “Hi! It’s @scheng_ here to talk about *Always Be My Maybe*, starring Ali Wong and Randall Park, a rom-com the internet quite literally willed into existence (thread):”. 29 May 2019, 7:48PM. Tweet. Retrieved from <https://twitter.com/NetflixFilm/status/1133792288058929152>

positive feedback from women for featuring a lead character in a romantic comedy that wears glasses full-time, as opposed to the classic trope in which female characters are only deemed attractive or sexy once they remove their glasses. Ali Wong shared: “*My favorite was how so many women appreciated that my character Sasha wore her glasses from beginning to end. I realized that’s something you’ve never seen for a leading female character in a rom-com.*” (Variety Staff, 2019). The popularity of the film succeeded in furthering the profile of Ali Wong as an actor as well as a comedian, and has also advanced the career of Nahatchka Khan who made her feature directorial debut with *Always Be My Maybe*. Since the release of the film, Khan has signed a multi-year, first-look feature films deal with Netflix. Streaming services provided a platform for a representative story, with a female director and a diverse cast, where the primary actor is an Asian-American woman; a film that may not have been picked up by traditional Hollywood studios.

3.4 Chapter Conclusion

This chapter began with an example of the potential influential and transformative power of social media on the media landscape. Social media and taste communities may be driving the creation of mass media and online content. If audiences are able to voice their opinions and have an impact on the stories that are told, what can this mean for women? Going back to Blakley’s (2010) prediction, data-driven platforms do seem to be basing content development on information obtained from online taste communities, and it appears that women may really be driving the action as more content is being developed to represent and satisfy diverse female audiences. Why is representative content important? As explored through a cultivation theory and social cognitive theory framework, media has both the capability to perpetuate inequalities and stereotypes, as well as disseminate content that counters these. Positive and frequent representations of women are valuable for increased psychological well-being and self-esteem. As stated by Mandal (2013), it is extremely powerful for women to have their contributions recognised and valued, both on- and off-screen. Furthermore, representative content has a strong impact on the future career decisions of girls and young women. Recent research conducted by Microsoft (2018) found that girls with a role model that inspired them were more likely to consider a career in STEM. Girls who looked up to female role models in fictional film, literature, and real-life women working in the industry, were more interested in pursuing a career in STEM,

more passionate about STEM subjects, and could imagine a career in the sector more easily compared to those without a role model. As stated by Cindy Rose, Microsoft UK Chief Executive: *“Providing more girls with access to female role models is just one step in the right direction on our mission to dispel stereotypes associated with the tech industry and get girls excited about a career path in technology”*. Thus, both fictional and non-fictional media representations can influence girls and women’s career paths, either encouraging or discouraging them from certain industries. As argued by Marcelle (2002), the active involvement of women and girls in the creation of media content is important for improved representations of women, challenges to gender stereotypes, and the creation of positive role models.

The next chapter focuses on the representation and realities of women in the tech industry. Until now, this dissertation has focused on the evolution, influence, and impact of ICTs on giving more women access to social, economical, and political empowerment. Although, ICTs may have given more women voices in the global digital sphere, it is important to have women represented in the creation of new technology products and services, as it is vital for women to not only appropriate these new technologies, but to have a voice in the direction of future tech so that products and services are designed and built with a diverse audience in mind, and bring about important social change relating to power structures embedded in technology.

Chapter 4 – Shaping the Future: Women’s Experiences in the Tech Industry

“Technology was seen as socially shaped, but shaped by men to the exclusion of women” (Wajcman, 2007: 290)

Historically, technology has been traditionally male, with femininity being seen as incompatible with technological pursuits, and women being seen as technologically incapable and ignorant (Wajcman, 2006). As a result, women have had a long and complex historical relationship with the tech sector including limited participation, marginalisation, and exclusion from the field (Harding, 1986; Noble, 1992). From the history of technology, we know that people adopt, use, and modify new technologies and new forms of mass communication in ways which fit their needs and desires to ultimately benefit the user (Castells, 2013). Furthermore, people have appropriated new forms of communication to build their own systems of mass communication and personal networks, establishing extended digital social networks and communities around themselves and their interests which can serve a variety of functions, such as creating spaces where women can express themselves, find support, learn and network, ultimately, appropriating masculine technology to suit women’s needs (Kaplan & Haenlein, 2010).

As explored in the previous chapters, women are actively participating in the digital networked society, and increasingly driving action online. Not only has research found that women have adapted better to using mediated communication technologies than men (Kimbrough et al., 2013), but the communal nature of social networking sites seem to be more suited to stereotypical female gender roles (Wajcman, 2006). Data has consistently demonstrated that in technologically advanced countries, women dominate social networking technologies, outnumbering men on all major social media platforms, as well as on the amount of time spent on social media websites (Pew Research Center, 2018). As women are the ones dominating the social media space, Blakley (2010) argued that social media applications have the potential to break down gender dynamics, and dismantle gender stereotypes, ultimately changing the global landscape to become more female-centric and female-positive. Furthermore, the digital media space provides platforms of visibility where women can make their voices heard and dominate the conversation, creating a deafening dialogue surrounding gender power dynamics and equality,

challenging structural inequalities in society, with the potential to influence structural, social, cultural, and political change in our society.

The previous chapters delved into three principle concepts: firstly, networks; secondly, empowerment; and thirdly, representation. ICTs may have given more women access to digital networks, and spaces for potential empowerment and representation. However, it is important to look further at ICTs and explore the representation and realities of women in the tech industry, which is the focus of this chapter. As posited by several techno-feminists (e.g., Cockburn, 1985; Wajcman, 2007), gender is integrated into technology itself and thus the active involvement of women in the creation and distribution of tech is important so that products and services are designed and built with diverse audiences in mind, including women. Consequently, the first section of this chapter explores the reflections of gender biases in technology. The second section delves further into the existing gender gap in tech companies, and examines the factors behind this. The final section, explores the side effects, on women, of working in a male-dominated industry, such as impacts on well-being and confidence.

4.1 Shaping the Future: Reflections of Gender Biases in Technology

“Algorithmic bias can lead to exclusionary experiences and discriminatory practices.”
(Buolamwini, 2016)

Women are under-represented in the tech industry. For example, in Europe less than 7% of tech positions are filled by women. In an increasingly digital and automated world, and with the growth in use of technology and AI, it is important for women to be well represented and involved in the creation of this technology, as well as having a voice in the future direction of the tech industry. As explored previously, gender and technology are mutually shaped, and accordingly, technological innovation itself is shaped by the social circumstances within which it takes place (Wajcman, 2007). Feminist analyses posit that men’s traditional monopoly of technology results in technology that is designed by men, with men in mind. As gender is integrated into technology, it reflects gender divisions and inequalities. Although data-driven algorithms make objective decisions based solely on facts, there is overwhelming research that shows that algorithms can inherit biases at different stages in the creation process, for example during training from imperfect or non-

representational datasets, and then perpetuate these distortions (Barocas & Selbst, 2016). Artificial intelligence operates and learns from the data it is given, and as the data is often generated by and collected from humans, it carries inherent biases, including biases about women. The tech industry continues to be male-dominated, particularly for technical roles such as software engineering and data science (Daley, 2020; Funk & Parker, 2017). When male developers develop technology and algorithms for AI and more, they may unconsciously incorporate biases at different stages of creation, encoding gender, racial, and cultural biases (Tolan, 2018). As a result, companies are developing technologies that reinforce inequality.

Research into AI does indeed reveal gender biases. This is dangerous as data-driven machine learning methods are currently exploited in technology that is used on a daily basis, including search engines, navigation apps, music and film recommendation systems, as well as in professional contexts, such as hiring processes, medical diagnoses, and judicial decisions. Authors have found that voice and speech recognition systems perform worse for women than for men (Rodger & Pendharkar, 2004; Tatman, 2017). Facial recognition systems have been discovered to disproportionately misidentify female faces, in particular, women of colour (Buolamwini & Gebru, 2018). Moreover, researchers have found that recruiting tools and hiring technologies inherit gender biases, unfairly screening women in job application processes, and favouring applications from male candidates over female candidates (Dastin, 2018). There have also been serious consequences to the performance of biased, inaccurate, or unregulated technology. For example, Facebook, a widely used global platform, was recently sued for discriminating against older and female users by withholding advertising for financial services including bank accounts, insurance, investments, and loans (Stempel, 2019). Furthermore, in 2018, a self-driving car operated by Uber failed to “see” a woman while navigating, hitting and killing her (Wakabayashi, 2018). These technologies are increasingly embedded in daily lives, thereby impacting every area of personal and professional lives. Therefore, it is vital for technology to be inclusive and attuned to the people who use it, as well as the people it is used on, otherwise there is a risk of technology reproducing biased and discriminatory societal structures, and reflecting a limited and privileged version of society (Lohr, 2018; Yapo & Weiss, 2018).

Much research has shown that improving gender balance and having a more diverse workforce and leadership teams leads to superior financial and stronger operational performance, increased innovation, greater team performance, and enhanced company reputation and responsibility (Herring, 2009; Carboni et al., 2019; Catalyst, 2020). Research into organisational diversity has found several advantages of diverse teams, including greater innovation and better versatility in problem solving, as diverse teams are more likely to generate better product designs and have broader perspectives compared to homogenous teams made up of similar individuals (Lewis, 2006). Increasing diversity brings differing perspectives, new ideas, and creativity to the work environment. For example, women and men tend to approach problems from different perspectives as a result of differences in upbringing and socialisation, so improved balance can lead to greater innovation and better ideas, designs, products, and services (Pifer, 2017; Criado-Perez, 2019). Thus it is imperative to have women participating in the tech industry, both on company boards and in technical and non-technical roles, actively involved in the creation and distribution process, so that they can steer the creation of new technologies alongside men, create more inclusive and accessible tech with women in mind, and be a part of the decision making process of the future of technology.

4.2 Exploring the Gender Gap in Tech Companies: Why Are There Not More Women?

As a rapidly growing and lucrative sector, the tech industry is creating new jobs, and there are more and more opportunities on offer from which women can benefit (Little, 2020a). As shown in the previous section, gender diversity pays off and there are multiple benefits of having more women in the workforce. However, there continues to be an overwhelming gender imbalance in the tech industry as women are under-represented at every level in the corporate pipeline and this difference becomes starker the closer you get to the top (TFQ et al., 2017; Huang et al., 2019). If gender diversity is a valuable asset in which tech companies should be investing, why are there not more women in the industry? Studies have found that some of the main reasons women are under-represented in the tech sector include: a lack of work-life balance; lack of encouragement from educational institutions in getting girls to pursue careers in tech; a lack of female role models and leaders in tech; and the tech industry being perceived as a largely male-dominated field.

Work hours in the tech sector are often demanding. For example, issues were raised at Uber for their taxing work hours. In a news article for BuzzFeed, an employee claimed that working seven days a week, sometimes until one or two in the morning, was considered normal, another told of her manager telling her that spending 70 to 80 hours a week in the office was just “how Uber works” (O’Donovan & Anand, 2017). Furthermore, in 2018, Elon Musk tweeted that to change the world, people need to work 80 to 100 hours per week (Thomas, 2019). Research has demonstrated that long work hours are inefficient, reducing productivity as well as job satisfaction rates (Carmichael, 2015; Paul, 2019). A good work-life balance has been linked to better business performance, as well as improved recruitment and retention of employees, particularly of women (Hari, 2017). Long and anti-social work hours can operate as a form of indirect discrimination. Evidence suggests that work-life conflict is a more pressing problem for women, leading to lower levels of job satisfaction, low career and life satisfaction, and increased levels of stress, exhaustion, and fatigue. The tech industry is increasingly implementing better work-life balance policies to make companies more appealing, with organisational initiatives such as temporal arrangements to reduce working hours and flexible working policies, including work from home schemes (Felstead et al., 2002; Fleetwood, 2007). These initiatives are beneficial to both men and women as employees have more autonomy and can coordinate their work schedules with things like family schedules to reduce work-life conflict (Bailyn, 2006). If these benefits and initiatives are implemented well, this can make the tech industry a more accessible, appealing, and empowering sector for women to work in as it provides greater autonomy, flexibility, control, and thus, power over their lives.

Girls’ achievements and interest in tech and scientific subjects are shaped by the environment around them. A study by Microsoft (2017) conducted in Europe found that there is a narrow four-year window of opportunity to stimulate and encourage girls’ passion in STEM subjects. The study found that young girls become drawn to STEM between the ages of 11 and 12, but that interest then declines between the ages of 15 and 16. This drop-off effect is significantly exacerbated as young women advance from one phase of education to the next:

“In elementary, middle, and high school, girls and boys take math and science courses in roughly equal numbers, and about as many girls as boys leave high school prepared to pursue science and engineering majors in college. Yet fewer women than men

pursue these majors. Among first-year college students, women are much less likely than men to say that they intend to major in science, technology, engineering, or math. By graduation, men outnumber women in nearly every science and engineering field, and in some, such as engineering and computer science, the difference is dramatic. Women's representation in science and engineering declines further at the graduate level and yet again in the transition to the workplace.” (Hill, Corbett, & Rose, 2010: xiv)

Under-representation in tech-associated fields intensifies at graduate and postdoctoral levels, and persists at professional levels, with women switching out of undergraduate STEM majors and the tech industry at a higher rate than their male peers (Eddy & Brownell, 2016). Factors including gender biases and stereotypes, male-dominated cultures, limited examples of female role models, and anxieties about self-efficacy and abilities, all play a big part in this “leaky pipeline” effect. The phrase “leaky pipeline” is frequently used to describe the gradual loss of women in STEM fields, whereby women fall out at various critical stages of their educational and career progression resulting in a greater under-representation of women in senior and leadership roles (Resmini, 2016).

Gender biases have a significant impact on career decisions, and may push women away from working in the tech industry. Both theoretical and empirical work demonstrate that self-concept (expectations of succeeding) plays a pivotal role in academic and career outcomes. According to expectancy-value theory, achievement-related choices, and career aspirations and decisions are directly influenced by perceived competence and ability (Eccles & Wigfield, 2002). Similarly, social-cognitive career theory posits that capability beliefs shape individuals' career choices (Lent & Brown, 1996). Experiences of gender bias is linked to STEM self-concept, which refers to the extent to which an individual believes in their ability to succeed in STEM fields. Robnett (2016) found that participants that experienced gender bias had lower STEM self-concept than participants who did not. However, this effect was mitigated among participants who had a supportive network of STEM peers. Supportive networks had a buffering effect on the negative implications of experiencing gender bias, so women who encountered gender bias were relatively high in their STEM self-concept as long as they also had a supportive network, whereas those that did not have a supportive network had relatively low STEM self-concept. This suggests that the consequences of gender bias may be reduced if women have supportive peer

networks, so support networks may be a beneficial resource for women both in the tech industry and those looking to enter the industry.

Women may be reluctant to pursue careers in tech due to a lack of female colleagues, peers, and mentors. Positive peer connections can affect women's sense of belonging in STEM, which may in turn diminish self-doubt from gender bias and negative social interactions (Dasgupta, 2011). As explored in the previous chapter, representation as well as female role models are critical, as female role models are more effective than male role models in inspiring girls and women to pursue a career in STEM. Further research has shown that female role models are significant in increasing positive implicit attitudes towards STEM careers (Stout et al., 2011). Thus, representation of women in tech is vital as it not only works in attracting women to the tech industry, but enables women to more easily establish a support system and a sense of connectedness within the industry.

4.3 It's a Man's World: The Side Effects of Working in a Male-Dominated Industry

“As mulheres têm de provar três vezes mais o valor delas do que os homens para chegarem à posição que merecem”²⁵

– Daniela Braga, Founder and CEO of DefinedCrowd (Ferreira, 2019)

The information technology sector is often perceived as being inherently masculine and unwelcoming to women. Men's predominance in the workforce continues to shape corporate culture and research suggests that unconscious biases and adverse stereotypes embedded in the industry contributes to the gender divide, perpetuating a lack of gender-friendly work environments and negative socio-cultural attitudes (Tanwir & Khemka, 2018). For women working in the tech industry, the workplace is a different, and at times more hostile environment than the one their male co-workers experience (Next Generation, 2018). Women in tech are more likely than men to have experienced gender-related discrimination at work. According to a report by the Pew Research Center (Funk & Parker, 2018), the most common forms of gender discrimination described by women in STEM jobs are: earning less than a male co-worker doing the same job; having someone treat them as if they are not competent due to their gender; experiencing repeated micro-

²⁵ Translation: “Women need to prove their value three times harder than men to reach the position they deserve”

aggressions in the workplace; and receiving less support from senior leaders than a man doing the same job. Women who are the ‘only’ one in their team or the office have a significantly worse experience than women who work with more women as shown below (Figure 4).

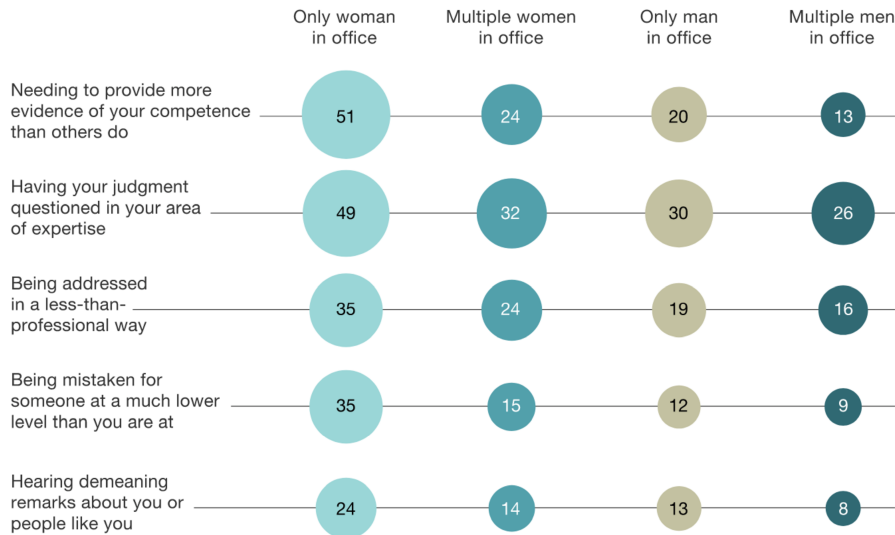


Figure 4: Employees who have experienced micro-aggressions during the normal course of business (%)
 Source: 2018 LeanIn.Org & McKinsey Women in the Workplace study²⁶

Being the “only one” is a recurrent experience for women working in the tech industry. A study by McKinsey & Company (Krivkovich et al., 2018) revealed that one in five women said they were often the only woman or one of the only women in the room at work, and this became even more significant for senior-level women and women in technical roles. Experiences of workplace gender discrimination, sexual harassment, and sexism are harmful and have been linked to numerous negative outcomes including lower job satisfaction and professional self-confidence, and greater psychological distress (Settles et al., 2012).

Workplace exclusion is also a form of discrimination and has significant negative effects on employees, as it has been associated with lower organisational commitment, overall job satisfaction, and more negative perceptions of co-workers and supervisors. Research has shown that women are more likely to experience workplace exclusion (Nugent, Pollack, &

²⁶ Retrieved from <https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2018>

Travis, 2016). For example, Findler et al. (2007) found that individuals who are different from the typical worker (e.g., women in male-dominated workplaces) are more likely to be excluded. Experiences of workplace exclusion has been associated with negative psychological well-being as it reduces individuals' sense of belonging and self-esteem. This can have a negative cumulative effect and lead to lower job satisfaction, decreased work effort, diminished employee voice, and greater intentions to leave (Nugent et al., 2016).

Bias, discrimination, and exclusion can be daily experiences inside the workplace. The combination of these experiences imposes an emotional tax which not only has strong personal consequences, but can harm companies by preventing employees from thriving at work. Emotional tax is defined as "*the combination of feeling different from peers at work because of gender, race, and/or ethnicity and the associated effects on health, well-being, and ability to thrive at work*" (Travis & Thorpe-Moscon, 2018). A report by Catalyst (Travis & Thorpe-Moscon, 2018) found that women were significantly more likely than men to describe being on guard in anticipation of gender bias. In less inclusive workplaces, women may be more likely to feel they must be on guard against gender bias, and thus pay a stronger emotional tax. Emotional tax is associated with threats to health and well-being, including sleep problems, and also strongly influences intent to leave, affecting company retention rates. However, creating empowering work environments can combat emotional tax (Thorpe-Moscon, Pollack, & Olu-Lafe, 2019). Empowerment is a key factor in creating a nurturing environment where employees feel valued and included at work. Furthermore, empowerment plays a powerful role in not only reducing emotional tax and decreasing a sense of being on guard, but also decreases intent to leave. Therefore, not only is it important for women to see themselves represented in the tech industry and to establish positive support networks to increase their sense of connectedness within the industry, it is also vital for tech companies to create empowering work environments to nurture, value, and support their employees, as well as reducing gender bias, discrimination, and exclusion.

4.4 Chapter Conclusion

Workplace culture (i.e., how individuals perceive their work environment, including its policies, practices, and procedures), contributes to women's underrepresentation in the tech industry. Characteristics including sexism, extreme work pressures exemplified by long work weeks, competitive and hostile masculine cultures, and isolation are all factors which play a part in creating an environment that disproportionately disadvantages women, and deters them from joining the tech industry (Next Generation, 2018). Benefits such as flexible routines, remote work opportunities, and high salary opportunities have led to greater socio-economic development and enhanced women's participation in the sector (Melham, Morrell, & Tandon, 2009). The tech industry is thriving, companies are fast-growing, creating new jobs, as well as innovative and revolutionary new products and services. Such products and services are becoming increasingly embedded in shaping society, culture and power structures. Thus, it is imperative for women to influence the future of technology and ensure that tech is created with women in mind. As stated by techno-feminist Wajcman (2007: 290): "*Technology is seen as socially shaped, but shaped by men to the exclusion of women*". Given that ICTs both shape and are shaped by gender norms and power relations, and exert a strong influence on politics, culture, and society, women need to be represented in the industry at all levels and in a variety of roles to ensure that future technology is shaped to encompass women and to guarantee sustainable human development, rather than simply appropriating masculine technology.

The previous chapters of this theoretical framework delved into three key concepts: networks, empowerment, and representation. Chapter 1 began with looking at how the evolution of ICTs have changed the nature of traditional social networks into the network society, leading to the development of new social structures, organisation, and forms of power (Castells, 2004). The rise of mass self-communication has resulted in people appropriating new forms of communication and modifying new technologies in ways which fit their needs and desires (Castells, 2007). Additionally, ICTs have lowered the threshold for participation in the digital space, enabling users to become main innovators and active creators in the network society, not simply passive receivers, with the ability to network, share data, collaborate and co-produce content. Chapter 2 explored the concepts of power and empowerment, and delved further into ICTs and technology as a tool for

empowerment, with the potential to transform gender dynamics and break down gender inequalities. As stated by Wajcman (2006: 12) ICTs enable women to access “*unprecedented economic opportunities, technical skills, and cultural powers*”. The use of digital ICTs can also expose individuals to alternative representations of women which can be empowering, and was the focus of Chapter 3. Chapter 3 highlighted the importance of diverse and accurate representation in digital and media content, as this has a significant influence on the development of gender stereotypes and biases, and can perpetuate inequalities and negative stereotypes, which are damaging and can be reproduced in society. Chapter 3 also demonstrated the importance of representation and presenting women in non-traditional roles as these can affect girls and women’s personal and career aspirations, which led to this final chapter, the representation and realities of women in the tech sector. This final chapter illustrated how modelled masculine ways of thinking and doing can be embedded within the tech sector and impede women’s job satisfaction, and thus progression in the tech sector. This last chapter also examined how networks, power and empowerment, and representation affect women’s experience of the tech sector, which is one of the primary objectives of this study: what are women’s experiences of working in the tech industry, and are there common themes that emerge?

PART II – EMPIRICAL STUDY

Chapter 5 – The Current Research

Significant research has explored the increasing use of ICTs, which have led to generally positive beliefs about the potential role of these in bringing about considerable societal transformations which could include the promotion of gender equality and women's empowerment. The theoretical framework delved into three key concepts: networks, empowerment, and representation, as well as the representation and realities of women working in the tech sector. The objective of the theoretical framework was to contextualise the empirical study. As such the framework explored: the evolution of ICTs and the network society (Chapter 1); the potential influence of ICTs on empowerment (Chapter 2); the potential of the Internet and ICTs to influence digital and media content, and to challenge perpetuations of traditional gender dynamics, stereotypes and biases (Chapter 3); and finally, reflections of gender biases in technology and the realities of women working in the tech sector (Chapter 4).

The rise of mass self-communication has resulted in people appropriating new forms of communication and modifying new technologies in ways which fit their needs and desires (Castells, 2007). ICTs may be an important source of female empowerment, for both individual and collective transformation, and along with media content, may have the potential to break down gender dynamics and dismantle gender stereotypes. Historically, the tech sector has been a largely male-dominated field. As such, feminist analyses have argued that technology is itself gendered (as gender is integrated into the technology itself), and consequently reflects traditional gender divisions and inequalities (Cockburn, 1985). As a predominantly male sector, the tech industry has also modelled masculine ways of thinking and doing. To create more equitable and sustainable information technology products and services that are representative, accessible, and promote positive social change, women need to be represented in all areas of the tech sector to have a say in the direction of this new technology. However, women continue to be significantly underrepresented in the tech sector. Masculine structures embedded within the tech industry may explain this underrepresentation, as well as have a significant impact on the lives and careers of those working in the sector. Thus, it is important to understand the subjective realities and experiences of women working in the tech industry, to not only

encourage more women to pursue a career in the sector, but to also develop a more diverse and representative workforce overall.

Existing research explores the experiences of women across a number of male dominated sectors. However, in terms of technology, numerous studies focus on the education sector and the consequent experiences of women studying STEM or working in academic science departments and faculties. For example, there is significant research into the educational pipeline and at what point and why women drop out of STEM subjects. Furthermore, studies in the domain often utilise self-report surveys or experimental research to look into women's experience rather than qualitative methods. More specific research into women working in the tech sector are often conducted and funded by businesses, such as McKinsey & Company or Microsoft, rather than being theoretical and academic research. The present study contributes to the existing literature by providing an empirical exploration of the subjective experiences of women working in the tech sector. As such, the core questions that guided this research were:

- Research Question 1: What are women's experiences of working in the tech industry, and are there common themes that emerge?
- Research Question 2a: Do women perceive technology to be empowering?
- Research Question 2b: Do women consider the tech industry as having the potential to be an empowering space for women?

5.1 Methodology

This dissertation uses qualitative methods to explore the subjective experiences of women working in the tech industry, as this methodology focuses more on the meaning and experience of the individual. By using qualitative methods, researchers are able to explore aspects of an individual's subjective reality and identify themes important to the individual and to a group of individuals in similar situations. This enables the collection of data that has more depth and texture than data obtained through quantitative methods. Therefore, the aim of this research is to provide a greater understanding of the individual and shared experiences of women working in the tech industry to obtain information which can open up new lines of thought and future research.

5.1.1 Participants

Participants were recruited from several social media platforms, including LinkedIn, as well as from various women networking platforms such as Slack and Elpha²⁷. Eight participants were recruited, ranging from the age of 24 to 32 ($M_{age} = 28$). Participants were selected in this age range as Millennials²⁸ are increasingly the dominant age segment in the workforce; TFQ et al. (2017) stated that by 2020 Millennials would comprise about 50% of the global workforce. Additionally, Millennials grew up during the explosion of the Internet and ICTs which is significant compared to previous generations (Dimock, 2019). Generation Z²⁹ will also make up an important segment of the global workforce, and are unique in the sense that ICTs have been a part of their lives from the beginning. However, the decision was made to focus on a Millennial population as they have been in the workforce for longer compared to their younger counterparts who are just entering the workforce. Participants were culturally, racially, and ethnically diverse, with a range of nationalities, and were based in Portugal, Spain, the United Kingdom, and the United States. For the purpose of the study, all participants selected were women who work in the tech industry, across a wide variety of roles, including Product Design, Project Management, Marketing, Software Development/Engineering, Customer Success, and the Founder of a new company. Participants had worked in the tech industry between 6 months and 8 years, with the majority of participants having worked in the tech industry for 2-3 years.

5.1.2 Procedure

Data was collected via extended semi-structured interviews (between 40-70 minutes in length), that took place over video chat, using Zoom, a remote conferencing service. To ensure that participants felt safe sharing their experiences and views, participants were briefed on data protection and anonymity processes used at the start of their interview.

²⁷ A social and professional networking platform where women in tech can talk candidly online: <https://elpha.com/>

²⁸ Defined as anyone born between 1981 and 1996 (ages 23 to 38 in 2019) by the Pew Research Center. Retrieved from <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>

²⁹ Defined as anyone born after 1996 by the Pew Research Center. Retrieved from <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>

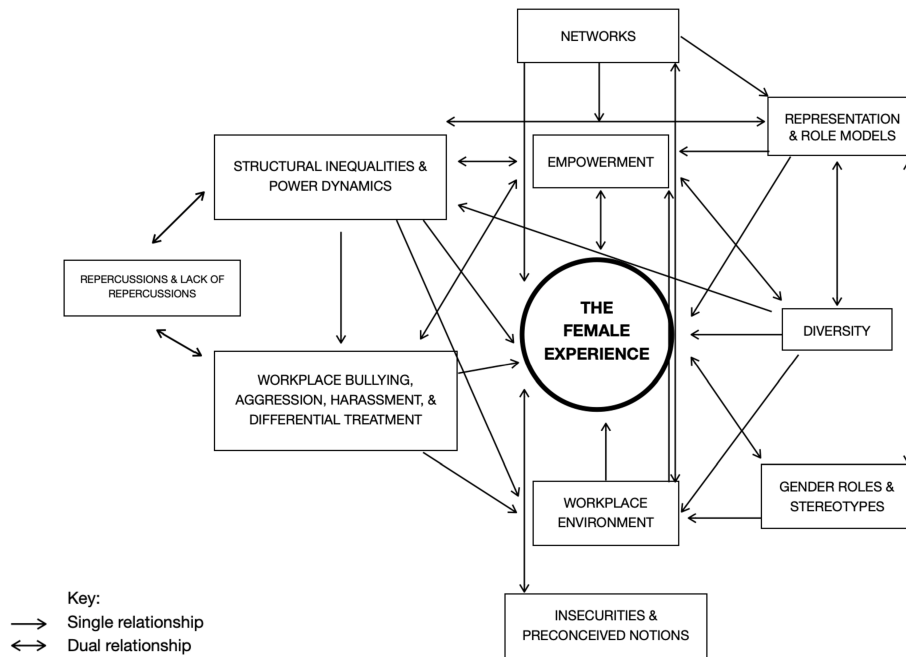
Interviews were recorded using Zoom, and then transcribed and edited using Otter.ai³⁰. Transcripts were shortened and all identifying information was removed or changed. The eight transcripts were open-coded according to Grounded Theory, and the data was categorised and written up in concept cards (*Appendix A*), to create an index of meaningful categories. Twenty key concepts initially emerged and were refined to 11 by merging or eliminating certain categories. Definitions (*Appendix B*) and memos (*Appendix C*) were then written to define and justify category labels, and to document links and emergent relationships between categories and provide a record of theory development.

5.1.3 Grounded Theory

Grounded Theory, developed by Glaser and Strauss (1967), begins with data collection which then provides the ability to generate a theory from the data. Grounded Theory carefully scrutinises the data and draws out significant aspects to enable the creation of an indexing system to organise this data. In this particular case, Grounded Theory was used to explore, identify, and categorise recurring themes that were raised by women working in the tech industry, as well as identify phenomena of interest. Open-coding was used to break data into segments that could be labeled and categorised. Transcripts were coded paragraph-by-paragraph and assigned categories and labels according to similar features and characteristics. For example, paragraphs referring to personal stories of being a women in the tech industry were grouped together under a concept card labeled *The Female Experience* (*Appendix A*, Card 1). Analysis continued until categories became saturated (examples no longer added anything new or different to concepts), and no new categories could be identified. In the selective coding process, 20 concepts were refined to 11 by merging or eliminating certain categories, and the core category was identified. *The Female Experience* emerged as the main theme and the relationships between this and other concepts was examined.

³⁰ A web application which provides speech to text transcription using artificial intelligence and machine learning: <https://otter.ai/>

5.2 Results



Model 1: Conceptualisation of the female experience working in the tech industry

The Female Experience emerged as the core theme as all participants had a subjective experience of being a woman working in the tech industry. Each other theme was either directly or indirectly related to this. For example, *Networks*, *Diversity*, and *Representation & Role Models* had a favourable impact on *Workplace Environment*, and thus positively affected *The Female Experience*. *Structural Inequalities & Power Dynamics* and *Workplace Bullying, Aggression, Harassment, & Differential Treatment* had a damaging effect on *Workplace Environment*, thus negatively impacting *The Female Experience*. *Repercussion & Lack of Repercussions* emerged as a consequence of *Structural Inequalities & Power Dynamics* and *Workplace Bullying, Aggression, Harassment, & Differential Treatment*. However, *Empowerment* had a protective effect against negative experiences. *Insecurities & Preconceived Notions* emerged as a side-effect of a lack of *Representation & Role Models* in the tech industry. *Gender Roles & Stereotypes* also emerged as being embedded within the tech industry.

The Female Experience.

The Female Experience includes experiences exclusive to women, as well as shared experiences women encounter in the workplace. A common theme that emerged amongst

participants was that most had ended up in the tech industry by chance. Rather than starting their career paths in tech, most had come from different areas and industries, and then ended up in the tech industry:

“I didn't know what tech was. I imagined tech to be nerdy white guys looking at a screen doing code. I didn't know that you didn't need to code to work in tech. I found myself in a very formal corporate career that just wasn't for me, so then I started looking for jobs based on the culture, things like flexible working, and that's how I ended up in tech.” (Subject 8. Paragraph 3)

A significant aspect of women's experiences working in tech is working in a predominantly male industry:

“I worked in-house for a tech startup and it was quite a typical environment, me being the only woman in the department, or not even in the department, but in the room. So being the only woman in a Product Team of 3-4 men that sat with an Engineering department of all men, and just noting the aggregate of the implications of there only being men around me, both in terms of the day-to-day and meetings, concepts of constant interruptions, gaslighting and mansplaining, all that stuff. It's very real, and also from a 'them versus me standpoint'.” (S1.P9)

Although the number of women working in the tech industry is generally increasing, there is still a gender imbalance in the workplace. Furthermore, women continue to work primarily in non-technical roles, and those that work in technical roles, as well as those in more senior roles, tend to find themselves outnumbered and are often the only woman in the team or room:

“A friend of mine is a technical lead, which is essentially the most senior position that you can be in the company other than director level. There's 6 technical leads in my office for my company and they all sit under the technical director, and she's the only female technical lead. Globally, I think we've got maybe 25 technical leads, and I think she is also the only female technical lead globally. So I think that says a lot more, but the more senior you go, and the more technical the position, the less women you'll see in the room.” (S2.P13)

As a consequence, women tend to look for jobs in more diverse and gender-balanced environments or in women founded companies so as to feel more integrated, valued, safe, and welcome in the environment:

“I think women tend to look for companies that are, not necessarily woman dominated, but just diverse. Part of it is that feeling safe and valued in a workplace is really important. From speaking to my female friends in the tech industry, like me, they don't apply to places that are male dominated, or they prefer not to. When we consider companies to work for we go on the About You page, and we look at who's in Leadership, who's in the Engineering team, what the diversity is, and if all we see are white men, then we just don't apply. It doesn't mean we don't exist, it means there's something wrong with a company from our point of view.” (S1.P11)

Work culture and environment also related to the female experience, as in addition to structural inequalities, sometimes these male-dominated spaces create less accessible environments for women that fit outside a normalised masculine company culture. Additionally, in the tech industry, women frequently faced unequal power dynamics, experiencing micro-aggressions, differential treatment, and aggressive and abusive behaviour. For example, every participant either had a personal story or had known a friend or colleague go through a traumatising experience in the workplace:

“Something happened that did shock me to my core with a couple of my co-workers. One of the directors, he basically was a line manager of a female colleague, and she was talking to him about career progression, and long story short, at some point he basically offered sex in exchange for her growth.” (S2.P35)

Other common occurrences experienced by women included: not having their voices or opinions heard (e.g. S1.P8), being asked to do tasks outside of their job description (e.g. S4.P46), doing work and not getting compensation (e.g. S3.P15), and having colleagues take credit for their work:

“I don't know if this is just a consequence of being in an environment with lots of men, so the likelihood of men taking credit for my work or contributions was just higher, just because there were more men. I can't remember ever experiencing women that did that. We had portfolio showcases at work and my hand-drawn sketches, designs, and wireframes, stuff that I had clearly made, were in a manager's portfolio with no accreditation. I've had women managers as well and they haven't done that and taken my work and put it in their portfolio without crediting me. If I put other people's work in my portfolio, I say and include design credit for the person, that's just what you do.” (S1.P12)

An additional interaction of gender with age emerged, where women experienced additional negative treatment and selection biases due to being both a woman and young:

“I think it's not just gender, I think it's also age, so, not just being a woman, but being a young woman in the industry. Oftentimes I'm not just the only girl in the room, I'm also oftentimes the youngest by a decade in the room.” (S2.P22)

Due to a combination of all these factors, women have often had to develop a thicker skin compared to their male counterparts, *“I think compared to some of my male colleagues, I know that I definitely have a much thicker skin in terms of asking for constructive feedback and accepting constructive feedback even if it is negative [...]” (S6.P22)*. Although the tech industry may not always be the most accessible or supportive environment for women, some participants remarked that they often did not think about being a “woman in tech” until faced with bias or negative treatment (S2.P30).

A significant factor of the female experience are life events which primarily affect women, such as pregnancy and childcare which end up interacting with professional goals (S3.P2). Related to this, a general feeling that companies were not particularly accessible or designed with women in mind and their life paths emerged, especially in terms of maternity leave and childcare:

“I was reading an article that said that one of the reasons why women drop out a lot from tech, especially programming, and go more into product, is because when they take maternity leave, when they come back everything is different, and there's really no time to explain what's happening, so a lot of the times women end up dropping out or leaving, because they don't feel welcome or like they can keep up.” (S4.P48)

Although more and more tech companies offer benefits designed to attract women, these benefits may not end up being as accessible as presented or integrate successfully into company culture:

“I was pretty lucky because in all the places that I worked there were things like great maternity leave, having tampons in the bathroom, or even a nursing room, it actually was readily available, so that stuff was spot on. But did I feel that that bled in really successfully culturally, no. So I almost sometimes felt, was this just for show, or for press. Did I really feel supported in my career as a young woman who didn't really have a ton of outside experience, and was just trying to make the best out of the situation and really learn and do a good job at, no.” (S7.P9)

Therefore, understanding women’s experiences is vital for companies and policymakers to design more equitable work environments that encompass women’s needs, and encourage women to stay in the workforce in accordance with their professional and personal goals.

Empowerment.

Empowerment emerged as an important concept. The tech industry is opening up a lot of new opportunities for women, and can also be an empowering space:

“I definitely think tech has the power to empower women, it's given more of us voices. So I work in tech, but I also run a business, and when it comes to the entrepreneurial space, women are the ones saying my husband works for my business full-time. That's a movement that's happening in the startup space, and a lot of these are women, so you've got two women cofounders behind apps and things like that. So I definitely think it is empowering. It's huge, it's a beacon of hope.” (S8.P41)

Technology itself can be used as a tool of empowerment, women use technology to take control of their career, create businesses and find jobs, as well as better balance work and childcare. Women also use technology to build networks and access information, including information they would not necessarily think to look at or consume. Several participants

had created businesses to empower women, for example, financially (e.g. S3.P1), or had worked on projects creating empowering technology for others such as an application for women with disabilities to be able to report domestic violence (e.g. S2.P45).

Within the workplace, being in a supportive and trusting space is strongly empowering:

“Being in a supportive space now I feel empowered just in the day-to-day, I have the freedom and people trust everyone, we’re all trusted to do our best work” (S1.P30).

Additionally, supportive managers and mentors within the workplace are important as it creates an environment where women are supported in their role and career progression, skill building, and it encourages confidence growth, plus gives women the security of knowing that they have someone that will stand up for them. Representation also has a key impact on empowerment, as seeing other women in the workplace and the industry that women can identify with is motivating in the knowledge that they are not the only one:

“I think it's maybe just because I'm in the industry now that I see more representation. There's just women around me, and so that representation is very helpful and encouraging for me to stay where I am, because I know I'm not the only one” (S2.P53).

Empowerment is essential as it gives women the capacity to ask for what they want and deserve in their careers. Empowerment also acts as a buffer against negative experiences as it gives women more power to stand up for themselves and not sacrifice their mental health and self-esteem (see *Appendix A* for further examples):

“Fortunately, I've never had anything happen in my current company, because I think by this stage, I've grown out of accepting inappropriate behaviour. So I think when things like that do arise, I'm very quick to call it out now, because I had a lot of bad experiences while I was quite young. Now that I'm reaching 30, I'm much more confident, I have courage in my convictions to call out this behaviour. When you're young in a company, and a young woman in a company particularly, it's quite a tough thing to call out this negative behaviour.” (S6.P21)

Networks.

Networks emerged as a significant support system for women in the tech industry, both in terms of personal and professional networks: *“I definitely think women networks outside of work help, and inside of work they help for different reasons. As a woman we go through a lot of the same things, some of the problems are going to be really similar”* (S4.P22).

Examples of women networks provided included: friend networks; digital networks where women can share their experiences in the tech industry and ask for advice and resources;

networking events and workshops where women can build networks, build skills, and increase their confidence; and networks within the workplace (see *Appendix A* for more examples). Not only are these networks important for women to talk about their experiences, receive advice, and learn new skills, they are also empowering. Women also use networks to find jobs, further their career progression, and mentor others. Additionally, digital networks are useful as they enable women to see people from all over the world and in the tech industry sharing experiences and talking about similar things, enabling women to be empowered through ICTs without leaving the house (S1.P33).

Within the workplace, women networks can be a safe, supportive and encouraging space, especially in male-dominated workplaces. Support is vital as it has a consequential impact on empowerment, personal development, career advancement, and the work environment:

“I think I really started to progress in my role and confidence when I did have this mentor in the company who made it very clear and was very vocal about the fact that she has my back in meetings. For example, it’s simple things that she worked really hard with me on like presentation skills, so preparing for presentations together, running through the slides multiple times to make sure I was conveying confidence and expertise in what I’m talking about. Having that kind of support has been very useful in terms of it giving me confidence in the fact that I know what I’m doing. It’s not like I need someone to fight my battles for me, but the knowledge that someone is there, that will step in, and does believe in what you’re doing has been really useful.” (S6.P16)

As a woman, being supported in the workplace is incredibly important as feeling safe and secure at work can positively affect well-being and have a protective effect: *“Being part of a woman-founded company I definitely feel more psychologically safe. There’s no belittling, no bullying, and no patronising tones”* (S1.P25). Additionally, knowing that your co-workers and managers are looking out for you is critical. Whether this is support from other female colleagues (e.g. S7.P4), but also male colleagues, as in a male-dominated environment, having support from male co-workers can be really vital especially when gender discrimination issues arise, such as wage gaps:

“I think it would have been difficult to have a conversation about the pay imbalance side of it if I didn’t have the blessing from [male colleague]. So I was the one that made the decision not to say it, but I had the blessing from him to just tell them, ‘[male colleague] told me’ [...]” (S8.P14)

Mentorship is also a valuable form of support which can be a key driver of success, and lead to self-development and career progression.

Lack of support can lead to toxic work cultures and have a negative influence on mental and psychological well-being, as well as confidence and self-esteem, and often lead to women leaving their job:

“In my last company I started feeling like maybe I didn't like developing, because I didn't like the environment, and I didn't feel supported. So I started thinking that maybe developing wasn't for me and I think if I had gotten another job outside of programming before I got the offer for my current job, maybe I would have taken it.” (S4.P15)

Diversity.

Diversity emerged as something that all participants identified as important in the tech industry:

“There has been so much research on this – that businesses, products, team collaboration, all of those things that being an organisation involves and building a business – it becomes better, and richer, and generates better ideas and more revenue, etc., if people in the company are more diverse. It's just fact, that's what the research shows. The more uniform a team is, then the lesser the quality of the output. So it's not generally ‘we need women just because’, we need a wide variety of people, and perspectives, and experiences to improve the things we're building.” (S1.P11)

Diversity is particularly important in the building of tech products to make them accessible and suitable for the whole population, that is, building products not simply with the dominant segment in mind:

“So many of these products are meant to be for us, but there's nobody in the room building it that looks like us, and I mean that as a woman of colour, as a Londoner, as a woman, as somebody who didn't grow up doing tech, I mean that in all the ways that make me a unique person that's not white and male and privileged. I'm going to say that social diversity comes into it as well, we didn't all go to Cambridge [University], but it's the people that didn't go to Cambridge that you're selling your product to and you want them to get benefit out of it, so we have to be in spaces where we feel comfortable.” (S8.P37)

Diversity is not only important in the creation of tech products, but also in company culture, especially diversity that extends into leadership. Diversity in leadership can lead to companies implementing more inclusive processes including in terms of the social environment, but also in terms of structural inequalities such as promoting inclusive hiring processes, and actively looking for diverse candidates.

“After the women leadership hires, there was a much better focus into increasing diversity and inclusion in the company. For example, actually looking at all the hires that the company has had and seeing at what point have women historically been falling out of the process, and how can we make sure that an equal number of men and women are reaching late stages of the interview process. Those kind of processes have

really helped to bring in diverse candidates with a breadth of experience to bring in different viewpoints and different values to the company.” (S6.P13)

Diversity is also crucial in terms of attracting candidates, as a lack of diversity may discourage candidates to apply to a company.

Representation & Role Models.

Representation & Role Models emerged as a valuable concept. Three main themes surfaced within this category: a lack of representation in the tech industry; the importance of representation in tech and the media; and the lack of role models in the tech industry and media, as well as the significant role of these in empowering women. Participants noted a lack of women and diversity in the tech industry. This lack of representation has consequences and may affect women’s likelihood of entering the tech industry:

“I never really saw myself as a developer, also because I thought developers were mostly men, I didn’t know women in the field. I mean, if you asked me, I’m sure there were women developers, but I didn’t know about all the amazing women developers that existed.” (S4.P31)

This lack of representation can start at a young age and can deter women from pursuing STEM subjects, and thus a career in the industry (e.g. S4.P29). Only one subject noted that lack of representation had not particularly affected them in their career decisions (S5.P4).

Participants also noted that media representations of the tech industry and the lack of depictions of women in the media in STEM also had a negative effect:

“I think the most important thing is to have people that can be there to encourage you and pass on advice, and I think it’s really helpful when you can identify with those people. I think that’s why representation in media is really important, because it’s important to see people that you identify with doing the things that you want to achieve. I think it’s part of the reason why there aren’t that many women in technical positions in tech, and they’ll usually fulfil the supporting roles or the management roles, because STEM fields aren’t really something that you will see in the media that women will pursue.” (S2.P50)

Thus, having role models in the industry, as well as depicted in the media, can have a positive effect and influential role in attracting women to the industry. Representation and role models in the media, whether fictional or non-fictional, can have a strong impact on women’s socialisation and self-identification, for example, seeing frequent negative depictions of women in the tech industry can be discouraging and frustrating. Positive representation on the other hand can be encouraging and empowering as it shows girls and

young women that there are role models working in the industry. Positive representation in fictional film and TV is also significant due to it being so prevalent in society and its high influence and impact (see *Appendix A* for more examples).

Gender Roles & Stereotypes.

Gender Roles & Stereotypes emerged as a theme related to conscious and unconscious biases permeating society, which consequently present themselves in the workplace. For example, several participants identified default personalities that tended to be more successful in a tech company, often associated with masculine behaviours:

“Companies have what I call ‘default personalities’, which is the type of personality that gets promoted, or receives credit for good work and they tend to be the ones that are the loudest and who individually take credit for a piece of work, rather than a more collaborative, ‘us’, ‘we’, ‘the team did it’, which is a typically more female way of talking about these things. There’s the expectation that if you want to advance your career, and when it comes to performance feedback, it’s very often ‘be pushier, talk about yourself more often, push yourself out there, single yourself’. There’s the expectation that you single yourself out as the star on the team, which is a more masculine way of behaving for sure.” (S1.P14)

However, when women displayed more masculine-associated behaviours, that is, behaviours that went against feminine stereotypes, these were often viewed negatively:

“I got feedback at my last job that I was aggressive, and a lot of women leaders do. And that’s okay, it’s outside of what you expect from a woman, it’s outside of my prototype, and I was lucky to have male leaders be like, ‘You’re not aggressive. You’re just being direct. They wouldn’t say that to a man, ignore it’.” (S3.P21)

Those that do not fit default company personalities tend to be more excluded and may have more difficulty climbing the company ladder. It is important to note that these default personalities can also be harmful towards men that do not fit with this company template personality.

It was unanimous amongst participants that women have something unique to contribute to not only their job role, but to the tech industry and the development of tech products: *“I think women have something unique to contribute to tech. Women tend to be stereotypically great at multitasking, which for tech is really good, as you need to do a lot of things at once sometimes” (S4.P26)*. Feedback, for example, was seen as something inherently more feminine. Personal feedback is a significant source for self-development and career progression, and organisational feedback is important as it can contribute to the

development of a more equitable, sustainable, and positive company environment (see *Appendix A* for more examples).

Interestingly, certain traits stereotypically associated with women such as emotionality were noted as something that seemed to apply more to men, especially in the workplace:

“There's a stereotype that women are more emotional, but I've found in the workplace, the completely opposite has been true. I think men are much quicker to emotions in the workplace, because very early on women realise that emotions won't get you anywhere, so it's all about playing the long game basically, and using your confidence and your connections to sort out problems yourself basically without being emotional.” (S6.P22)

Insecurities & Preconceived Notions.

Insecurities & Preconceived Notions emerged as a minor, but still significant concept. Many participants expressed feelings of insecurity across their careers, often related to being a woman in a traditionally male industry (e.g. S2.P26). Insecurities can have a strong impact on women's confidence and may affect women applying for jobs in tech, as well as speaking up for themselves in their careers:

“I have so many female friends that say, 'I think I deserve that promotion/raise', and I ask, 'Well, have you asked for it?'. 99.9% of the time the answer is no, and it's because we are afraid that we might not be worth it or deserve it, and it's such a silly fear, because if you never ask, then you'll literally never get it or you'll wait a ridiculous amount of time to get there.” (S2.P48)

Imposter syndrome (a form of insecurity where women may doubt themselves and their achievements and feel less competent than their co-workers) was greater in environments where participants were one of the few women in the team or company, or where women felt like the “other” and did not fit in (e.g. S4.10). However, in supportive and encouraging environments where participants felt included, valued and that they were not alone, feelings of imposter syndrome were lessened. Misconceptions about tech can cause women to overlook opportunities available in the tech industry. Several participants had avoided or had never seen themselves joining the industry due to conceptualisations and beliefs about the tech industry: *“I definitely thought there were preconceived notions in society that would make me avoid tech and development”* (S4.P29). Additionally, lack of awareness and knowledge about the tech industry (e.g. S6.P5), as well as a lack of representation of women in STEM, and not fitting with the stereotypical tech mould were all components of women not seeing themselves joining the tech industry:

“I didn't do STEM or go to Engineering school, the only concept of tech or whatever I had even heard was literally from the show Silicon Valley. That show was not my vibe. I remember interacting with people from Engineering school while I was in college, and we just weren't that aligned, we were two dots shooting in different directions, that's kind of what I mean when I say I never saw myself going into the tech industry.” (S7.P2)

Interestingly, Participant 2 also mentioned how preconceived notions of what constituted a “professional woman” had affected her and how interacting with women that differed from the traditional stereotype had been an eye-opening and transformative experience on what it meant to be a professional woman (see *Appendix A* for more examples).

Workplace Environment.

Two major themes emerged within this category, negative and positive work environments. Negative work environments are hostile, toxic, and harmful, regardless of gender identity. Things identified as making a work environment negative were: aggressive, abusive, demeaning and disrespectful behaviour from managers and co-workers (e.g. S1.P19); lack of support and acknowledgement (e.g. S3.P12); lack of representation and identification, as well as a feeling of not fitting in with company culture (e.g. S7.P18); and an unaccessible or unnecessarily strict company environment (e.g. S8.P42). Negative work environments have consequent negative impacts affecting psychological and mental well-being, as well as confidence, trust, and self-evaluation:

“Being in a female-founded space I definitely feel more psychologically safe! There's no belittling, no bullying, no patronising tones. My previous company was all of those things, and zero psychological safety, if you voiced a critical opinion, you were shut down. That's the complete opposite of psychological safety. There were actual bullies there, people would bully each other.” (S1.P25)

They also influence a woman's decision to continue in a role or industry, as well as satisfaction levels and willingness to go to work: *“In my other job, I took sick days, I was like, I just don't want to go to work, I don't want to do this” (S4.P18).*

Positive work environments are empowering, nurturing, and supportive. Being in women-founded spaces or workplaces with greater gender equity can lead to greater work-life balance which brings value to all employees:

“Working for a female founded company, the environment is just so transformed. It's very understanding and nurturing. Everyone can work flexibly because they understand people have caring responsibilities, children or elderly parents. Here, you can work from home as much as you want, and you work the hours you need as long

as you manage other people's expectations, you can work weekends and less on weekdays, I take advantage of that, and just from the life quality perspective, that's a lot better.” (S1.P23)

High emotional intelligence was identified as an important characteristic, and potentially the most valuable in creating a more positive and supportive work environment (S7.P11). Workplaces that valued feedback also seemed to have a positive effect on environment, leading to increased transparency practises, as well as significantly helping with professional and personal development:

“Career development-wise, the fact that my company has such a strong feedback culture, that's very woman driven, I feel like I have a proper shot at identifying my weaknesses and improving on them. I haven't typically had that before, because either the "default optimised performer" was male or masculine or you didn't receive feedback.” (S1.P30)

Structural Inequalities & Power Dynamics.

This emerged as an important concept, whereby uneven power dynamics and structural inequalities, particularly gender inequalities, are embedded in the workplace. Although the number of women working in the tech industry has been increasing, there continues to be a significant gender imbalance. This gender imbalance becomes more pronounced for technical roles, as well as for more senior roles and leadership positions:

“In my company as a whole, I think it's pretty balanced, but most of the women are not in technical roles. A lot of the woman are in HR, payroll, or marketing departments and design. The developers, there's only three of us, out of maybe 20-30 developers, you can definitely see the imbalance on the developer side.” (S5.P13)

These power dynamics often reproduce themselves in relationships between employees, and women often end up facing lack of respect, micro-aggressions, derogatory and aggressive behaviour from male co-workers or managers, as well as differential treatment:

“Connecting with my female colleagues in our little mini network made me realise how, not only for women in tech, but if you're a woman in tech in a non-tech discipline, you're treated so much worse. There are specific examples of people shouting at my colleague on the Finance side, or just being incredibly demeaning. For example, I overheard a Head of Engineering actually shout at her because she came and poked him on the shoulder because he hadn't responded to an email where she asked for an invoice for something. So she was just trying to do her job and the exact thing he said was, 'For fuck's sake, can't you see I have my headphones on!'. It was the power dynamic and his complete lack of respect, I just got the vibe that, 'Oh, you're just the accountant, you're not worthy of bothering me. If you're an engineer, you're worthy of bothering me'.” (S1.P19)

Furthermore, in workplaces with uneven power dynamics, women often feel that their opinions hold less value than their male colleagues:

“The manager basically ignored all the positive feedback my male colleague got, and explicitly said, ‘It’s because there’s so much good feedback from women, so I’m not going to put too much weight on the feedback because it’s almost all from women’.” (S1.P7)

As a consequence, women often feel under-valued at work, frustrated, and taken for granted. Uneven power dynamics also reproduce themselves in structural inequalities, for example, in the form of pay imbalances, hiring practises, and the career progression of women to leadership positions (see *Appendix A* for examples). Several participants stated that tech companies are simply not built and designed to accommodate women. Although organisations are offering more and more cool sounding benefits and flexible policies, these initiatives sometimes do not successfully integrate with company culture (e.g. S6.P33). Additionally, participants noted that companies were unable to recognise issues behind pipeline problems and their role in not attracting women candidates, as well as not actively searching for and going after diverse candidates:

“A topic that kept coming up was the need to hire more women and that we needed a woman engineer. But that then became communicated as there aren’t female engineers, and that it was a pipeline problem that the company didn’t have a female engineer. It’s not a pipeline problem... There are no women engineers in London? I personally know about a 50/50 split of women engineers. Among my friends, if I exclude all the people I work with, I actually know more women engineers than men, because they’re my friends. They exist, they’re not a mythical creature. So I found that male dominated tech companies just refuse to see their own role in creating this inaccessible environment for women engineers to apply to.” (S1.P10)

Another topic that came up was the lack of representation of women in management, and that having more women in leadership positions may help get more equity in the workplace. However, several participants noted that sometimes women in management positions were not necessarily advocates for other women, noting that women in these roles seem to get caught in the power dynamics produced by masculine corporate structures: *“There’s a degree to which I wonder if sometimes women in power just feel like their hands are tied”* (S3.P24). For example, Participant 8 noted that the tone of company culture is set by those in leadership, and those behaviours may then be modelled by those in managerial positions due to pressure from above:

“Company culture is led from the top down. No matter what you think the leader is like, or what they do or don’t do, they set the tone for how things are done. So they show you how to discipline somebody, and you begin to absorb that, you may know

within your soul that talking to somebody this way is wrong, but you've seen it modelled, and you've seen that that's how things get done here. What I learned after is that these two women had just been turned into completely different people because of the pressure that they had from above [...]" (S8.P26)

Interestingly, power dynamics and structural inequalities also seep into other areas, for example a participant noted that power dynamics sometimes bleed into the dating scene surrounding Silicon Valley (S7.P25). Furthermore, in media coverage the default coverage of the tech industry tends to be focused on male CEOs, whereas topics about women in tech are often sidelined and seen as a separate, more niche content section (S6.P29).

Workplace Bullying, Aggression, Harassment, & Differential Treatment.

This theme emerged as negative experiences women often experience in the workplace, and is closely associated with uneven power dynamics and structural inequalities.

Behaviours that women frequently experience in the workplace include: micro-aggressions; sexual harassment; discriminatory behaviour; and unwarranted mistreatment which tends to be derogatory, aggressive, and inappropriate in nature (see *Appendix A* for examples). Although there were cases where this behaviour was visible to other co-workers, abusive behaviour often took place behind closed doors. In these cases, sometimes co-workers were going through similar experiences, but were under the belief they were the only one which felt very alienating (e.g. S8.P26).

Women often experienced differential treatment in the workplace, usually as a function of their gender: *"I've definitely gone through experiences of being treated differently, I don't think it was solely because of gender, but I think it was definitely a combination of being young and also looking young, and then gender stacked on top of it"* (S7.P4). Examples of differential treatment included: exclusion from certain work or social activities, women being given unrelated tasks outside of their job role, and being expected to work at a higher level without compensation. Women also often experienced their voices and opinions not being valued on the same level as their male co-workers. Significant cases of differential treatment included issues of differential pay between participants and their male co-workers:

"I was by myself in the department until about three months in, I kind of came in and set everything up. Meanwhile while I was doing all of that, it then came to my attention that I was being paid differently to my new colleague, who also would be the first person to admit that I did more than him, I was basically doing two roles while he

was doing one, and much of what he was doing, he was able to come in and just do because I'd set it up.” (S8.P7)

Another significant point that was brought up was the differential treatment experienced by women in leadership positions, often facing harsher scrutiny and punishments compared to their male counterparts (S7.P22).

Experiences of harassment and abusive behaviours are dangerous and often traumatising, negatively impact women’s mental, psychological, and emotional well-being both at the time of occurrence, as well as long-term. Although these types of behaviours were experienced more frequently from male colleagues, it is important to note that these types of behaviours can equally come from female co-workers and managers, and as they are less frequent may be more shocking as the behaviour is less expected (S8.P34).

Repercussions & Lack of Repercussions.

This category emerged predominantly as a consequence of *Workplace Bullying, Aggression, Harassment & Differential Treatment*. Several participants reported a lack of repercussions following incidents such as sexual harassment, or aggressive and inappropriate behaviour from primarily male co-workers or managers in the workplace:

“As far as I know there were no repercussions. My female colleague would raise it and then she would be criticised for complaining too much, but then again, this was in an environment where feedback, especially negative feedback, was not well received at all.” (S1.P21)

Participants were often disappointed by the lack of action taken by leadership and management when incidents arose, and a lack of repercussions frequently resulted in perpetrators walking away professionally unscathed (see *Appendix A* for examples). Repercussions to inappropriate behaviour were more likely to succeed with the support of other co-workers and managers, particularly male colleagues:

“We had a really weird guy that worked for us for like a month, and he was a lot older, but he was a Junior developer. He would yell at me for no reason, be a bitch to me all the time, and my colleagues would always stand up for me and they would tell him off and they would tell him to stop. They'd be like, ‘You're only doing that because she's a girl, because she's young, that's not acceptable’, and then he ended up being fired.” (S4.P16)

Chapter 6 – Discussion

Women's experiences are far from uniform across the tech industry. The present research used qualitative methods to identify significant and similar themes experienced by women working in the tech sector, to further understand women's realities in this domain. The research questions (RQ) were as follows:

(RQ1) What are women's experiences of working in the tech industry, and are there common themes that emerge?

(RQ2a) Do women perceive technology to be empowering?

(RQ2b) Do women consider the tech industry as having the potential to be an empowering space for women?

After analysing the data, the female experience (encompassing personal and shared experiences of the workplace) emerged as the main theme. Empowerment and networks appeared to have a positive effect on women's experiences of the tech industry, leading to more positive and nurturing work environments which promoted greater well-being and career progression. Structural inequalities and power dynamics, as well as workplace bullying, aggression, harassment, and differential treatment seemed to have an opposite effect, negatively impacting women's experiences of the tech industry, and resulting in more toxic and hostile work environments, poorer well-being, barriers to career progression, and ultimately, a greater desire to leave a company or the tech industry. Personal insecurities and preconceived notions about the tech industry emerged as factors that can have a detrimental impact on women's willingness to pursue science and technology subjects, as well as a career in the tech industry. Furthermore, diversity and representation of women in the tech industry, as well as the existence of women role models, were all factors which appeared to affect women's perceptions of the tech industry and their desire to pursue a career in the sector. Finally, it seemed that gender roles and stereotypes may have a potential influence on structural inequalities and power dynamics embedded in the tech industry. As demonstrated, there are common themes that emerge between women's experiences of working in the tech industry.

In relation to RQ2a, participants believed that technology has the potential to be empowering, and identified several ways in which it empowered them in their lives. Participants identified technology as having the power to foster independence and

empowerment: from managing finances; to taking control of their careers through finding jobs and building businesses; to accessing information and learning new skills; to building networks and meeting others through ICTs; to finding ways to empower and mentor others through networks or developing new technologies. Thus, technology does have the potential to promote women's empowerment, by facilitating economic, social, and psychological empowerment, and giving more women voices.

However, participants also noted that if not created and used with thought, technology can also have the opposite effect. Technology has the potential to diminish women's power and make them more vulnerable to harassment and violence. For instance, as experienced by Participant 6, ICTs can also be exploited by colleagues to write derogatory messages. Globally, women who participate in online spaces experience online abuse and harassment (Cummings & O'Neil, 2015; O'Donnell & Sweetman, 2018). For example, terms such as 'cyberstalking'³¹ and 'trolling'³² both indicate ways in which digital ICTs present threats to women. Women in the public eye, such as activists, leaders, and journalists tend to suffer increased online abuse, harassment, and threats to their self-expression, and young women in particular are more likely than others to be the target of online sexual harassment. When women are seen as a challenge to traditionally male-dominated domains, the risk of backlash can be particularly high. For example, 'Gamergate' was a controversy that kicked off in 2014, which involved a network of male gamers violently campaigning against female gamers who drew attention to forms of discrimination, sexism, and exclusion within gaming culture (Tomkinson & Harper, 2015). Several prominent women in the gaming world became targets of this campaign, including Anita Sarkeesian, a media critic raising funds for a video series named *Tropes vs. Women in Video Games*³³ which examines misogynistic portrayals of female video game characters. Sarkeesian became the target of violent abuse, not only receiving numerous hate comments, but also a multitude of death

³¹ The repeated use of the Internet and other electronic means to stalk or harass an individual, group, or organisation [as defined by *Oxford Languages*]

³² Making a deliberately offensive or provocative online post with the aim of upsetting someone or eliciting an angry response from them [as defined by *Oxford Languages*]

³³ Damsel in Distress (Part 1) Tropes vs. Women (2013). Retrieved from <https://feministfrequency.com/video/damsel-in-distress-part-1/>

and rape threats from male gamers. One harasser even created a video game where players could punch a picture of Sarkeesian in the face which becomes increasingly bloodied, swollen, and bruised (Sobieraj, 2017). The abuse was so extreme, Sarkeesian was temporarily forced to leave her home due to safety concerns. Thus, although ICTs have facilitated the creation of new public spaces with the potential for greater empowerment and inclusivity, they can also be used for potential harm, as well as good.

Additionally, as explored previously, the non-representation and non-involvement of women in developing new technologies can have a detrimental impact. For example, car safety bags are not always designed with women in mind (Wellner & Rothman, 2020). These are often tested on dummies compatible with the male body, and have consequently resulted in fatal accidents of women. As identified in Chapter 4, research into gender and technology have revealed a number of gender biases including findings that: voice and speech recognition systems perform worse for women than for men; facial recognition systems disproportionately misidentify female faces; and recruiting tools and hiring technologies may unfairly screen women in job application processes. Thus, although it was not the focus of the current research, it is vital to recognise the potential of technology and ICTs for harm, as well as good, so as to fully realise their potential for gender equality and equity. As recognised by participants, decreasing the gender divide and having greater representation in the tech industry across technical and non-technical roles, and in managerial and leadership positions, can lead to a better quality of output and improve the products and services being created to ultimately tailor technology to a wide and diverse population.

Research Question 2b assessed whether women consider the tech industry as having the potential to be an empowering space for women. As a lucrative and rapidly growing industry, there are more and more opportunities on offer for women to take advantage of (Little, 2020a). Furthermore, women are increasingly using this space to create their own businesses and become self-employed (e.g., doing freelance work), or entrepreneurs (Jome, Donahue, & Siegel, 2006; Hyperwallet 2017). Additionally, Participant 4 noted that technology, and in particular, software development, is an empowering area in which to work. Without factoring in company environment and culture, for both men and women,

coding is result-driven (i.e., it either works or does not), and it is rapid to see whether something is right or wrong. Participant 4 stated that she finds this empowering as she can see her progress and her code improving. Furthermore, programmers often do not interact directly with a client, so being a woman matters less as clients deal instead with the finished product, not knowing who made it, thus avoiding gender biases and perceptions against women.

There are a number of benefits and perks that tech companies use to attract employees such as flexible schedules, remote work, complimentary catered lunches, in-office entertainment, gym memberships, and wellness programs (Hepler, 2020). Benefits including flexible schedules, extended paid leave, and remote work can be particularly advantageous and empowering for women, especially in terms of a healthy work-life balance, flexibility, and childcare. However, flexible working initiatives are not always successfully integrated into company culture, and both women and men often face repercussions and stigma for taking advantage of these, as there continues to be an expectation from companies that employees need to be physically present at work to do their job well (Hari, 2017). Termed as ‘flexibility stigma’ which refers to indirect discrimination and biases against those that work flexibly, Hari (2017) has demonstrated that flexible working arrangements remain spatially and temporally restricted, that is, working from home is widely discouraged and employees are expected to be present for core business hours. Furthermore, employees that take advantages of flexible working arrangements are often carefully monitored at work. Penalties have been associated with flexibility, research has demonstrated that men and women who use flexible work arrangements are frequently viewed as having less work commitment and career dedication, and thus are less likely to advance or be promoted, and receive fewer raises than those who do not use flexible working arrangements (Vandello et al., 2013). Due to this flexibility stigma and fear of repercussions, employees may be reluctant to take full advantage of these benefits. Therefore, positive change needs to occur to reduce the stigma surrounding flexible work arrangements as these are beneficial for a better work-life balance and increased job satisfaction. As noted by Participant 1 who works in a female-founded company where everyone can work flexibly (as well as work from home as much as desired as long as other colleagues’ expectations are managed), trust in employees to

work autonomously and do their best work fosters a positive environment and greatly improves life quality at work and at home. This relationship between employee trust, flexible work arrangements, and job satisfaction is an interesting avenue for future research, and studies in this area should further investigate trust as an important factor in the workplace.

6.1 Limitations

This research used semi-structured interviews for data collection. Semi-structured interviews were used to direct the conversation within the parameters of the tech industry, but to also enable and encourage interviewees to have the freedom to share their life experiences and discuss significant points that were important to them. This enabled the collection of data with more depth and texture than that obtained through traditional quantitative methods. However, there are limitations to this form of data collection. Although women shared similar experiences and stories which may be generalised to a wider population of women, each participant also had very unique life experiences based on their personal history, background, and career path. Despite the fact that these experiences do not always generalise to a larger population of women, the goal of this thesis was to amplify women's voices and shed light on women's experiences of working in a male dominated industry, which was achieved.

Furthermore, the interaction between gender and other identity and cultural markers such as race, ethnicity, nationality, and sexuality were not explored in depth as this was outside the scope of this study. Previous research has explored some of these interactions. For example, multiple studies have found that minority women face 'double' outsider status as a result of belonging to two minority groups, and consequently deal with both racial and gender discrimination in the workplace, as well as stronger negative stereotyping than women who only belong to one (Bell & Nkomo, 2003; McGee, 2018). Bell and Nkomo (2003) emphasise that race and gender form a powerful barrier of exclusion. For example, women of colour experience being the 'only person' in a team or office more frequently than White women (Krivkovich et al., 2018). Studies have revealed that Black women in particular face greater obstacles, are given less support from managers, receive fewer opportunities for advancement, and get promoted more slowly (Thomas et al., 2017).

Moreover, having a double outsider status has been shown to make establishing relationships with colleagues more difficult, thus diminishing access to career development opportunities, high-visibility assignments, mentoring, and influential organisational members (Bell & Nkomo, 2003; Smith & Joseph, 2010). Research into workplace experiences of LGBTQ+ individuals in STEM careers have also found that employees may encounter more significant differential treatment due to their sexual or gender identity (Yoder & Mattheis, 2016). The focus of the research was to identify general themes significant to women in the tech industry to be used as a base for future research to be able to further explore these themes and their interaction with other identity and cultural markers including race, ethnicity, and sexuality.

It is also important to note that a part of the data collection for this study took place during the COVID-19 global pandemic. The pandemic has caused unforeseen changes around the world and has had a devastating economic impact on industries globally, including the tech sector, and the consequences of this are more likely to be felt by women. As reported by The Guardian (Little, 2020b): *“The drive to close the gender gap in the technology industry could be derailed by the coronavirus outbreak, with women in tech more likely to feel the devastating effects Covid-19 is having on employment and recruitment than men”*. A survey conducted by TrustRadius (2020) found that as a result of the pandemic, women in tech are more likely to be laid off or granted a leave of absence than their male peers. They also found that women in the tech industry were at a further disadvantage as they reported an increase in familial duties and responsibilities, and were more likely to be struggling to manage childcare responsibilities during lockdown compared to male colleagues. Additionally, hiring plans, efforts to attract women candidates, and diversity initiatives, may all be put on hold as companies try to respond to the pandemic, which may undo some of the work executed to attract women, especially graduates, into tech roles (Little, 2020b). Although it is impossible to predict how the COVID-19 pandemic will continue to affect societal and organisational changes, there are some that believe that when the pandemic passes this may give way to a new reality of how companies operate. As companies are moving more and more towards remote working, the pandemic is forcing businesses to understand that greater flexibility and working less conventional hours still enables employees to get the job done. As stated by Allyson Zimmermann, a

director for Catalyst (a global NGO which works with corporations to improve the workplace for women), "*The workplace is outdated*". The changes brought on by the pandemic of greater flexibility and more remote working opportunities may be an important structural change to updating the tech sector, improving work-life balance for all, and attracting more women to the industry (Uchoa, 2020).

6.2 Directions for Future Research

Qualitative methods were used to explore the experiences of women working in the tech industry. By using semi-structured interviews to collect data, this study was able to explore themes significant to each individual. Consequently, this research exposes new information and topics that can open up new lines of questions and thought. An interesting concept that emerged was that the increase of women in leadership positions may have the potential of creating a more nurturing and empowering environment for employees, yet there continues to be a large gender divide, particularly in leadership positions. Explanations for women's under-representation tend to focus on the idea that there is a lack of qualified women for these senior positions which has created pipeline problems, or that under-representation is due to differences in leadership style and effectiveness (McGee, 2018). Research has found greater prejudice against women in managerial and leadership positions. Eagly and Karau (2002) developed role congruity theory to explain prejudice against women in leadership positions. It posits that individuals with attributes that are perceived to be incongruent with a certain role will face greater negativity or bias than those possessing attributes congruent with the role. Therefore, if a job is associated with a particular set of characteristics, and the stereotypes associated with women do not seemingly fit with the job role (i.e., are incongruent), women may be perceived as being less suited for a job position than men. According to role congruity theory, agentic qualities stereotypically associated with men (e.g., asserting authority over others) are thought to be more necessary for effective leadership than communal qualities stereotypically associated with women (e.g., being supportive of others). However, subjective accounts from this study have illustrated that nurturing and supportive environments can be empowering and lead to a better quality of life which benefits all employees. Thus, communal qualities stereotypically associated with women in leadership may be useful in deconstructing existing negative and hostile organisational structures to create environments that are more friendly to diverse

employees. This would be an interesting direction for future research to examine how agentic and communal leadership styles affect workplace environment and employee satisfaction, and break down ideas that predominantly agentic qualities are required to succeed as a leader. Moreover, high emotional intelligence, as noted by Participant 7, may also be a significant factor in having successful empathetic and compassionate managers and leaders, as it is important for those in managerial positions to not only have a good understanding of how social relationships work, but to also understand how to bring out the best in their employees.

Furthermore, several participants mentioned the interaction between age and gender, that is the combination of being both 'young' and a 'woman', led to increased perceptions of stigma and differential treatment. Termed gendered ageism, this refers to the stereotyping and discrimination against individuals or groups on the basis of a particular gender and age (Lincoln, & Allen, 2004). Research has suggested that in working environments, selection biases may occur based on gender and age, and according to the double jeopardy hypothesis, people belonging to multiple stigmatised groups may experience greater negative consequences (Ruggs et al., 2013). Studies on gendered ageism tend to focus more on negative treatment and biases due to being an older woman (i.e., being both 'female' and 'old') in the workplace. For example, Duncan and Loretto (2004) found that women in the financial sector experienced greater age discrimination than men, and encountered more negative attitudes about their age and barriers to promotion once they reached 40. However, research on gendered ageism in the opposite direction is also important, as this research demonstrates that a double jeopardy due to being both 'female' and 'young' may exist in the tech industry. It is important to further explore this double jeopardy bias in the tech industry as it may result in further unsubstantiated negative treatment and biases against young women, and may have a damaging impact on self-perception and self-esteem.

This research focused on the experiences of women working in the tech industry, and the positive and negative aspects. Negative aspects of the tech industry such as hostile macho work cultures, extreme work pressures exemplified by long work weeks, and systems where employees are discouraged to take advantages of benefits such as flexible work

schedules and extended paid leave are also immensely harmful to men, as well as women (Next Generation 2018). As experienced by Participant 1, following her decision to quit a toxic and bullying company environment, other colleagues aired their grievances with her as they knew she would be having an exit interview with Human Resources. Even a male colleague came to her and told her he was uncomfortable because he was not particularly liked by the Head of Engineering as he was giving negative feedback in a company culture that did not like feedback. A few studies have found that gender discrimination and observed hostility and incivility toward women in the workplace is linked to greater psychological distress and lower psychological well-being for both men and women (Miner-Rubino & Cortina, 2004, 2007; Settles et al., 2012). Furthermore, sexism towards women leads to poorer perceptions of the workplace climate for both men and women, which relates to lower job satisfaction. These findings indicate that working in a misogynistic environment has potential negative effects for all employees. Therefore, hostile workplaces are not only harmful to women, but also to men, as positive perceptions of the workplace climate are linked to higher job satisfaction, whereas a climate of exclusion and isolation is associated with lower job satisfaction. Thus, it is crucial to foster workplace climates that are supportive and nurturing to all employees, regardless of gender identity. This is also an interesting avenue for future research on how current organisational structures in the tech industry may also be damaging for men.

Conclusion

“A gender gap exists in access to ICTs, but far greater divides exist in relation to the design of hardware and software through to the very power to contribute, create and control content.” (O'Donnell & Sweetman, 2018: 218)

This study explored the experiences of women working in the technology industry. The aim was to understand whether similar themes emerged concerning women's experiences of the tech sector, and consequently what individual and organisational factors may negatively or positively impact these experiences. Eleven themes emerged, and results showed a number of facilitators and barriers to well-being, job satisfaction, career advancement, and empowerment. Although some of the findings support existing literature and studies on gender, technology, empowerment, and the workplace, the objective of this research was not to generalise findings, but rather to give voice to women working in the tech sector with the aim of understanding their needs and wishes, and what they believe is important to create positive, equitable, and sustainable changes to this industry. Additionally, the aim was to identify important themes in the area for further investigation by researchers, as well as significant implications for companies and managers.

The ways in which women use technology in their lives for empowerment was also investigated. As revealed in this analysis, women face several challenges in the tech sector. As suggested by existing literature and corroborated by this study, ICTs do have the potential to be used for empowerment. Women use ICTs to build networks, and take control of their careers from looking for jobs, to learning new skills, managing their finances, and creating their own businesses, facilitating economic, social, and psychological empowerment. Supportive networks may be a beneficial resource for women in the tech industry as these can have a mitigating effect on negative experiences of gender bias. Furthermore, empowering work environments can be key in creating a nurturing environment where employees feel valued, supported, and included at work (regardless of gender identity), as suggested by existing literature and supported by this study, and may help increase company retention rates. Additionally, increasing representation in the tech industry can empower women by granting greater controlling power (i.e., power over), changing the distribution of power to be more equal, and by granting greater productive power (i.e., power to) in the development of new technologies increasingly used in our

society (Rowlands, 1997). Thus, ICTs may continue to have the potential to deconstruct existing gender dynamics and biases.

As explored, technology is increasingly embedded in daily lives, impacting every area of our personal and professional worlds. Thus, it is vital for technology to be inclusive and attuned to the people who use it, as well as the people it is used on, otherwise there is a risk of technology reproducing biased and discriminatory societal structures. It is therefore imperative to have women represented and participating in the tech industry, both on company boards and in technical and non-technical roles, actively involved in the creation and distribution process, so that they can steer the creation of new technologies alongside men, creating more inclusive and accessible tech with women in mind, and be a part of the decision making process of the future of technology. For this to happen it is critical to understand how to both attract and retain women employees to the tech industry, as well as recognise their needs and the challenges they face.

As established throughout this research, a healthy work-life balance has been associated with superior company performance through the enhanced recruitment and retention of employees, particularly women. Although tech companies are allocating increasing resources to diversity initiatives, research has shown that actions intended to achieve equality are often ineffective as they are limited in their reach and success (Wynn, 2020). As illustrated in this study, companies repeatedly fail to recognise their role in creating an unaccessible environment for diverse candidates to apply to, blaming pipeline problems, rather than proactively looking for diverse candidates or understanding why they are not succeeding in attracting them. For example, research has found that diversity efforts are frequently unsuccessful because leaders are not supporting the need for change, nor the efforts taken by their companies to implement structural change (Dobbin, Schrage, & Kalev 2015). Therefore, it is important to have women represented in leadership positions supporting and implementing structural change, as well as men in leadership positions supporting these initiatives, as it is the attitudes of leadership that set the tone for the company.

Women are leaving the tech industry at significantly higher rates than their male peers (Vozza, 2018). A study conducted by The Kapor Center for Social Impact (Scott, Klein, & Onovakpuri, 2017) found that the tech industry spends an estimated \$16 billion a year to replace employees who leave due to unfair treatment. Additionally, they found that tech companies whose employees leave as a result of unfair treatment also take an incalculable hit to their corporate reputations, with affected employees saying their experiences would make them less likely to refer others for jobs and recommend others to buy or use products from their former company. Thus, companies have multiple incentives to increase retention rates as the loss of valuable and diverse talent is not only physically costly and detrimental to company reputation, but also costly in terms of the loss of innovation. Businesses losing employees at high rates, particularly women, need to fully understand what these employees want and need to be successful in their company. In order to keep women, it is imperative for businesses to listen directly to women and the challenges they face, and understand the factors which lead to their decision to leave a company to build a successful, sustainable, and equitable organisational foundation and structure. As stated by Allyson Zimmermann, a director for Catalyst, “*The system is outdated*”, therefore, women need to be represented in the tech industry to address the specific issues they face and give the sector a much needed revitalisation that benefits all employees, including those that fit outside the traditional tech mould (Uchoa, 2020).

Bibliography

- Abbate, Janet (2012). *Recoding Gender: Women's Changing Participation in Computing*. Cambridge, MA: The MIT Press.
- Abrams, Jessica, Eveland, William, & Giles, Howard (2003). The Effects of Television on Group Vitality: Can Television Empower Nondominant Groups?. *Annals of the International Communication Association*, 27(1), 193-219.
- Abrams, Jessica, & Giles, Howard (2007). Ethnic identity gratifications selection and avoidance by African Americans: A group vitality and social identity gratifications perspective. *Media Psychology*, 9, 115-134.
- Abubakar, Naima Hafiz, & Dasuki, Salihu Ibrahim (2018). Empowerment in their hands: Use of WhatsApp by women in Nigeria. *Gender, Technology and Development*, 22(2), 164-183.
- Adhikari, Vijay, Guo, Yang, Hao, Fang, Hilt, Volker, Zhang, Zhi-Li, Varvello, Matteo, & Steiner, Moritz (2015). Measurement Study of Netflix, Hulu, and a Tale of Three CDNs. *IEEE/ACM Transactions on Networking*, 23(6), 1984-1997.
- Al-Abdin, Ahmed, & Costello, Robert (2015). The impact of social media technologies on the revolutions. *Humanities and Social Sciences*, 3(3), 116-124.
- Almukhtar, Sarah, Gold, Michael, & Buchanan, Larry (2018). After Weinstein: 71 Men Accused of Sexual Misconduct and Their Fall From Power. *The New York Times*. Retrieved from <https://www.nytimes.com/interactive/2017/11/10/us/men-accused-sexual-misconduct-weinstein.html>
- Anderson, Monica, & Toor, Skye (2018). How social media users have discussed sexual harassment since #MeToo went viral. *Pew Research Center*. Retrieved from <https://www.pewresearch.org/fact-tank/2018/10/11/how-social-media-users-have-discussed-sexual-harassment-since-metoo-went-viral/>
- Asiedu, Christobel (2012). Information Communication Technologies for Gender and Development in Africa: The Case for Radio and Technological Blending. *International Communication Gazette*, 74, 240-257.
- Aubrey, Jennifer, & Harrison, Kristen (2004). The gender-role content of children's favorite television programs and its links to their gender-related perceptions. *Media Psychology*, 6, 111-146.

- Baer, Hester (2016). Redoing feminism: Digital activism, body politics, and neoliberalism. *Feminist Media Studies*, 16, 17-34.
- Bailyn, Lotte (2006) *Breaking the Mould: Redesigning Work for Productive and Satisfying Lives*. Ithaca, NY: ILR Press.
- Bandura, Albert (2001). Social cognitive theory of mass communication. *Media Psychology*, 3, 265-299.
- Bandura, Albert (2002). *Social cognitive theory of mass communication*. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 121-153). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Banet-Weiser, Sarah (2018). *Empowered: Popular Feminism and Popular Misogyny*. Durham, NC: Duke University Press Books.
- Barocas, Solon, & Selbst, Andrew (2016). Big Data's Disparate Impact. *California Law Review*, 104, 671-729.
- BBC News (2020). Cuties: Netflix apologises for promotional poster after controversy. *BBC News Entertainment & Arts*. Retrieved from <https://www.bbc.com/news/entertainment-arts-53846419>
- Bell, Ella, & Nkomo, Stella (2003). *Our separate ways: Black and White women and the struggle for professional identity*. Boston, MA: Harvard Business Review Press.
- Beyer, Yngvil, Enli, Gunn, Maasø, Arnt, & Ytreberg, Espen (2007). Small talk makes a big difference: recent developments in interactive, SMS-based television. *Television & New Media*, 8(3), 213-234.
- Blakley, Johanna (2010). Social media and the end of gender. *TEDTalk: TEDWomen 2010*. Retrieved from https://www.ted.com/talks/johanna_blakley_social_media_and_the_end_of_gender/transcript
- Blay, Zeba (2016). 21 Hashtags That Changed The Way We Talk About Feminism. *The Huffington Post*. Retrieved from https://www.huffpost.com/entry/21-hashtags-that-changed-the-way-we-talk-about-feminism_n_56ec0978e4b084c6722000d1
- Bolukbasi, Tolga, Chang, Kai-Wei, Zou, James, Saligrama, Venkatesh, & Kalai, Adam (2016). Man is to Computer Programmer as Woman is to Homemaker? Debiasing Word Embeddings. *Advances in Neural Information Processing Systems*, 29, 1-25.

- Buolamwini, Joy (2016). How I'm fighting bias in algorithms. *TEDTalk: TEDxBeaconStreet*. Retrieved from https://www.ted.com/talks/joy_buolamwini_how_i_m_fighting_bias_in_algorithms?language=en
- Buolamwini, Joy, & Gebru, Timnit (2018). Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification. *Proceedings of Machine Learning Research, 81*, 1-15.
- Buskens, Ineke, & Webb, Anne (2009). *African women and ICTS: Investigating technology, gender and empowerment*. London, UK: Zed Books Ltd.
- Carboni, Inga, Cross, Rob, Page, Aaron, & Parker, Andrew (2019). Invisible network drivers of women's success. *Organizational Dynamics, 3*, 1-8.
- Cardoso, Gustavo (2006). *The Media in the Network Society: Browsing, News, Filters and Citizenship*. Lisboa, Portugal: CIES – Centre for Research and Studies in Sociology.
- Cardoso, Gustavo (2008). From Mass to Networked Communication: Communicational Models and the Informational Society. *International Journal of Communication, 2*, 587-630.
- Carmichael, Sarah (2015). The Research Is Clear: Long Hours Backfire for People and for Companies. *Harvard Business Review*. Retrieved from <https://hbr.org/2015/08/the-research-is-clear-long-hours-backfire-for-people-and-for-companies>
- Castells, Manuel (2004). *The network society: A cross-cultural perspective*. Northampton, MA: Edward Elgar Publishing, Inc.
- Castells, Manuel (2007). Communication, Power and Counter-power in the Network Society. *International Journal of Communication, 1*, 238-266.
- Castells, Manuel (2009). *Communication Power*. Oxford, UK: Oxford University Press.
- Castells, Manuel (2013). *The Impact of the Internet on Society: A Global Perspective*. BBVA Report, How Internet Is Changing Our Lives (pp. 127-143). Madrid, Spain: BBVA.
- Catalyst (2020). Quick Take: Why Diversity and Inclusion Matter. *Catalyst*. Retrieved from <https://www.catalyst.org/research/why-diversity-and-inclusion-matter/>
- Chandler, Daniel, & Munday, Rod (2011). *A Dictionary of Media and Communication*. Oxford, UK: Oxford University Press.

- Chau, Clement (2010). *YouTube as a participatory culture*. In M. Bers (Ed.), *New Media and Technology: Youth as Content Creators* (pp. 65–74). San Francisco, CA: Jossey-Bass.
- Cheng, Xusen, Fu, Shixuan, & de Vreede, Gert-Jan (2017). Understanding trust influencing factors in social media communication: A qualitative study. *International Journal of Information Management*, 37(2), 25-35.
- Cockburn, Cynthia (1985). *Machinery of Dominance: Women, Men and Technical Knowledge*. London, UK: Pluto Press.
- Consalvo, Mia (2012). *Encyclopaedia of New Media*. Thousand Oaks, CA: SAGE.
- Criado-Perez, Caroline (2019), The deadly truth about a world built for men – from stab vests to car crashes. *The Guardian*. Retrieved from <https://www.theguardian.com/lifeandstyle/2019/feb/23/truth-world-built-for-men-car-crashes>
- Cummings, Clare, & O'Neil, Tam (2015). *Do digital information and communications technologies increase the voice and influence women and girls? A rapid review of the evidence*. London, UK: Overseas Development Institute. Retrieved from <http://www.odi.org/publications/9499-women-icts>
- Daft, Richard, & Lengel, Robert (1986). Organisational information requirements, media richness, and structural design. *Management Science*, 32(5), 554-571.
- Daley, Sam (2020). Women in Tech Statistics for 2020 (and How We Can Do Better). *BuiltIn*. Retrieved from <https://builtin.com/women-tech/women-in-tech-workplace-statistics>
- Dallaway, Eleanor (2016). Closing the gender gap in cybersecurity. *CREST*. Retrieved from <https://www.crest-approved.org/wp-content/uploads/CREST-Closing-the-Gender-Gap-in-Cyber-Security.pdf>
- Dasgupta, Nilanjana (2011). Ingroup experts and peers as social vaccines who inoculate the self-concept: The stereotype inoculation model. *Psychological Inquiry*, 22(4), 231-246.
- Dastin, Jeffrey (2018). Amazon scraps secret AI recruiting tool that showed bias against women. *Reuters*. Retrieved from <https://uk.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUKKCN1MK08G>

- Davies, Caroline, & Khomani, Nadia (2017). Harvey Weinstein: a list of the women who have accused him. *The Guardian*. Retrieved from <https://www.theguardian.com/film/2017/oct/11/the-allegations-against-harvey-weinstein-what-we-know-so-far>
- Davis, Carleigh (2019). Feminist Rhetorical Practices in Digital Spaces. *Computers and Composition*, 52, 132-141.
- Dill, Karen, Brown, Brian, & Collins, Micheal (2008). Effects of exposure to sex-stereotyped video game characters on tolerance of sexual harassment. *Journal of Experimental Social Psychology*, 44, 1402-1408.
- Dimock, Michael (2019). Defining generations: Where Millennials end and Generation Z begins. *Pew Research Center*. Retrieved from <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Dobbin, Frank, Schrage, Daniel, & Kalev, Alexandra (2015). Rage against the iron cage: The varied effects of bureaucratic personnel reforms on diversity. *American Sociological Review*, 80(5), 1014-1044.
- Duncan, Colin & Loretto, Wendy (2004). Never the Right Age? Gender and Age-Based Discrimination in Employment. *Gender, Work & Organization*, 11, 95-115.
- Eagly, Alice, & Karau, Steven (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109(3), 573-598.
- Eccles, Jacquelynne, & Wigfield, Allen (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109-132.
- Eddy, Sarah, & Brownell, Sara (2016). Beneath the numbers: A review of gender disparities in undergraduate education across science, technology, engineering, and math disciplines. *Physical Review Physics Education Research*, 12, 1-20.
- Ellithorpe, Morgan, & Bleakley, Amy (2016). Wanting to See People Like Me? Racial and Gender Diversity in Popular Adolescent Television. *Journal of Youth & Adolescence*, 45, 1426-1437.
- Entenman, Elizabeth (2019). Someone Great is redefining the rom-com by focusing on female friendships. *HelloGiggles*. Retrieved from <https://hellogiggles.com/news/someone-great-netflix-jennifer-kaytin-robinson-interview/>
- Estrada-Claudio, Sylvia, & Guitierrez, Ibarra (2012). Bringing the local and intimate to the national and institutional: Using ICTs for legislative advocacy for reproductive health. *CITIGEN Research Report: Philippines*. Retrieved from <http://www.gender->

is-citizenship.net/sites/gender-is-citizenship.net.citigen/files/CITIGEN
%20Philippines%20report_Final.pdf

- European Commission (2019). Women in Digital. *European Commission*. Retrieved from <https://ec.europa.eu/digital-single-market/en/women-ict>
- Fang, Marina (2019). ‘Always Be My Maybe’ Makes Asians Feel Seen In Subtle But Powerful Ways. *The Huffington Post*. Retrieved from https://www.huffpost.com/entry/always-be-my-maybe-asian-representation_n_5cf537d0e4b0e346ce81fbd0
- Felstead, Alan, Jewson, Nick, Phizacklea, Annie, & Walters, Sally (2002). Opportunities to work at home in the context of work–life balance. *Human Resource Management Journal*, 12, 54-77.
- Ferreira, Victor (2019). “A Europa está a ficar para trás na competição tecnológica”. *Público*. Retrieved from <https://www.publico.pt/2019/07/23/economia/entrevista/europa-ficar-tras-competicao-tecnologica-1879966>
- Findler, Liora, Wind, Leslie., & Mor Barak, Michálla (2007). The challenge of workforce management in a global society: Modeling the relationship between diversity, inclusion, organizational culture, and employee well-being, job satisfaction and organizational commitment. *Administration in Social Work*, 31, 63-94.
- Fischer, Claude (1992). *America Calling: A Social History of the Telephone to 1940*. Berkeley, CA: University of California Press.
- Fleetwood, Steve (2007). Why work–life balance now?. *The International Journal of Human Resource Management*, 18, 387-400.
- Funk, Cary, & Parker, Kim (2017). Women and Men in STEM Often at Odds Over Workplace Equity. *Pew Research Center*. Retrieved from <https://www.pewsocialtrends.org/2018/01/09/women-and-men-in-stem-often-at-odds-over-workplace-equity/>
- Gallucci, Nicole (2018). Karlie Kloss expands Kode With Klossy to bring coding to 1,000 girls across the U.S. *Mashable*. Retrieved from <https://mashable.com/2018/03/16/karlie-kloss-kode-with-klossy-camp-2018/?europe=true#WR.2pQwkQZqo>
- Gammage, Sarah, Kabeer, Naila, & van der Meulen Rodgers, Yana (2016). Voice and Agency: Where Are We Now?. *Feminist Economics*, 22(1), 1-29.

- Garcia, Sandra (2017). The Woman Who Created #MeToo Long Before Hashtags. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/10/20/us/me-too-movement-tarana-burke.html>
- Gemmill, Allie (2017). This Netflix Infographic Highlights How Women Make Magic Onscreen When Given The Chance. *Bustle*. Retrieved from <https://www.bustle.com/p/this-netflix-infographic-highlights-how-women-make-magic-onscreen-when-given-the-chance-70395>
- Gerbner, George, Gross, Larry, Morgan, Michael, Signorielli, Nancy, & Shanahan, James (2002). *Growing up with television: Cultivation processes*. In J. Bryant, & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 43–67). New York, NY: Routledge Press.
- Glaser, Barney, & Strauss, Anselm (1967). *The discovery of grounded theory*. Chicago, IL: Aldine Publishing Company.
- Goffman, Erving (1959). *The presentation of self in everyday life*. New York, NY: Doubleday Anchor Books.
- Goldberg, Lesley (2018). 'Brooklyn Nine-Nine' Officially Revived at NBC. *The Hollywood Reporter*. Retrieved from <https://www.hollywoodreporter.com/live-feed/brooklyn-nine-nine-officially-revived-at-nbc-1111306>
- Goldstein, Jessica (2013). Television Binge Watching: If It Sounds So Bad Why Does It Feel So Good?. *The Washington Post*. Retrieved from https://www.washingtonpost.com/lifestyle/style/television-binge-watching-if-it-sounds-so-bad-why-does-it-feel-so-good/2013/06/06/fd658ec0-c198-11e2-ab60-67bba7be7813_story.html?noredirect=on&utm_term=.aa2c3d3518cd
- Gonçalo Ferreira, Helena (2018). #EleNão, #EleNunca. *Público*. Retrieved from <https://www.publico.pt/2018/09/24/p3/cronica/-elenao-elenunca-1845035>
- Gray, Emma (2018). Hollywood Doesn't Need 'Difficult' Men To Make Great TV. *The Huffington Post*. Retrieved from https://www.huffingtonpost.com/entry/hollywood-doesnt-need-difficult-men-to-make-great-tv_us_5b080bcce4b0568a880aa6d9?ncid=tweetlnkushpmsg00000050
- Gross, Larry (1994). *What is wrong with this picture? Lesbian women and gay men on television*. In Ringer, Jeffrey (Ed.), *Queer words, queer images: Communication and*

the construction of homosexuality (pp. 143–156). New York, NY: New York University Press.

- Gurumurthy, Anita, Nandhini, Chami, & Saloranta, Emma (2012). *Through the 'information society' prism: Scoping gender equality for the post-2015 agenda*. wICT4D Conference, January 2013. Retrieved from https://www.researchgate.net/publication/324168322_Through_the_'information_society'_prism_Scoping_gender_equality_for_the_post-2015_agenda
- Gutiérrez, Lorraine (1990). Working with women of color: An empowerment perspective. *Social Work, 35*, 149-153.
- Harding, Sandra (1986). *The Science Question in Feminism*. New York, NY: Cornell University Press.
- Hari, Amrita (2017). Who Gets to ‘Work Hard, Play Hard’? Gendering the Work–Life Balance Rhetoric in Canadian Tech Companies. *Gender, Work and Organization, 24*, 99-114.
- Harwood, Jake (1997). Viewing age: Lifespan identity and television viewing choices. *Journal of Broadcasting & Electronic Media, 41(2)*, 203-213.
- Harwood, Jake, & Anderson, Karen (2002). The presence and portrayal of social groups on prime-time television. *Communication Reports, 15*, 81-97.
- Hayek, Salma (2017). Harvey Weinstein Is My Monster Too. *The New York Times*. Retrieved from <https://www.nytimes.com/interactive/2017/12/13/opinion/contributors/salma-hayek-harvey-weinstein.html>
- Hepler, Lauren (2020). Messages, buffets and buses in limbo: Will tech’s perks ever be the same?. *Protocol*. Retrieved from <https://www.protocol.com/coronavirus-tech-office-perks>
- Herring, Cedric (2009). Does Diversity Pay?: Race, Gender, and the Business Case for Diversity. *American Sociological Review, 74(2)*, 208-224.
- Highfill, Samantha (2019). Why Jennifer Kaytin Robinson wanted to break female stereotypes in Someone Great. *Entertainment Weekly*. Retrieved from <https://ew.com/movies/2019/04/23/jennifer-kaytin-robinson-someone-great-female-stereotypes/>
- Hill, Catherine, Corbett, Christianne, & Rose, Andresse (2010). *Why So Few? Women in Science, Technology, Engineering and Math*. American Association of University

- Women (AAUW). Retrieved from <https://www.aauw.org/resources/research/the-stem-gap/>
- Howard, Courtney (2019). Film Review: Netflix's 'Always Be My Maybe'. *Variety*. Retrieved from <https://variety.com/2019/film/reviews/always-be-my-maybe-review-1203228850/>
- Huang, Jess, Krivkovich, Alexis, Starikova, Irina, Yee, Lareina, & Zanoschi, Delia (2019). Women in the Workplace 2019. *McKinsey & Company*. Retrieved from <https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2019>
- Hyperwallet (2017). The Future of Gig Work is Female. *Hyperwallet*. Retrieved from https://www.hyperwallet.com/app/uploads/HW_The_Future_of_Gig_Work_is_Female.pdf?mkt_tok=eyJpIjoiTVRjMU9UQmlOakk1TW1WaSIsInQiOiJYaVQrNEtTTzUzNWliUzZOSTQ3R2wxTnlwY00xZG9MZmErTnVXUkJVdGhMRm9EUW9GWTFcL1huaXZPbnBmdGN1RnBaWjAwa2tjTW5PXC82NnR5Z0o1VFcrOFhWbEZMbVd3UGgramZvdTg0Y1Y0Q3orMjlcL1wvVUpJaFBROVhMeXRyU1QifQ%3D%3D
- IMF (2018). Pursuing Women's Economic Empowerment. *IMF*. Retrieved from <https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/05/31/pp053118pursuing-womens-economic-empowerment>
- JDN (2019). Nombre d'utilisateurs de Facebook dans le monde. *Journal du Net*. Retrieved from <https://www.journaldunet.com/ebusiness/le-net/1125265-nombre-d-utilisateurs-de-facebook-dans-le-monde/>
- Jome, LaRae, Donahue, Mary, & Siegel, Laura (2006). Working in the Uncharted Technology Frontier: Characteristics of Women Web Entrepreneurs. *Journal of Business and Psychology*, 21, 127-147.
- Jung, Alex (2019). Randall Park's Small-Town L.A. *Vulture*. Retrieved from <https://www.vulture.com/2019/05/randall-park-always-be-my-maybe.html>
- Kabeer, Naila (1999). Resources, agency, achievements: Reflections on measurements of women's empowerment. *Development and Change*, 30, 435-302.
- Kabeer, Naila (2005). *Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1*. *Gender & Development*, 13(1), 13-24.

- Kafka, Peter, & Molla, Rani (2019). Netflix shows off the numbers behind its global growth story for the first time. *Vox*. Retrieved from <https://www.vox.com/2019/12/17/21025154/netflix-global-growth-numbers-sec-streaming-investors>
- Kantor, Jodi, & Twohey, Megan (2017). Harvey Weinstein Paid Off Sexual Harassment Accusers for Decades. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/10/05/us/harvey-weinstein-harassment-allegations.html>
- Kaplan, Andreas, & Haenlein, Michael (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 54, 105-113.
- Kaplan, Andreas, & Haenlein, Michael (2011). The early bird catches the news: Nine things you should know about micro-blogging. *Business Horizons*, 53(1), 59-68.
- Kaplan, Andreas, & Haenlein, Michael (2012). Social media: Back to the roots and back to the future. *Journal of Systems and Information Technology*, 14(2), 101-104.
- Kapoor, Kawaljeet, Tamilmani, Kuttimani, Rana, Nripendra, Patil, Pushp, Dwivedi, Yogesh, & Nerur, Sridhar (2018). Advances in social media research: Past, present and future. *Information Systems Frontiers*, 20(3), 531-558.
- Kaufman, Amy (2019). With Netflix's 'Someone Great,' Jennifer Kaytin Robinson lays the foundation for an entertainment empire. *Los Angeles Times*. Retrieved from <https://www.latimes.com/entertainment/movies/la-et-mn-jennifer-kaytin-robinson-someone-great-20190503-story.html>
- Kern, Eliza (2013). A Digital Life: "Orange is the New Black" shows Netflix gets how millennials watch TV. *GigaOM*. Retrieved from <https://gigaom.com/2013/07/31/a-digital-life-orange-is-the-new-black-shows-netflix-gets-how-millennials-watch-tv/>
- Kietzmann, Jan, Hermkens, Kristopher, McCarthy, Ian, & Silvestre, Bruno (2011). Social media? Get serious! Understanding the functional blocks of social media. *Business Horizons*, 54(3), 241-251.
- Kilkenny, Katie (2020). Time's Up Reveals Safety Guide for Entertainment Industry Employees. *The Hollywood Reporter*. Retrieved from <https://www.hollywoodreporter.com/news/times-up-reveals-safety-guide-entertainment-industry-employees-1264822>
- Kimbrough, Amanda, Guadagno, Rosanna, Muscanell, Nicole, & Dill, Janeann (2013). Gender differences in mediated communication: Women connect more than men do. *Computers in Human Behaviour*, 29, 896-900.

- Krivkovich, Alexis, Nadeau, Marie-Claude, Robinson, Kelsey, Robinson, Nicole, Starikova, Irina, & Yee, Lareina (2018). Women in the Workplace 2018. *McKinsey & Company*. Retrieved from <https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2018#>
- Langone, Alix (2018). #MeToo and Time's Up Founders Explain the Difference Between the 2 Movements — And How They're Alike. *TIME*. Retrieved from <http://time.com/5189945/whats-the-difference-between-the-metoo-and-times-up-movements/>
- Lauzen, Martha (2017). It's a man's (celluloid) world: Portrayals of female characters in the top 100 films of 2016. *San Diego State University*. Retrieved from <http://womenintvfilm.sdsu.edu/wp-content/uploads/2017/02/2016-Its-a-Mans-Celluloid-World-Report.pdf>
- Leonard, Andrew (2013). How Netflix is turning viewers into puppets. *Salon*. Retrieved from https://www.salon.com/2013/02/01/how_netflix_is_turning_viewers_into_puppets/
- Lent, Robert, & Brown, Steven (1996). Social cognitive approach to career development: An overview. *The Career Development Quarterly*, 44, 310-321.
- Levy, Ariel (2016). Ali Wong's Radical Raunch. *The New Yorker*. Retrieved from <https://www.newyorker.com/magazine/2016/10/03/ali-wongs-radical-raunch>
- Lewis, Richard (2006). *When Cultures Collide: Leading Across Cultures*. Boston, MA: Nicholas Brealey Publishing.
- Lincoln, Anne, & Allen, Michael (2004). Double Jeopardy in Hollywood: Age and Gender in the Careers of Film Actors, 1926–1999. *Sociological Forum*, 19, 611-631.
- Little, Jenny (2020a). Ten years on, why are there still so few women in tech?. *The Guardian*. Retrieved from <https://www.theguardian.com/careers/2020/jan/02/ten-years-on-why-are-there-still-so-few-women-in-tech>
- Little, Jenny (2020b). 'Everything has been pushed back': How Covid-19 is dampening tech's drive for gender parity. *The Guardian*. Retrieved from <https://www.theguardian.com/careers/2020/jun/18/everything-has-been-pushed-back-how-covid-19-is-dampening-techs-drive-for-gender-parity>
- Loader, Brian, & Mercea, Dan (2011). Networking Democracy?. *Information, Communication & Society*, 14, 757-769.

- Lohr, Steve (2018). Facial Recognition Is Accurate, if You're a White Guy. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/02/09/technology/facial-recognition-race-artificial-intelligence.html>
- Luc, Jessica, Stamp, Nikki, & Antonoff, Mara (2018). Social Media as a Means of Networking and Mentorship: Role for Women in Cardiothoracic Surgery. *Seminars in Thoracic and Cardiovascular Surgery*, 30(4), 487-495.
- Luttrell, Cecilia, Quiroz, Sitna, Scrutton, Claire, & Bird, Kate (2009). *Understanding and Operationalising Empowerment*. ODI Working Paper 308. London, UK: Overseas Development Institute.
- Mandal, Keshab (2013). Concept and Types of Women Empowerment. *International Forum of Teaching and Studies*, 9(2), 17-30.
- Marcelle, Gillian (2002). 'Information and Communication Technologies (ICT) and Their Impact on and Use as an Instrument for the Advancement and Empowerment of Women', in Report presented at the Online Conference Conducted by the Division for the Advancement of Women. New York, US: United Nations.
- Matrix, Sidneyeve (2014). The Netflix Effect: Teens, Binge Watching, and On-Demand Digital Media Trends. *Jeunesse: Young People, Texts, Cultures*, 6(1), 119-138.
- McGee, Kimberly (2018). The influence of gender, and race/ethnicity on advancement in information technology (IT). *Information and Organization*, 28, 1-36.
- McDonald, Kevin, & Smith-Rowsey, Daniel (2016). *The Netflix Effect: Technology and Entertainment in the 21st Century*. New York, NY: Bloomsbury Publishing.
- Melham, Samia, Morrell, Claudia, & Tandon, Nidhi (2009). Information and Communication Technologies for Women's Socio-Economic Empowerment. *The World Bank*. Retrieved from <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/812551468148179172/information-and-communication-technologies-for-womens-socioeconomic-empowerment>
- Microsoft (2017). The five years in every UK girl's life that decides if she will work in STEM. *Microsoft*. Retrieved from <https://news.microsoft.com/en-gb/2017/03/01/40431/>
- Microsoft (2018). Girls with a role model more likely to consider career in STEM, Microsoft research reveals. *Microsoft*. Retrieved from <https://news.microsoft.com/en-gb/2018/04/25/62509/>

- Millar, Melanie (1998). *Cracking the gender code: Who rules the wired world?*. Toronto, ON: Second Story Press.
- Miner-Rubino, Kathi, & Cortina, Lilia (2004). Working in a context of hostility toward women: Implications for employees' well-being. *Journal of Occupational Health Psychology, 9*, 107-122.
- Miner-Rubino, Kathi, & Cortina, Lilia (2007). Beyond targets: Consequences of vicarious exposure to misogyny at work. *Journal of Applied Psychology, 92*, 1254-1269.
- Molina-Guzmán, Isabel (2016). #OscarsSoWhite: How Stuart Hall explains why nothing changes in Hollywood and everything is changing. *Critical Studies in Media Communication, 33*(5), 438-454.
- Morais, Betsy (2013). Ada Lovelace, The First Tech Visionary. *The New Yorker*. Retrieved from <https://www.newyorker.com/tech/annals-of-technology/ada-lovelace-the-first-tech-visionary>
- Munshi-Kurian, Akanksha, Munshi, Debashish, & Kurian, Priya (2019). Strategic interventions in sociology's resource mobilization theory: Reimagining the #MeToo movement as critical public relations. *Public Relations Review, 45*(5), 1-7.
- Narayan, Deepa (2005). *Conceptual framework and methodological challenges*. In Deepa Narayan (Ed.). *Measuring empowerment: Cross disciplinary perspectives*. Washington DC, US: World Bank.
- Nayar, Pramod (2010). *An Introduction to New Media and Cybercultures*. New York, NY: John Wiley & Sons.
- Next Generation (2018). Why Aren't There More Women in Tech?. *Next Generation*. Retrieved from <https://www.nextgeneration.ie/blog/2018/08/why-arent-there-more-women-in-tech>
- Nguyen, Hanh (2019). 'Fleabag': Season 2 Is Truly Blessed With 11 Emmy Nominations, Five for Actresses Alone. *IndieWire*. Retrieved from <https://www.indiewire.com/2019/07/fleabag-emmy-nominations-phoebe-waller-bridge-amazon-1202158266/>
- Noble, David (1992). *A World Without Women: The Christian Clerical Culture of Western Science*. New York, NY: Oxford University Press.
- North, Anna (2018). The disturbing story behind the rape scene in Bernardo Bertolucci's Last Tango in Paris, explained. *Vox*. Retrieved from <https://www.vox.com/2018/11/26/18112531/bernardo-bertolucci-maria-schneider-last-tango-in-paris>

- Nugent, Julie, Pollack, Alixandra, & Travis, Dnika (2016). The Day-to-Day Experiences of Workplace Inclusion and Exclusion. *Catalyst*. Retrieved from <https://www.catalyst.org/research/the-day-to-day-experiences-of-workplace-inclusion-and-exclusion/>
- Nunez, Michael (2016). Everything You Need to Know About Netflix Downloads. *Gizmodo*. Retrieved from <https://gizmodo.com/everything-you-need-to-know-about-new-netflix-downloads-1789516274>
- O'Donnell, Amy, & Sweetman, Caroline (2018) Introduction: Gender, development and ICTs. *Gender & Development*, 26(2), 217-229.
- O'Donovan, Carolina, & Anand, Priya (2017). How Uber's Hard-Charging Corporate Culture Left Employees Drained. *BuzzFeed News*. Retrieved from <https://www.buzzfeednews.com/article/carolineodonovan/how-ubers-hard-charging-corporate-culture-left-employees>
- Ohlheiser, Abby (2018). How #MeToo really was different, according to data. *The Washington Post*. Retrieved from <https://www.washingtonpost.com/news/the-intersect/wp/2018/01/22/how-metoo-really-was-different-according-to-data/>
- Oldenziel, Ruth (1999). *Making Technology Masculine: Men, Women and Modern Machines in America*. Amsterdam, The Netherlands: Amsterdam University Press.
- Oliveira, Joana (2018). Um milhão de mulheres contra Bolsonaro: a rejeição toma forma nas redes. *El País*. Retrieved from https://brasil.elpais.com/brasil/2018/09/12/actualidad/1536768048_321164.html
- O'Neil, Tammie, Foresti, Marta, & Hudson, Alan (2007). *Evaluation of Citizen' Voice and Accountability: A Review of the Literature and Donor Approaches*. London, UK: DFID.
- O'Neil, Tam, Domingo, Pilar, & Valters, Craig (2014). *Progress on Women's Empowerment: From Technical Fixes to Political Action*. Development Progress Working Paper No.6. London, UK: ODI.
- Otterson, Joe (2019). 'Brooklyn Nine-Nine' Renewed for Season 7 at NBC. *Variety*. Retrieved from <https://variety.com/2019/tv/news/brooklyn-nine-nine-renewed-season-7-at-nbc-1203151412/>

- Park, Andrea (2017). #MeToo reaches 85 countries with 1.7M tweets. *CBS News*. Retrieved from <https://www.cbsnews.com/news/metoo-reaches-85-countries-with-1-7-million-tweets/>
- Pascu, Corina, Osimo, David, Turlea, Geomina, Ulbrich, Martin, Punie, Yves, & Burgelman, Jean-Claude (2009). *Social Computing: Implications for the EU Innovation Landscape*. In Pauwels, Caroline, Kalimo, Harri, & Donders, Karen (Eds.), *Rethinking European media and communications policy*. Brussels, Belgium: VUB Press.
- Paul, Kari (2019). Microsoft Japan tested a four-day work week and productivity jumped by 40%. *The Guardian*. Retrieved from <https://www.theguardian.com/technology/2019/nov/04/microsoft-japan-four-day-work-week-productivity>
- Peters, Michael, & Besley, Tina (2018). Weinstein, sexual predation, and ‘Rape Culture’: Public pedagogies and Hashtag Internet activism. *Educational Philosophy and Theory, 10*, 1-7.
- Pew Research Center (2017). About 6 in 10 young adults in U.S. primarily use online streaming to watch TV. *Pew Research Center*. Retrieved from <https://www.pewresearch.org/fact-tank/2017/09/13/about-6-in-10-young-adults-in-u-s-primarily-use-online-streaming-to-watch-tv/>
- Pifer, Carrie (2017). *Cybersecurity Workforce Alert: Women’s Perspectives on Factors Influencing Female Interest* (Publication No. 10744000) [Doctoral dissertation, Frostburg State University]. ProQuest Dissertations Publishing.
- Piñero, Julie (2019). Meet The Women Changing The Future Of TV Sex Scenes. *The Huffington Post*. Retrieved from https://www.huffpost.com/entry/intimacy-coordinators-women-changing-tv-sex-scenes_n_5cadfa9ae4b01bf96008cfe9
- Plant, Sadie (1998). *Zeros and Ones: Digital Women + the New Technoculture*. London, UK: Fourth Estate.
- Porter, Elisabeth (2013). Rethinking Women's Empowerment. *Journal of Peacebuilding & Development, 8*(1), 1-14.
- Poushter, Jacob, Bishop, Caldwell, & Chwe, Hanyu (2018). Social Media Use Continues to Rise in Developing Countries but Plateaus Across Developed Ones. *Pew Research Center*. Retrieved from <https://www.pewglobal.org/2018/06/19/social-media-use-continues-to-rise-in-developing-countries-but-plateaus-across-developed-ones/>

- Power, Daniel, & Phillips-Wren, Gloria (2011). Impact of Social Media and Web 2.0 on Decision-Making. *Journal of Decision Systems*, 20(3), 249-261.
- Primo, Natasha (2013). *Gender issues in the information society: UNESCO publications for the world summit on the information society*. Paris, France: The United Nations Educational, Scientific and Cultural Organization (UNESCO). Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000132967>
- Rainie, Lee, & Wellman, Barry (2012). *Networked. The new social operating system*. Cambridge, MA: The MIT Press.
- Resmini, Marina (2016). The 'Leaky Pipeline'. *Chemistry A European Journal*, 22, 3533-3534.
- Resnick, Brian (2019). Yes, artificial intelligence can be racist. *Vox*. Retrieved from <https://www.vox.com/science-and-health/2019/1/23/18194717/alexandria-ocasio-cortez-ai-bias>
- Robehmed, Natalie (2017). Karlie Kloss, Coding's Supermodel: The Forbes Cover Story. *Forbes*. Retrieved from <https://www.forbes.com/sites/natalierobehmed/2017/11/14/karlie-kloss-codings-supermodel-the-forbes-cover-story/#6186586117af>
- Robertson, Adi (2012). Amazon to let users vote on first slate of original shows from Garry Trudeau, 'The Onion,' and more. *The Verge*. Retrieved from <https://www.theverge.com/2012/12/20/3787990/amazon-studios-announces-original-comedy-tv-pilots>
- Robnett, Rachael (2016). Gender Bias in STEM Fields: Variation in Prevalence and Links to STEM Self-Concept. *Psychology of Women Quarterly*, 40(1), 65-79.
- Rodger, James, & Pendharkar, Parag (2004). A field study of the impact of gender and user's technical experience on the performance of voice-activated medical tracking application. *International Journal of Human-Computer Studies*, 60, 529-544.
- Rodino-Colocino, Michelle (2018). Me too, #MeToo: Countering cruelty with empathy. *Communication and Critical/Cultural Studies*, 15, 96-100.
- Rossiter, Margaret (1982). *Women Scientists in America*. Baltimore, MD: John Hopkins University Press.
- Rowlands, Jo (1997). *Questioning Empowerment: Working with Women in Honduras*. Oxford, UK: Oxfam Publications.

- Ruggs, Enrica, Hebl, Mikki, Walker, Sarah, & Fa-Kaji, Naomi (2014). Selection biases that emerge when age meets gender. *Journal of Managerial Psychology*, 29, 1028-1043.
- Russell, Stuart, & Norvig, Peter (2010). *Artificial Intelligence: A Modern Approach*. Upper Saddle River, NJ: Prentice Hall.
- Ryan, Maureen (2015). Netflix's Cindy Holland Reveals Streaming Service's 'Commitment to Diversity'. *Variety*. Retrieved from <http://variety.com/2015/tv/news/cindy-holland-netflix-directors-1201633472/>
- Ryan, Maureen (2016). 'Jessica Jones' Hires All Women Directors for Season 2, Showrunner Says. *Variety*. Retrieved from <http://variety.com/2016/tv/features/jessica-jones-women-directors-season-two-melissa-rosenberg-1201897203/>
- Schau, Hope, & Gilly, Mary (2003). We are what we post? Self-presentation in personal web space. *Journal of Consumer Research*, 30(3), 385-404.
- Scott, Allison, Klein, Freada, & Onovakpuri, Uriridiakoghene (2017). Tech Leavers Study. *The Kapor Center for Social Impact (KCSI)*. Retrieved from https://www.kaporcenter.org/wp-content/uploads/2017/04/KAPOR_Tech-Leavers-17-0428.pdf
- Settles, Isis, Cortina, Lilia, Buchanan, NiCole, & Miner, Kathi (2013). Derogation, Discrimination, and (Dis)Satisfaction With Jobs in Science: A Gendered Analysis. *Psychology of Women Quarterly*, 37(2), 179-191.
- Short, John, Williams, Ederyn, & Christie, Bruce (1976). *The social psychology of telecommunications*. Hoboken, NJ: John Wiley & Sons, Ltd.
- Shakespeare, Tom (1994). Cultural Representation of Disabled People: Dustbins for Disavowal?. *Disability & Society*, 9(3), 283-299.
- Signorielli, Nancy, & Bacue, Aaron (1999). Recognition and respect: A content analysis of prime-time television characters across three decades. *Sex Roles*, 40, 527-544.
- Sink, Alexander, & Mastro, Dana (2017). Depictions of gender on primetime television: A quantitative content analysis. *Mass Communication and Society*, 20, 3-22.
- Slaughter, Anne-Marie, & Weingarten, Elizabeth (2016). Anne-Marie Slaughter: The National Security Issue No One Is Talking About. *TIME*. Retrieved from <http://time.com/4290563/women-in-cybersecurity/>

- Smith, Janice, & Joseph, Stephanie (2010). Workplace challenges in corporate America: Differences in black and white. *Equality, Diversity and Inclusion: An International Journal*, 29(8), 743-765.
- Sobieraj, Sarah (2017). Bitch, slut, skank, cunt: Patterned resistance to women's visibility in digital publics. *Information, Communication & Society*, 3, 1-15.
- Somerville, Peter (1998). Empowerment through residence. *Housing Studies*, 13, 233-225.
- Sparkman, Gregg, & Walton, Gregory (2017). Dynamic norms promote sustainable behaviour, even if it is counter-normative. *Psychological Science*, 28, 1663-1674.
- Stempel, Jonathan (2019). Facebook sued for age, gender bias in financial services ads. *Reuters*. Retrieved from <https://www.reuters.com/article/us-facebook-lawsuit-bias/facebook-sued-for-age-gender-bias-in-financial-services-ads-idUSKBN1XA2G8>
- Stoddart, Kirsten (2017). Amazon, Netflix and righting the wrongs of television's gender problem. *The Conversation*. Retrieved from <https://theconversation.com/amazon-netflix-and-righting-the-wrongs-of-television-gender-problem-80570>
- Stout, Jane, Dasgupta, Nilanjana, Hunsinger, Matthew, & McManus, Melissa (2011). STEMing the tide: Using ingroup experts to inoculate women's self-concept and professional goals in science, technology, engineering, and mathematics (STEM). *Journal of Personality and Social Psychology*, 100, 255-270.
- Strehlke, Sade (2016). Karlie Kloss Is Launching a Coding Camp for Girls and Wants You to Join. *Teen Vogue*. Retrieved from <https://www.teenvogue.com/story/karlie-kloss-coding-scholarships-girls-kode-with-klossy>
- Sullivan, Yulia, & Koh, Chang (2019). Social media enablers and inhibitors: Understanding their relationships in a social networking site context. *International Journal of Information Management*, 49, 170-189.
- Syvetsen, Trine (2004). Citizens, Audiences, Customers and Players: A conceptual discussion of the relationship between broadcasters and their publics. *European Journal of Cultural studies*, 7(3), 363-380.
- Tanwir, Maryam, & Khemka, Nitya (2018) Breaking the silicon ceiling: Gender equality and information technology in Pakistan. *Gender, Technology and Development*, 22(2), 109-129.
- Tatman, Rachael (2017). Gender and Dialect Bias in YouTube's Automatic Captions. *Ethics in Natural Language Processing*, 53-59.

- TFQ, Atlantic Media Strategies, & Catalyst. *The Modern Guide to Equality*. Los Angeles, CA: TFQ. Retrieved from <https://www.catalyst.org/research/the-modern-guide-to-equality/>
- Thomas, Rachel, Yee, Lareina, Cooper, Marianne, Krivkovich, Alexis, Konar, Ellen, Starikova, Irina, & Valentino, Rachel (2017). Women in the workplace: 2017. *LeanIn.Org and McKinsey & Company*. Retrieved from <https://womenintheworkplace.com/>
- Thomas, Rachel (2019). Tech's Long Hours Are Discriminatory and Counterproductive. *Medium*. Retrieved from <https://medium.com/s/story/techs-long-hours-are-discriminatory-counter-productive-17dc61071ed5>
- Thompson, Clive (2019). *Coders: The Making of a New Tribe and the Remaking of the World*. New York, NY: Penguin Press.
- Thorpe-Moscon, Jennifer, Pollack, Alixandra, & Olu-Lafe, Olufemi (2019). Empowering Workplaces Combat Emotional Tax for People of Colour in Canada. *Catalyst*. Retrieved from <https://www.catalyst.org/research/emotional-tax-canada/>
- Tolan, Songül (2018). Fair and Unbiased Algorithmic Decision Making: Current State and Future Challenges. *JRC technical report*. Retrieved from https://www.researchgate.net/publication/330409917_Fair_and_Unbiased_Algorithmic_Decision_Making_Current_State_and_Future_Challenges
- Tombleson, Bridget, & Wolf, Katharina (2017). Rethinking the circuit of culture: How participatory culture has transformed cross-cultural communication. *Public Relations Review*, 43(1), 14-25.
- Tomkinson, Sian, & Harper, Tael (2015). The position of women in video game culture: Perez and Day's Twitter Incident. *Continuum*, 29(4), 617-634.
- Topping, Alexandra (2018). Salma Hayek: male Hollywood stars should take pay cut. *The Guardian*. Retrieved from <https://www.theguardian.com/film/2018/may/13/male-hollywood-stars-should-take-pay-cut-says-salma-hayek>
- Trajectory Partnership (2010). *The Information Dividend: Why IT Makes You 'Happier'*. Swindon, UK: British Informatics Society Limited. Retrieved from <https://www.bcs.org/upload/pdf/info-dividend-full-report.pdf>

- Travis, Dnika, & Thorpe-Moscon, Jennifer (2018). Day-to-Day Experiences of Emotional Tax Among Women and Men of Color in the Workplace. *Catalyst*. Retrieved from <https://www.catalyst.org/research/day-to-day-experiences-of-emotional-tax-among-women-and-men-of-color-in-the-workplace/>
- Trepte, Sabine, & Krämer, Nicole (2007). Expanding social identity theory for research in media effects: Two international studies and a theoretical model. *Hamburger Forschungs-bericht zur Sozialpsychologie*, 78, 1-37.
- TrustRadius (2020). The Impact of COVID-19 on Women in Tech. *TrustRadius*. Retrieved from <https://www.trustradius.com/vendor-blog/covid-19-women-in-tech>
- Turkle, Sherry (1995). *Life on the Screen: Identity in the Age of the Internet*. New York, NY: Simon & Schuster.
- Turner, Sandra, & Maschi, Tina (2015). Feminist and empowerment theory and social work practice. *Journal of Social Work Practice*, 29(2), 151-162.
- Uchoa, Pablo (2020). Coronavirus: Will women have to work harder after the pandemic?. *BBC News*. Retrieved from <https://www.bbc.com/news/business-53363253>
- UN Women (2019). Hashtag women's rights: 12 social media movements you should follow. *Medium*. Retrieved from https://medium.com/@UN_Women/hashtag-womens-rights-12-social-media-movements-you-should-follow-6e31127a673b
- UN Women (2020). *Facts and Figures: Economic Empowerment*. Retrieved 16 January 2020 <https://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures>
- Vandello, Joseph, Hettinger, Vanessa, Bosson, Jennifer, & Siddiqi, Jasmine (2013). When Equal Isn't Really Equal: The Masculine Dilemma of Seeking Work Flexibility. *Journal of Social Issues*, 69(2), 303-321.
- Van Dijk, Jan (2006). *The Network Society*. London, UK: SAGE Publications.
- Van Dijk, Jan (2012). *The Network Society*. London, UK: SAGE Publications.
- Variety Staff (2019). Women's Impact Report 2019. *Variety*. Retrieved from <https://variety.com/gallery/womens-impact-report-2019-variety/people-en-espanols-most-beautiful-star-studded-diversity-panel-and-celebration-arrivals-1-hotel-west-hollywood-los-angeles-usa-23-may-2019/>
- Voza, Stephanie (2018). This is why women leave jobs in tech. *Fast Company*. Retrieved from <https://www.fastcompany.com/90274067/this-is-why-women-leave-jobs-in-tech>

- Wajcman, Judy (1991) *Feminism Confronts Technology*. Cambridge, UK: Polity Press.
- Wajcman, Judy (2004). *TechnoFeminism*. Cambridge, UK: Polity Press.
- Wajcman, Judy (2006). TechnoCapitalism Meets TechnoFeminism: Women and Technology in a Wireless World. *Labour & Industry*, 16, 7-20.
- Wajcman, Judy (2007). From women and technology to gendered technoscience. *Information, Community & Society*, 10, 287-298.
- Wajcman, Judy (2010). Feminist theories of technology. *Cambridge Journal of Economics*, 34(1), 143-152.
- Wakabayashi, Daisuke (2018). Self-Driving Uber Car Kills Pedestrian in Arizona, Where Robots Roam. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/03/19/technology/uber-driverless-fatality.html>
- Weitz, Tracy, & Yanow, Susan (2008). Implications of the Federal Abortion Ban for Women's Health in the United States. *Reproductive Health Matters*, 16, 99-107.
- Wellner, Galit, & Rothman, Tiran (2020). Feminist AI: Can We Expect Our AI Systems to Become Feminist?. *Philosophy & Technology*, 33, 191-205.
- West, Kelly (2012). Amazon Studios Invites TV Writers To Submit Comedy And Children's Series Ideas. *Cinema Blend*. Retrieved from <https://www.cinemablend.com/television/Amazon-Studios-Invites-TV-Writers-Submit-Comedy-Children-Series-Ideas-42088.html>
- Witt, Susan (2000). Review of research: The influence of television on children's gender role socialization. *Childhood Education*, 76, 322-324.
- Wynn, Alison (2020). Pathways toward change: Ideologies and gender equality in a Silicon Valley technology company. *Gender & Society*, 34(1), 106-130.
- Xiong, Ying, Cho, Moonhee, & Boatwright, Brandon (2019). Hashtag activism and message frames among social movement organizations: Semantic network analysis and thematic analysis of Twitter during the #MeToo movement. *Public Relations Review*, 45, 10-23.
- Yapo, Adrienne, & Weiss, Joseph (2018). Ethical Implications Of Bias In Machine Learning. *Proceedings of the 51st Hawaii International Conference on System Sciences*, January 2018, 5365-5372.

Yoder, Jeremy, & Mattheis, Allison (2016). Queer in STEM: Workplace Experiences Reported in a National Survey of LGBTQA Individuals in Science, Technology, Engineering, and Mathematics Careers. *Journal of Homosexuality*, 63(1), 1-27.

Zeilinger, Julie (2018). The #MeToo Movement Is Affecting Men Too. *MTV News*. Retrieved from <http://www.mtv.com/news/3059457/mtv-survey-men-metoo/>

Appendix A – Concept Cards

Card 1: The Female Experience

S1.P4: I entered the tech industry in an agency environment, which are a lot more diverse gender-wise than working in-house for a tech company, so it wasn't really on my radar, being a “woman in tech” or being a “woman in a digital industry”. I knew we had issues like most other industries, but I found myself surrounded by women, and in leadership positions. It wasn't 50/50, but I never felt like “wow I'm in this super male dominated industry”. So you know, issues of inclusion and representation, all that stuff, wasn't really on my radar in the beginning.

S1.P8: There was this assumption that I gave positive feedback to my colleague because he flirted with us women and it just pissed me off so much. That was the first proper moment I can remember that I thought, “Wow, okay, yeah, I've experienced this firsthand now, my opinion not being valid because of my gender”. It was just the most ridiculous thing. I didn't immediately act on anything at the time and just carried on with it and my career.

S1.P9: A few years later, I worked in-house for a tech startup and it was quite a typical environment, me being the only woman in the department, or not even in the department, but in the room. So being the only woman in a Product Team of 3-4 men that sat with an Engineering department of all men, and just noting the aggregate of the implications of there only being men around me, both in terms of the day-to-day and meetings, concepts of constant interruptions, gaslighting and mansplaining, all that stuff. It's very real, and also from a ‘them versus me standpoint’.

S1.P10: One thing that always kept coming up was the need to hire more women and that we needed a woman engineer. But that then became communicated as there aren't female engineers, and that it was a pipeline problem that the company didn't have a female engineer. It's not a pipeline problem... There are no women engineers in London? I personally know about a 50/50 split of women engineers. Among my friends, if I exclude all the people I work with, I actually know more women engineers than men, because they're my friends. They exist, they're not a mythical creature. So I found that male dominated tech companies just refuse to see their own role in creating this inaccessible environment for women engineers to apply to.

S1.P11: I think women tend to look for companies that are, not necessarily woman dominated, but just diverse. Part of it is that feeling safe and valued in a workplace is really important. From speaking to my female friends in the tech industry, like me, they don't apply to places that are male dominated, or they prefer not to. When we consider companies to work for we go on the About You page, and we look at who's in Leadership, who's in the Engineering team, what the diversity is, and if all we see are white men, then we just don't apply. It doesn't mean we don't exist, it means there's something wrong with a company from our point of view.

S1.P12: I don't know if this is just a consequence of being in an environment with lots of men, so the likelihood of men taking credit for my work or for my contributions, the likelihood was just higher, just because there were more men. I can't remember ever experiencing women that did that. We had portfolios showcases at work and my hand-drawn sketches, designs, and wireframes were in a manager's portfolio with no accreditation. And I'm talking about hand-drawn, as in my handwriting, my scribbles, they're just in his portfolio without accreditation, this stuff that I had clearly made. I've had women managers as well, they haven't done that, they haven't taken my work and put it in their portfolio, without crediting me. If I put other people's work in my portfolio, I say and include design credit for the person, that's just what you do.

S1.P13: I had a female colleague who was receiving feedback that said something to the effect of "you could be more tactful in meetings". My female colleague who received this feedback was very to the point, she wouldn't interrupt people, but she'd be very straight talking, wouldn't take bullshit and would easily call out other people's bullshit and stuff in meetings, but she wouldn't be inappropriate. She received feedback from this older female colleague. Male colleagues didn't receive that kind of feedback, and I've been in loads of other environments where male colleagues they interrupt you, they're rude, and more, and that isn't being called out. When a woman does it, it's, "Oh, you're not being tactful", or she's perceived as being difficult or that sort of thing.

S1.P15: In a company I worked at, I was quite senior by then and one of the more senior members of the team. There was this all day workshop, and my male manager asked me, "Hey, if you don't have much to do, can you come to this workshop and take notes?", but I wasn't even part of this project, I didn't know the context and was just brought in as a note taker for a workshop. I have never come across someone bringing in a male colleague to note-take for a workshop. It was as if I was in Mad Men and one of the secretaries. I thought is this really a good use of my time? If you do the actual cost calculation of my salary, and how much it costs to put someone on my salary in a three hour workshop and just sit and take notes. It was a bit of a joke. Just record the session and transcribe it, why do you need an actual paid human to sit in there, and if you're going to pick a human, you pick a woman?

S1.P19: I think part of the reason why I just never experienced as much differential treatment was because I'm a UX designer, so I'm part of the Product and Engineering team. Connecting with my female colleagues in our little mini network, made me properly realise how, not only for women in tech, but if you're a woman in tech in a non-tech discipline, you're treated so much worse. This other colleague who was on the Finance side and an accountant, kind of in Operations, there are specific examples of just people shouting at her or just being incredibly demeaning and me overhearing a Head of Engineering for example, actually shout at her.

S1.P25: Being in a female-founded space I definitely feel more psychologically safe! There's no belittling and no bullying and no patronising tones. This previous company was all of those things, and zero psychological safety. Like I mentioned, if you voiced a critical opinion, you were shut down. That's the complete opposite of psychological safety. There were actual bullies there, people would bully each other.

S1.P30: Being in a positive environment I feel empowered just in the day-to-day that I have the freedom and that everyone trusts everyone, we're all trusted to do our best work. There was extremely low trust in my previous place. Also career development-wise, the fact that it has such a strong feedback culture that's very woman driven, I feel like I have a proper shot at identifying my weaknesses and improving on them. I haven't typically had that before, because either the "default optimised performer" was male or masculine or you didn't receive feedback.

S1.P33: Technology and social media really empower me in that I can see people from all over the world and in the tech industry talking about the same things as me, and we're sharing experiences and we're amplifying each other's voices and that sort of thing. For worse, social media is obviously an echo chamber and I won't see all the shitty Uber execs and misogyny to the same extent on my Twitter feed because of what I follow, but I know it exists and people do raise these issues a lot as well and it explodes in the media, in this Me Too era for sure.

S1.P36: One channel, which is just called Women in Tech, and that helps us kind of just get together on any issue that affects women in tech. It can be just as direct as you know, "I'm pregnant and I'm in tech, and I'm not receiving any support", or having your period while being a woman in tech, and there are no tampons or pads. This was another thing in a previous company, I remember so many times a colleague of mine would just go the rounds and ask all the five women colleagues, "I'm on my period, do you have anything", because our bathrooms just didn't have a supply! Stuff like that. These tech companies just aren't built and designed to accommodate women.

S1.P37: I'm not a mother, but I hear so many stories of if you're a pregnant woman in tech, then you have to make some really hard choices, or you have to be in a place that really understands your "predicament", your "situation", like you're an anomaly, like, "Oh, you're pregnant, how do we accommodate this?". It's not designed for people to be pregnant. I've become so much more aware of it now that I work in my current company, which is a startup essentially for women who want to build a career and not sacrifice it just because they decided to have a family. A lot of our target audience are couples where both the man and woman, or both sides are high earners and the woman wants to continue her career, and then realise if you have a kid and "I either need to sacrifice my career, or I need to move out of London". Just this realisation that not just tech, but high income industries, so careers like finance or engineering or law, they just squeeze women out as soon as they're women that have children.

S2.P1: I kind of fell into the industry, I didn't actually pursue a career in it.

S2.P10: It's not to say that there aren't women, there are women in the industry, I think just not in the traditional sense of it. So for example, I work in the tech industry, but I'm in a management position, and I'm not in a technical management position. And the other women in my company are designers or the office manager. Actually, right now we have a male office manager, but all our other offices have female office managers. Operations manager, recruitment, HR, these are all the roles that the women in the company will fulfil. Then within the actual engineering department, I think, in the last two years that I've been at the company, we've actually seen a huge increase in women. So when I started, there were two female engineers, and I think now we're looking at more like 35 to 40% of engineers are women.

S2.P11: I definitely have to say that the overwhelming majority of the engineers that you'll see, the people that are actually in technical positions and have the technical tools, are not women.

S2.P12: Also the clients that I work with, so I'll sit in a meeting with clients and I'll be in a boardroom with a bunch of men in their 30s-40s, and there's me a 20 something old Project Manager in the room, and I have nothing in common with any of these people, I don't have any of the technical knowledge to properly uphold a conversation with them. So you really are outnumbered quite often.

S2.P13: One of my really good friends is a technical lead, which is essentially the most senior position that you can be in the company other than director level. There's 6 technical leads in my office for my company and they all sit under the technical director, and she's the only female technical lead. Globally, I think we've got maybe 25 technical leads, and I think she is also the only female technical lead globally. So I think that says a lot more, but the more senior you go, and the more technical the position, the less women you'll see in the room.

S2.P15: In my first job, I was working on a project where I was in over my head. It actually wasn't a particularly technical project, it's just that there was nobody available to do it, so they were just like, "Just give it to the Junior kid, and we'll catch her if she falls". Except nobody caught me when I fell, so I just fell, and then I got really reprimanded for it. I remember vividly, I was asked into a board meeting and then for an hour I was told all the things that I did wrong and I felt horrendously about myself. In time and in retrospect, I then realised that actually all of those things that they said were obviously my fault, but they were also a representation of the failure of the people that were meant to be there to guide me and manage me, and nobody really took responsibility for that. It all just fell on me, and I was gullible enough to think, "Oh, yeah, this is actually all my fault".

S2.P16: I think with time you kind of just learn to grow thick skin, and to stand up for yourself. So when people try to have you take the fall, you stand up for yourself and can say: "Actually, no, there's some shared accountability here".

S2.P21: I've had times in meetings where I've said something, and then people have turned and said, "Oh, that's that's actually a really great idea", like they weren't expecting me to have good ideas to contribute, but I surprised them with my ability to think critically.

S2.P22: I think it's not just gender, I think it's also age, so, not just being a woman, but being a young woman in the industry. Oftentimes I'm not just the only girl in the room, I'm also oftentimes the youngest by a decade in the room.

S2.P28: To be honest, I don't really think about the fact that I'm a "woman at work" too often, I think I do just when stuff happens. Like, something happened to me the other day and it genuinely made me want to barf in my mouth.

S2.P29: We were on our way to a meeting with one of our clients, a really, really big, tech giant. I've been managing this account, so I'm one of the key stakeholders in that relationship, if not the key stakeholder in that relationship. There was this meeting and it was more so of a commercial meeting, so I wasn't really an essential attendee in that meeting, I was more so going because I had a history in the project that I've been running, and it's a great learning opportunity for me. We were on the way to this meeting, and I asked my line manager, who, for all intents and purposes is a wonderful person, I really like having him as my line manager, but he said something to me that just really ruffled my feathers, and I do wonder if it had anything to do with the fact that I am a woman. I said, "Oh, you know, I don't really know why I'm coming to this meeting, I don't know if I'm going to add any value to it, but I'm happy to be here to learn". And he then essentially asked me to be the scribe of the meeting, which was not the reason I came to the meeting, it's not my role to take notes.

S2.P30: Other than when sexist stuff happens, I don't really actively think, "Oh, I'm a woman in tech. I'm a minority". It doesn't really cross my mind until something negative happens, and then I think: "I wonder if that would have been said if I were a male manager".

S2.P35: Something happened that did shock me to my core with a couple of my co-workers. One of the directors, he's no longer at the company, he basically was a line manager of a female colleague, and she was talking to him about career progression, and long story short, at some point he basically offered sex in exchange for her growth.

S2.P48: I think you have to ask for what you want in your career, and that goes everyone, men and women. I think unfortunately, men tend to be less afraid to ask for it, and that's I think where they have an upper-hand. I have so many female friends that say, 'I think I deserve that promotion/raise', and I ask, 'Well, have you asked for it?'. 99.9% of the time the answer is no, and it's because we are afraid that we might not be worth it or deserve it. It's such a silly fear, because if you just asked for it, if the answer is no, then you are where you were if you didn't ask, and what you do have that you wouldn't have if you hadn't asked, is the opportunity to ask people for feedback on what you need to do to get there. So if you're not where you need to be to get that promotion, to get that raise, or to make that move, then you have the opportunity to ask the person that you report to or somebody that you look up to, and ask: "What should I be doing to get to that place where you think I'll be ready?". If you never ask, then you'll never get it or you'll wait a ridiculous amount of time to get there.

S3.P2: My co-founder wound up doing some surveys on a bunch of women post-menopause through peri-menopause, as well as young adults, and realised that no one knows anything about menopause until it happens. She and I were talking about it one day, as well as lots of data on the gender wage gap and all that stuff, and it just seemed like we think about our bodies and our personal goals, like children, on a different track than our professional and financial goals, and those interact, but we don't really think of them interacting.

S3.P6: From an econometrics standpoint, I know that women are more likely to be in part-time work, I know women are more likely to take the combinations at work, and women are more likely to stay home, because childcare is fucking expensive.

S3.P15: For me personally, until that one experience I talked about of getting pushed into a position of doing a job and not getting paid for it, I had never felt that my contributions weren't being valued or had never had an incident where I thought would this have happened to a male colleague, I never felt like I personally had been affected in any way.

S3.P20: Sometimes I read those stats of how female founders just aren't getting funded at nearly any, astronomically lower rates than male founders, and it just feels like there's a lot stacked against us which sucks.

S3.P21: I got feedback at my last job that I was aggressive, and a lot of women leaders do, and that's okay. It's outside of what you expect from a woman, it's outside of my prototype, and I was lucky to have male leaders be like, "You're not aggressive. You're just being direct. They wouldn't say that to a man, ignore it". So there's both the good and the bad.

S4.P5: So I worked in a team, we were five or six developers, and it was a pretty new team in the company as they used to outsource everything. It was all men, all over 35-40, which was a little tough. I will say I really learned a lot, and I'm forever thankful, I got along with everyone, but the environment was really bad, because not only was I the only girl, I was super young, they were super old, there was nothing in common.

S4.P8: I got a new job which is great. I'm the only girl still. We had a girl for a month, but she left, and I don't think it was because the environment was bad, the environment is really good. My team is only men, we are about 10 now, when I joined I think we were six or seven.

S4.P10: I do feel a little bad that I'm the only woman. I do have a lot of thoughts like, "Oh, maybe I was only hired because they didn't have any women, and they thought, "Oh, we need a woman, so let's hire her"", things like that, which I think is pretty normal. Then again, I had a lot of imposter syndrome also because I'm a Junior developer, and I think being a woman also doesn't help.

S4.P12: The company is still growing, I'm still the only girl in tech, but in the other areas there are more girls joining which is cool. Still no woman in a position of power, but hopefully one day.

S4.P15: In the other company I started feeling like maybe I didn't like developing, because I didn't like the environment, I didn't feel supported. So I started thinking that maybe that wasn't for me and I think if I had gotten another job outside of programming before I got the offer for my current job, maybe I would have taken it.

S4.P16: We had a really weird guy that worked for us for a month, and he was a lot older, but he was a Junior developer, and that was a little complicated. He would yell at me for no reason, be a bitch to me all the time, and my colleagues would always stand up for me and they would tell him off and they would tell him to stop. They'd be like, "You're only doing that because she's a girl, because she's young, that's not acceptable", and then he ended up being fired. So I felt really supported. If I was in a company where no one did anything, it would have been terrible, maybe I would have left.

S4.P17: I would love to have women on my team. I loved having my female colleague, I loved her, it was super cool to have her, but I don't feel like my team undermines me. I don't feel like my team treats me differently because I'm a girl, they lift me up all the time, because I think they know how difficult it is for women.

S4.P18: There's not one day where I felt I didn't want to go to work, and in my other job, I took sick days, I was like, I just don't want to go to work, I don't want to do this. I haven't felt it with this company.

S4.P20: I just think there's some insecurities that I have that I would feel safer and more comfortable talking with a woman, so I would rather have my female colleague there, because she thinks a lot of the same things that I do for sure.

S4.P22: I definitely think women networks outside of work help, and inside of work help for different reasons. As a woman we go through a lot of the same things, some of the problems are going to be really similar. Then you go through other problems, like developer problems, that are the same for men and women, that I can just speak with my colleagues. Then just mundane, normal things, I want to talk to a girl. I don't want to talk to a man about hair removal or something. I mean I do, it happens, I only work with men, but I would feel more comfortable with someone who knows what I'm talking about. So definitely normal things, things more related with insecurities that I feel because I'm a woman.

S4.P27: I do think the worst thing for women is lack of confidence. Men have a lot of confidence, women don't have confidence, and to apply for jobs, especially in tech, you need confidence because you need to justify your tests a lot. In programming there's a lot of right answers and you need to justify yourself. I feel like for a woman, looking at all men on video chat or talking to all men, it's really hard to maybe justify your answers if they kind of go against what you think, they just want to battle it out a little bit.

S4.P34: I read this the other day, it was a guy that one of his employees wasn't doing great, she wasn't in tech, she was in customer support, but she always took a long time to respond to customers. And one day, he was like, "What's happening?", so he traded his customers with her, and pretended he was her answering their emails, and they were super annoying to him. Then as soon as he said he was a man, it was super quick to fix, there were suddenly no problems anymore.

S4.P41: If he had taken all the credit for my work or someone else had taken all the credit, I think I would just be really sad for myself. I wouldn't say anything, maybe if I had a lot of confidence in the person or if it was my friend, but even then I would feel, "Oh, this sucks, like I'm doing a terrible job". I think that would have affected me, I would have gone on as normal, but inside I think I would have felt very sad... Not very sad, but a little sad that you're working on something that isn't acknowledged.

S4.P43: I definitely think that happens a lot where women aren't valued in their roles. In our Finance/Accounting department, there are two or three girls there, and no one cares, no one mentions them by name ever, or about things they do.

S4.P46: I've seen women be given tasks that are not really relevant and not really what they should be doing, because the men don't want to do it. Their boss doesn't want to do it, and because it's all men, it is what it is. Like asking the Marketing person, who is a girl, to do something that has nothing to do with marketing, just because they didn't want to do it.

S4.P48: I was reading an article that said that one of the reasons why women drop out a lot from tech, especially programming, and go more into product, is because when they take maternity leave when they come back everything is different, and there's really no time to explain what's happening and all that, so a lot of the times women just end up dropping out, or leaving, because they don't feel welcome, they don't feel like they can keep up, because in tech, it's super hard. Like I took a week vacation last year, and when I came back, everything was different, it took me two or three days to understand what was going on.

S5.P8: I did a coding bootcamp and my batch was the first to have significantly more women than men. It felt really nice, actually, because I think I was worried that it would be the opposite, and then having that feeling of having to kind of prove something just because you're a woman coding. Actually, it felt like most of the women were the stronger programmers out of the batch, but it just felt like a really supportive group.

S5.P13: In my company as a whole, I think it's pretty balanced, but more of the women are not in those technical roles. A lot of the woman are in HR, or in payroll, or marketing departments and design, that's where most women are. The developers, there's only three of us, out of maybe 20-30 developers. You can definitely see the imbalance on the developer side.

S5.P16: It would be nice to see more women in higher positions in the tech industry, because even in my last job working as a structural engineer it just seemed that at a certain point women have to choose between a career and a family, and if you choose the family, then usually you're sacrificing those higher positions in the company, and it'd be nice to live in a world where you don't have do that, but I know that it's hard.

S5.P17: It's really easy to ignore what female employees are going through and what they need when women are not represented in management. So I think having more women in those management positions would probably help to get some recognition on what female employees need to be able to have a career that includes reaching some of those higher positions within companies. Although sometimes, from some experiences I've had I realised that sometimes when you have women in those positions, they won't necessarily be your advocate. Sometimes those women are just as bad as the worst male stereotype in those positions, and I don't know why they're like that, whether it's to fit in with the guys, by like being extra hard on the younger women or what, but I know that doesn't fix everything. But I still think having more representation of women in those positions would help to get more equity in the workplace.

S6.P7: I think there is definitely a lot of potential in tech, in terms having made it possible, for example, to work from home, to start a business from home, to start small businesses in general. I think tech has enabled a lot of women to do that, also in terms of having to balance childcare and work, for example.

S6.P8: I think for me, I feel that I have been able to take advantage of the tech industry to progress in my career, because I feel like as it's a fast moving industry, if you prove your ambition and intelligence and self-starting nature then you can progress pretty quickly.

S6.P9: I think those are some positives, but I think more generally, because it's still mostly male-dominated – the vast majority of tech businesses are started by men, and a lot of the funding is coming from men as well – I think there is this imbalance, but as a woman you've got to kind of learn how to exploit it yourself, and I think I'm doing that to some extent, but I guess there are still imbalances.

S6.P17: In my previous role, at another company, I raised a grievance with them over pay. Basically, there were two roles in the same team, both with the same title, but both with different specialisms. At the point of hire, I was offered my pick of each of the two roles, so I selected one based on the information that it offered more progression and more development. Then a few months later, that role was filled by a male-coworker, I then found out that he was on a higher pay grade than I was, so I went through a six month long grievance with this company to try and rectify that. In the end, they raised my pay a little bit, but still not to the level that I knew he was on, so that's why I left that company basically. So in a nutshell, I felt very undervalued at that company, because I felt that I had been miss-sold on these two specific roles, by nature of the fact that they hired someone for a role that they told me was not going to offer as much progression or development, but then hired a man under a much higher pay difference. That was one very, very major incident with that company.

S6.P18: I think more generally, that company had a very "laddie" environment, so there was a lot of things like if you were part of the right friendship group then opportunities opened up for you, for example, to work on special projects, or to attend events, or to be part of strategy meetings, that kind of stuff. A lot of it revolved around the team activities like football, so if you were part of the football team then you were in a bit of a clique.

S6.P19: In this group chat with my friends that I have that I was talking about earlier, it seems like there's constantly sort of micro-aggressions being described there from male team members. Even last week, a friend of mine, she's also at a tech company, she's in charge of ordering the lunches for the team and one male co-worker was very patronising, and very passive aggressive towards her, because she wouldn't distribute the menu to him early on enough for his liking. So, it seems like because he felt that she was in an inferior position to him, that she's probably paid less than him, that he considered himself as in a superior role to her, he was very passive aggressive and rude to her over Slack and this kind of stuff. So small micro-aggressions like that happen a lot.

S6.P20: Another case from my previous company, a senior member of the team wrote some quite derogatory things about me on a messaging platform, because he didn't know that they were visible, so because he didn't know how to use Slack very well. So that was reported, I think, what's more symptomatic is lack of action on the part of the People team, or the HR team. So after reporting this not much was really done, the HR team didn't take it very seriously, the managers didn't take it very seriously.

S6.P21: Fortunately, I've never had anything happen in my current company, because I think by this stage, I've grown out of accepting that behaviour. So I think when things like that do arise, I'm very, very, very quick to call it out now, because I've had a lot of bad experiences basically while I was quite young. So now that I'm reaching 30, I'm much more confident, I have courage in my convictions basically to call out this behaviour. Which when you're young in a company and when you're a woman, a young woman in a company particularly, it's quite a tough thing to call out this negative behaviour.

S6.P22: I think compared to some of my male colleagues, I know that I definitely have a much thicker skin in terms of asking for constructive feedback and accepting constructive feedback even if it is negative. I know that there are still some men in all the companies I've worked in, where they're much quicker to fall to an emotional reaction to things. There's a stereotype that women are more emotional, but I've found in the workplace, the completely opposite has been true to me, I think men are much, much quicker to emotions in the workplace than women are, because very early on women realise that emotions won't get you anywhere, so it's all about playing the long game basically, and using your confidence and your connections to sort out problems yourself basically without being emotional.

S6.P27: I think being able to call things out has come from age and experience. So early on in my career, I wouldn't have known how to call certain behaviours out. It's with coaching sessions that we've had, having extra support available. I think it's a mixture of all those things, and also if you have a really good relationship with your manager that makes you feel a lot more secure.

S6.P32: I don't know for sure why it's much harder to find enough women for senior roles, but my instincts are that there are less candidates for these roles because there are less women at those levels. For pretty standard reasons, like, when women go on maternity leave, they leave the workforce and then it's very hard for them to re-enter the workforce, and things like that. I think in tech also, I think it's hard to attract women to these roles, because of this fast paced, high stakes, high energy environment where we are expected to work long hours, we're expected to put in a lot of time and energy in our work, which is good, it's good for me, that's what I prefer to do, but without really solid, flexible working policies and maternity and paternity policies, it's very difficult to attract women at higher levels of seniority into these kinds of companies, unless they have these flexible policies there, which my company has started to do, but it's not completely there yet.

S6.P33: I think it's easy for tech companies to implement cool sounding policies, for example, dog friendly offices. It's very, very difficult, however, to find child friendly offices. I think the newest Google campus, wherever it is in San Francisco, has a gym, a sauna, a cinema, but doesn't have any childcare facilities. I think that was the case, but hopefully they've changed that by now, but that's what I was reading a few months ago. So, it's that kind of stuff where without women seated at the table to implement these kind of company directives, it seems like men just forget the fact that children exist and that a lot of their employees will have children, and so they need to factor in family-friendly policies to make sure that it's accessible enough for people to do their work, even if they have kids at home or kids in the office, or wherever.

S7.P1: Being completely honest, I never thought I was going to go into tech at all. It was just one of those things that I kind of stumbled into, I came in basically as a complete outsider to business and to tech, I was this arts kid. I basically ended up working at two different big pretty corporate tech companies in San Francisco and I was there for a couple of years on the business side, and I definitely experienced some really good moments but also some other very not so great moments, and then unfortunately got really really burnt out and ended up leaving.

S7.P4: I've definitely gone through experiences of being treated differently, I don't think it was solely because of gender, but I think it was definitely a combination of being young and also looking young, and then gender stacked on top of it. When I first started out my career I was super young, I was in a mostly male-dominated industry, and what I noticed that was really interesting – and they were older, so you would have the older dudes and then you would have the older women who might be your colleagues or your supervisors or your manager – but the whole notion of “women supporting women”, I'm going to be completely honest with you, and maybe my experiences are just really narrow, I did not feel like I received that at all throughout the experiences that I've been in. It was more kind of, and I think you hear this in the news and also on Elpha a lot where a lot of women talk about how, because women in an older generation, or the token women in the room, they had to go through all these hardships to get to where they were, they didn't have support, they just had to tough it out, that they kind of almost expect that same mentality to be placed onto younger women. So instead of, “We're kind of in this together, I'm going to help lift you up”, it's more kind of like, “I had it tough, and so I'm going to be tough, maybe even tougher, on you”. More that, versus, there's enough room at the table for everybody, and we should be here together, and I'm going to help you out even more, because I've been in your position and I have more power now, and I want to lift you up. So that has definitely been an experience.

S7.P5: I think another experience is being the youngest and only lady in a room full of these older male Senior leaders. You definitely have that sometimes, because they all have kids, some of them have daughters, you have that father-daughter relationship that's just kind of automatically placed upon you. I mean I've had some great experiences with older male colleagues, where they are in a more leadership position or have more power, and because they're incredibly empathetic, so they really nurture and kind of mentor me to really shine in my job, but then you have other people who are just like, “I don't see any value in what you're offering”, maybe because subconsciously you're young and female, and so I'm kind of going to step all over you. I've had that happen to me and other women that I know as well, from older women leaders, and also older male leaders as well.

S7.P8: I absolutely believe women have something unique to contribute to the tech industry. Unfortunately, I feel like a lot of women get labelled as just having more innately “soft skills” than these hard skills to offer, which I don't necessarily agree with. Although I do agree that from the consumption of time, we are socialised to be more collaborative, to be more holistic, to be more nurturing, and really bring out the best in people, sorry that's a generalisation, but just kind of in general. And I feel like a lot of the companies in the Valley, it's dominated by men, and I'm not saying every single one of them are like this, but more so than often, it is just driven by profit, driven by numbers, like “let's get that equity, let's get that funding, and let's grow grow grow grow grow”.

S7.P9: I was pretty lucky because in all the places that I worked there were things like great maternity leave, having tampons in the bathroom, or even a nursing room, it actually was readily available, so that stuff was spot on. But did I feel that that bled in really successfully culturally, no. So I almost sometimes felt, was this just for show, or for press, was this just for community building, or whatever. But did I really feel supported in my career as a young woman who didn't really have a ton of outside experience, and was just trying to make the best out of the situation and really learn and do a good job at, no.

S7.P12: I don't think it's a question at this point that just statistically speaking, women do a lot more of the hidden unpaid labour than men in relationships and marriages. Otherwise known as we just have our shit a lot more together. I don't have kids, but I can only imagine as somebody who has kids, you're not only trying to advance your career just as much as your husband, but you also have to take care of the kids, you have to wash the dishes, you have to do all these house duties, and on top of that go to the gym, like there's all these societal expectations – you have to look perfect, and you have to work out – I mean it's so crazy. And I think technology, like virtual meetings, working from home, it gives you a lot more time and a lot more flexibility to be able to take care of these other aspects of your life, that if you were going to in person, just the mental, physical, and the transportation energy that you have to put into making that happen is just exhausting, so it takes out that layer which I think is incredible.

S7.P16: I can't tell you the number of times when early in my career, I started off in a Junior level and I had been expected to work at like a Senior Manager level, and I did not get compensated for it, tried pushing for promotions, did not get it, and would get very vague answers on why I wasn't good. Was it because I am a woman or a young woman, I don't know for sure and I can't say with certainty, but do I maybe feel like subconsciously because of my identity, and maybe some generalisations that society or people might place on that bundle package of my identity markers? Did that subconsciously play a part, probably.

S7.P17: It depends on the company you work at and the culture that you're in, but unfortunately, in more bro-y type cultures, and you're maybe a token woman, or maybe there's two other girls there, for sure you kind of need to masculinise your behaviour a little. To garner respect you essentially have to be one of the guys, it just is what it is. If it's more of a mixed environment, or if you're maybe on an all female team, what I found that has been really interesting is that almost being too much of one of the guys and being too masculine is actually kind of a downfall, because if you're too aggressive, too blunt, and too upfront, then you're seen subconsciously as somebody who I don't know what the right word is, but people just don't think of you super positively. But then if you're too demure or too passive, then you're also seen as somebody who doesn't add value to the team, so it's having to constantly navigate and tiptoe between that if you're on more of a mixed gender team or an all female team, which is really interesting.

S7.P22: Women leaders of startups, especially these emerging startups, like Tyler Haney was basically forced to resign from Outdoor Voices. Apparently, she did some things that people weren't happy about, and then she had some disputes with her ambassadors, I'm not sure. But she did bring up, whether she was in the wrong or the right, a really good point that there's this very popular narrative about media or people trying to basically tear down women founders and talk negatively about maybe their behaviours or the things that they did, and she said that that same level of scrutiny is not applied to male founders. Everybody knows Elon Musk is insane, but people applaud that for him being genius, but when that same thing is applied to somebody like Tyler Haney, she's called all these names, like a horrible boss. Obviously I don't applaud the former CEO of Huawei, I don't know if you heard that story, but she like completely destroyed her employees psychologically. Obviously I don't support that at all, and I'm glad that she got backlash because of it, but it is interesting how these behaviours are extra amplified with women founders.

S7.P23: It's just not the same level of scrutiny. I don't know, it just feels like women are on a more scrutinised pedestal, does it make any sense.

S7.P25: Even the dating dynamics of a tech woman in San Francisco with tech bros, that's probably another research paper in itself. It's just very interesting because a lot of the themes that I've spoken about and the power dynamics sometimes unfortunately bleed into the dating scene in San Francisco as well. It's just some of the things that I've heard from my girlfriends about these tech bros who they go on dates with and the things that they say... Wow you would never say that to anybody. In their mind they see it as like, you know, I'm just stating facts, I'm like yeah but you know you know, anyways, so.

S8.P3: I didn't have tech experience prior, and I think at that time when I joined tech I recognised that I wanted to learn all about this new industry that I had just joined. So I reached out and went to a lot of networking events, just around general personal development topics, so like confidence, project management, or just general topics, I love a good panel talk. There was quite a few, especially around being women in tech, where I could listen to women who probably were a little bit more marginalised, in terms of being the only female engineer or coder, or that kind of get mistaken for being the assistant when really they're the one running the team, those sorts of fun stories.

S8.P7: I was by myself in the department until about three months in, I kind of came in and set everything up. Meanwhile while I was doing all of that, it then came to my attention that I was being paid differently to my new colleague, who also would be the first person to admit that I did more than him, I was basically doing two roles while he was doing one, and much of what he was doing he was able to come in and just do because I'd set it up. So I started to have those conversations around, okay, I'm now doing two roles, let's talk numbers, because you're not going to train me, so let's talk salary. I didn't actually let them know that I knew that I was being paid differently, I just kept on hoping that they would look at their own bloody spreadsheet and go: "Oh, this doesn't make sense".

S8.P9: In the meantime, I'd realised somebody else was being paid differently to her male counterpart, she unfortunately then left, and I left shortly after, because when I had the conversation I was basically being bullied by the Head of Sales, and I wouldn't say HR was joining in, but HR was present when a lot of inappropriate things were said to me. So by then it had become quite a toxic environment: I'd get cut off in meetings; I'd be undermined; as well as just generally not being treated very well as somebody who did a lot for the company. So I made the decision to leave, which was a bit bittersweet, because by that point, they had hired a director who began to do all of the things that I was telling them to do, but getting shut down and treated badly for.

S8.P14: I think it would have been difficult to have a conversation about the pay imbalance side of it if I didn't have the blessing from [male colleague]. So I was the one that made the decision not to say it, but I had the blessing from him to just tell them, "[male colleague] told me", but I think where, and I think this is probably quite a feminine thing or something with women, where I leave breadcrumbs hoping that they'll fix it, or leave clues to lead them to what I was too afraid to say, so I definitely think that it is tough.

S8.P16: At my previous company, it was a liveable salary, but it was below the market rate and it was also below the market rate for somebody who was doing two roles. Even when they hired someone new, she was like, "I can't believe you were doing both of these things".

S8.P17: I think it is you're expected to definitely show up and do your best, but I think women tend to take the approach of saying, I'll do it now and then hope they'll treat me properly after, or they'll see it, I don't need to talk about it. Whereas, I think we should be taking an approach of let me negotiate this thing now, like, "Okay, you want me to do it, I'm 100% willing to go the extra mile there, but I want an extra day annual leave, or I want a pay rise or a bonus in relation to this, or a job title change", or whatever. I think being braver with it and being quite businesslike as opposed to treating it like a friendship.

S8.P26: Company culture is lead from the top down. No matter what you think the leader is like, or what they do or don't do, they set the tone for how things are done. So they show you how to discipline somebody, and you begin to absorb that, you may know within your soul that talking to somebody this way is wrong, but you've seen it modelled, and you've seen that that's how things get done here, so let me just be really rude and disrespectful because that's what you've seen modelled. And there's nobody else to be like, "Actually, no, there's another way of doing this". So these two women in leadership ended up with split personalities, I think that's why even to a certain point one of them stopped socialising, because you have to be so fake. Because what [manager] would say to me behind closed doors was fucked up, and then we'd be in a team meeting or it's lunchtime and she wants to crack jokes with me. I was at the point where she actually lucky that all of the stuff that she'd done behind closed doors, I hadn't told everybody. But it did get to a point where I told people because it was actually ridiculous because she's pretending, and I'm just here in silence, like standard abuse stuff.

S8.P28: My new manager, I was kind of getting bullied by him in all of my one-to-ones, to the point where I said, I'm not having a conversation with you without HR present because you're not going to make me feel like I'm shit at my job because I'm not, look at the figures. It also got to a point where I was just like, we don't actually need to talk, I don't get anything from you, you don't support me, you don't train me, if I bring a problem to you you make me feel stupid for having the same problem that my other male colleague has, but apparently he's magical at dealing with it. Then also he started to treat me stupidly because I was very open with my experience of anxiety, so then he started to sort of mollycoddle me and was quite patronising, I was not having that either because I do my job.

S8.P29: Then essentially, I found myself crying in the hallway and my friend came to comfort me and told me he did the same to her, and then slowly we realised that there was a network of four women who he was treating the same way. So behind closed doors, he's cutting people off, he's doing the *Sex & The City* where she was like "There's this guy and every time I open my mouth, he puts his hands up", he was doing that to one of them. We were women, that weren't necessarily at the top of the food chain, but we ran shit, if it was our projects, you knew it was our project, we're hosting the meeting, we were good at our jobs, but we found he'd only do it with the women. That was very much when he started to do the whole, "Why don't you be more like [male colleague]". So in front of everybody, "[Participant] is amazing, look at her, she's hitting the targets", but behind closed doors, "Why can't you be more like [male colleague]? Why can't you handle these accounts, what's going on". White male [colleague] who's never had another job? That was what took the biscuit.

S8.P30: Then I had a great experience where he decided to call over a male staff member who was actually quite bad at his job, but was also liar. So he'd say that he'd done something he hadn't, he'd steal people's ideas, we'd do a competition for how many people can phone up customers or send a particular email campaign and he'd make up his figure and log fake calls, that's what I mean when I say he was shit at his job, but was also a liar. And I was sitting down and the manager was just like, "Let's go through your accounts, which ones of these can we give to [male staff member] because you clearly can't handle them". I was blown away, because this was in front of everybody, everything up until that point had happened in our one-to-ones, so nice as pie in front of everybody, then behind closed doors, "You're not doing good enough, what's wrong with you?". That was the last straw for me, because again, I'd protected him, all of these people didn't know that we had all these issues, the only people that knew were the people that he'd also been treating the same way and HR because I messaged her and I said, "Look, this is what he said to me at certain points, I'm not doing it, I'm not standing for it. I love working here, but I cannot take this treatment". Eventually, we all wrote a report.

S8.P36: I feel like our natural inclination is to give people a chance to fix their behaviour, but sometimes they don't deserve that chance. And not in a bad way, but in a way that your self defence needs to be up where it's like: okay, first time, maybe you were feeling a bit funny that day and you probably spoke to other people that way, fine. Second time, it's a no, and I'm going to let you know, categorically, do not speak to me like this. So "When you said this, this undermined me, it made me feel that I am not good at my job, which I know is not true, so please do not do it again". That's it. If we don't stand up for ourselves, nobody else will, because more often than not, nobody will see it, or like in my scenario where I didn't realise it until I'm crying and my friend is asking what happened, and she's then says, "This is exactly what happened to me last week, I thought it was just me".

S8.P43: I love the fact that in tech there's more and more opportunities. The other day I found myself interviewing for a role and the guy said, "Oh, you seem to have moved around a lot". And at this point my head was just not in the game, I was at work, so I just said: "Well, the current role that I'm doing at the moment is actually maternity cover. The role before that there was a very huge gender pay issue that I did raise and it wasn't addressed and I'm a principled person, and I couldn't really stick around for that. I also have a very strong network in tech, and I mentor people and I'm the first person to say that's the sort of stuff that we shouldn't tolerate. Then the role before that it was a contract role, and the one before I got made redundant". I literally just explained the truth.

S8.P44: I run my own business, that's what I'm passionate about. Don't get me wrong, the day job that I do at the moment and the product that I work with, I love it to pieces, I give it my all during its hours, but I'm not going to promise to anybody that I won't leave if you start treating me wrong. And I think that's where I've come to three and a half years in, and I think that's what excites me about the future is that it literally just means that we have more choices, we don't have to be grateful for having jobs. In fact, we flip the script so they should be grateful to have us as part of their organisation, not only because we're good at our jobs, but also because it gets to a point, like when I left [company], the COO said, "I'm aware that we have a bit of an issue around gender here", and I told him that categorically, I said, "Do you know how many women have left your company in the past three months? That doesn't look good".

S8.P48: Even around International Women's Day, the CEO didn't want us to do anything because it might exclude everybody, and we were like, where the fuck did that come from, because the engineers are the first people to say we need to celebrate the few women that we have at this company. Why am I fighting with my CEO to just have a little lunch to celebrate the women at the company when there's other companies that have spent a whole day creating an entire conference for the entire company to listen to female leaders in tech.

Card 2: Empowerment

S1.P1: I think technology has the potential to empower anyone if done correctly and/or carefully, with thought. It can also do the opposite.

S1.P3: With regards to the tech industry, yes, it could definitely empower women, but it hasn't done a particularly good job so far, I don't think. I think it's because it hasn't been approached with intention and thought, so that's where a lot of problems arise as well.

S1.P30: Being in a supportive space now I feel empowered just in the day-to-day, I have the freedom and people trust everyone. We're all trusted to do our best work. There was extremely low trust in my previous place.

S1.P31: I also feel empowered career development-wise. The fact that my current company has such a strong feedback culture that's very woman-driven, I feel like I have a proper shot at identifying my weaknesses and improving on them, I haven't typically had that before.

S1.P33: Tech really empowers me in that I can see people from all over the world, and in the tech industry, talking about the same things as me, and we're sharing experiences, and we're amplifying each other's voices, and that sort of thing, it's so refreshing. Sometimes if I'm having a bit of a down day, I can just go on Twitter and look at my echo chamber, and it's women in tech, sensitive men in tech, LGBTQ people in tech, just that is really empowering. I like having that breadth of community on my phone, in an app.

S2.P18: You have to learn to grow some thick skin, and learn to pick your battles. Some things you just kind of have to swallow, and some things you have to stand your ground and be like, "Actually, you are not allowed to push me, because I won't stand for that".

S2.P25: It's more about how do I make sure that I maintain the respect that I'm given in this scenario, so it's about how do I make sure that people not just respect me, but take me seriously. I think that's something that I'm definitely very conscious of.

S2.P34: I think I have enough seniority now where I could just tell people to fuck off, go do it yourself.

S2.P42: I think technology empowers humanity in general. I genuinely think that technology empowers all of society to take small things like, taking your financial independence into your own hands. Now it's all on our phones, so we have our bank apps and we can open a bank account, and manage our finances directly from our phone. Most people in the developed world have a smartphone, and that's independence that technology gives people.

S2.P43: For me personally, it can also be things like, taking control of my career. My whole career exists thanks to technology, not just because I work in the tech industry, but also I because I found my job thanks to LinkedIn. And I'm in connection with my network thanks to different social networks, and I can use different tools to use tech to my benefit. I mentor students in a University here, and I've met them through technology as well. So I think these are all small things that technology can do to empower people.

S2.P44: We built an app last year, which allows households in Iraq to claim their food allowances through an app, and that empowers families that maybe have a woman as the head of the household (as in the majority of households, the head of the household is a male). Families where the head of the household is a woman, its empowering a woman to feed her children through technology, but it's also empowering families in general in Iraq to feed their families. So that's another example of how technology can empower people in general, but especially women, and especially women in under-developed countries.

S2.P45: We also built an app, particularly for women with disabilities, who suffer from all sorts of mental disabilities, but also physical disabilities, to be able to report domestic violence, because typically technology isn't really built for people with disabilities and caters to their needs. So that's another example of how technology can empower people in general, but especially women, and especially women in under-developed countries, or that have specific needs, like women with disabilities.

S2.P46: I think I've been very lucky in that my efforts have been acknowledged, and I think that in my relatively short career, I am quite proud of how far I've come, and I think that's because my hard work has been acknowledged. I think it's been acknowledged, because I've shouted from the rooftops like, "Look at how great I am, look at all the things that I've accomplished". When I got promoted, I was surprised that I got promoted, because I wasn't expecting it to happen so soon, but that's not to say that I hadn't been telling people how wonderful I was.

S2.P48: I was given this advice two years ago by someone, they basically said that nothing is ever going to be given to you, you have to take things, and you have to ask for things. And I think that this is so true, you have to ask for what you want in your career. That goes for women, it goes for men, it goes for everyone, you have to ask for what you want, And I think unfortunately, men tend to be less afraid to ask for it. That's I think where they have an upper-hand.

S2.P49: I'm very happy with work where I am, but I feel like it's because I've not been afraid to ask for what I think I deserve, and I think we should all do more of that.

S2.P50: I think 100% the most important thing is to have people that can be there to encourage you, and that can be there to pass on advice, and I think it's really helpful when you can identify with those people. I think that's why representation in media is really important, because it's important to see people that you identify with doing the things that you want to achieve.

S2.P53: I think it's maybe just because I'm in the industry now, that I see more representation. There's just women around me, and so that representation is very helpful and encouraging for me to stay where I am, because I know I'm not the only one.

S2.P55: I try to channel my old mentor now, and I think it's really important to have women there that represent, "You're not going to step all over me, you're not going to push me to the side. I'm here, and I have an opinion and it'll be heard". I think it says a lot about where I was and where I am now, because I've had people like that around me to show me that my preconceived notion of a polite professional woman is not the only way that you can get what you want when you're a woman in the workforce.

S3.P1: Now I'm starting my company focused on women's financial empowerment.

S3.P2: My co-founder and I were talking, and it just seemed like we think about our bodies and our personal goals (like children), on a different track than our professional and financial goals, and those interact, but we don't really think of them interacting. So we wanted to bring that together and build something that helps women understand, "Hey, this is what our bodies are going to do, this is what you should expect from finances, and careers, and associated costs of different things", and then give women the tools to know how much to save and when, and take back agency.

S3.P3: I think of ultimate empowerment as three arenas: financial or money; political, like getting women into legislative roles where we could actually make policies that make sense; and then rights, which is voting and fundamental rights.

S3.P6: I view tech as something we have to build within this current financial/professional/technological system, that first empowers individuals, and then use collected data, and folk's monetary and political voices together in a way to advocate for policy change. So, I think tech can make change, but it's a step along the way.

S3.P9: I guess without tech I wouldn't have the power to learn and think the way I do without the technology that allows me to consume information. I listen to a hell of a lot of podcasts. Tech allows me to also learn information I otherwise wouldn't have had access to or wouldn't think necessarily to look at or consume.

S4.P1: At the time, before doing the coding bootcamp, I was kind of playing with the idea of starting a company with a friend, but we didn't know anything tech.

S4.P3: I decided to do a coding bootcamp, I had finished university already, and I really liked what I saw, the environment especially was super cool. The tech part seemed interesting, and at the time, I still thought I was going to work in business, but knowing how to programme would be an advantage for me.

S4.P19: I have gone to some meet-ups of Women in Tech Barcelona, which are super cool. I mean, there's also men there, but it's organised by women, and to empower women. So I do that, and I think that's amazing.

S4.P27: I do think the worst thing for women is lack of confidence. Men have a lot of confidence, women don't have confidence, and to apply for jobs, especially in tech, you need confidence, because you need to justify your tests a lot.

S4.P33: I think tech has the power to empower women.

S4.P35: In tech, you don't really interact with people, so you either code or you don't code. It doesn't matter if my client thinks I'm a woman or not, people deal with the product, so it's results based, so you just do it, and I think that's very empowering.

S4.P36: It's super quick to know if you're right or wrong in programming, which I think is very empowering. I think that's empowered me, because I can do more and more things, and I can see how my code is getting better. Like we do reviews, for example, and colleagues review my work when I do something, and I can see that compared to last year, I have a lot less comments on my code all the time, because I'm getting better, and I'm doing better.

S4.P37: I can tell I'm becoming a better developer, I can do more things faster, I have less comments on my code, so I think this part of programming is very, very good. For both men and women, it's result-driven, it either works, or you forgot a comma and it doesn't work. So that part is really good, and I think that has empowered me, because although I still have insecurities, I know if my code is working or not because I see it, and I can see when that code is approved by my colleagues, and I know if clients are happy.

S4.P42: That's the thing, tech is an empowering area, I wish more women were in it, and because for all the things you can do. Also it's an area where you really take accountability for your work when it goes well, and when it doesn't, so I think it works really well, that's my experience also.

S5.P8: It felt really nice being in a coding bootcamp that was overwhelmingly women, because I think I was worried that it would be the opposite, and then having that feeling of having to kind of prove yourself just because you're a woman coding. Actually, it felt like most of the women in the course were actually the stronger programmers out of the batch.

S5.P11: Doing the bootcamp, it was definitely encouraging to see so many women interested in tech.

S5.P15: I think technology has the power to empower women. I think it has the power to empower everybody. I mean, just how much information you have access to online, like you can do almost anything you want by just doing a Google search, or finding a YouTube video with someone doing exactly what you want, to show you how to do it yourself. Anything you can think of you, can find someone that's already done it online that can give you the information you need. So yeah, I mean, I think technology can empower anyone really, but I think it's a matter of how you use it right? I think it's more powerful to maybe not rely on it completely to solve your problems, but if you have a problem, figure out how to solve it for yourself and use technology as a tool for that, but not to rely completely on it.

S6.P7: I think there is definitely a lot of potential for tech to empower women in terms of having made possible, for example, to work from home, to start a business from home, to start small businesses in general. I think tech has enabled a lot of women to do that, in terms of having to balance childcare and work, for example. General things like that, I think the tech industry has empowered women to be able to do those things.

S6.P8: I think for me, I feel that I have been able to take advantage of the tech industry to progress in my career, because I feel like as it's a fast moving industry, if you prove your ambition and intelligence and self-starting nature then you can progress pretty quickly.

S6.P16: I think I really started to progress in my role and confidence when I did have this mentor in the company who made it very clear and was very vocal about the fact that she has my back in meetings. For example, it's simple things that she worked really hard with me on like presentation skills, so preparing for presentations together, running through the slides multiple times to make sure I was conveying confidence and expertise in what I'm talking about. Having that kind of support has been very useful in terms of it giving me confidence in the fact that I know what I'm doing. It's not like I need someone to fight my battles for me, but the knowledge that someone is there, that will step in, and does believe in what you're doing has been really useful.

S6.P21: Fortunately, I've never had anything happen in my current company, because I think by this stage, I've grown out of accepting that behaviour. So I think when things like that do arise, I'm very, very, very quick to call it out now, because I've had a lot of bad experiences basically while I was quite young. So now that I'm reaching 30, I'm much more confident, I have courage in my convictions basically to call out this behaviour. Which when you're young in a company and when you're a woman, a young woman in a company particularly, it's quite a tough thing to call out this negative behaviour.

S6.P22: I think men are much, much quicker to emotions in the workplace than women are, because very early on women realise that emotions won't get you anywhere. So it's all about playing the long game basically, and using your confidence and your connections to sort out problems yourself, without being emotional.

S6.P26: I think nowadays I'm much better equipped to refuse to do tasks that are outside of my role like taking notes, or say, "Actually, I think so and so can take notes", or, "Actually, I want to participate in the conversation, so can someone else take notes", type thing.

S6.P27: I think confidence has definitely come from age and experience, so early on in my career, I wouldn't have known how to call out differential behaviour. It's also with coaching sessions that I've had, and having extra support available, and also if you have a really good relationship with your manager that makes you feel a lot more secure.

S7.P12: I don't think it's a question at this point that just statistically speaking, women do a lot more of the hidden unpaid labour than men in relationships and marriages, and I think technology, like virtual meetings, working from home, it gives you a lot more time and a lot more flexibility to be able to take care of these other aspects of your life, that if you were going to in person, just the mental, physical, and the transportation energy that you have to put into making that happen is just exhausting, so it takes out that layer which I think is incredible.

S8.P5: I went out and found freelance work between jobs, and two of the people that I contracted for were in the space of personal development, and then the other person was building a tech platform, so I was helping her build up a customer journey which was exciting. I also got to do my own stuff around that.

S8.P12: The colleague that left just before me, they were lying about why she left. She had left because she had done what I did, where we had said, "Look, this is what I'm worth", but she had actually done it better than I. Now if this was to happen to me again I would literally tell them I know how much he earns and I know how much I earn, fix it.

S8.P15: In terms of negotiating, following that, I went to a negotiating workshop, and then the job that I do now, I negotiated a much higher salary, they said, “We can't reach that, but we can do a little bit lower”, I said that's fine, because the way I'd negotiated is I'd gone above, up to market rate, so even what they had agreed to at the lower level was more than what I was on at my previous company, and they came back and gave me the figure that I asked for in the first place. So through going through this experience it taught me to be comfortable talking about money and walking away if it's not acceptable.

S8.P17: I think it is you're expected to definitely show up and do your best, but I think women tend to take the approach of saying, I'll do it now and then hope they'll treat me properly after, or they'll see it, I don't need to talk about it. Whereas, I think we should be taking an approach of let me negotiate this thing now, like, “Okay, you want me to do it, I'm 100% willing to go the extra mile there, but I want an extra day annual leave, or I want a pay rise or a bonus in relation to this, or a job title change”, or whatever. I think being braver with it and being quite businesslike as opposed to treating it like a friendship.

S8.P18: I 100% think women networks are important. So I've used them for negotiating workshops, or even when I was freelancing, so there's one particular network called Hustle Crew and I now work for them where I reached out to the Founder and I was about to start freelancing, and I was just like, “I've never freelanced in tech, what do you charge?”, and she literally told me, if I know the company's got money, so if it's Amazon or Groupon, I charge this rate, and then if I know it's a smaller company, this is the rate that I charge. There was about £200-300 between both of those rates, and she was real about it. Even in that moment, I was just like, “First of all, thank you so much, because you let me know the minimum I should accept”, and she told me that as well, your day rate, you shouldn't be anywhere less than £150/day, so that's what I did when I was freelancing.

S8.P19: I then kept that relationship with her when I was working full-time, and she actually led the workshop. It was through a female network called For Working Ladies, and they were in combination with BumbleBiz, so Bumble the app had sponsored it. And you do role-play, in the same way that I just explained to you, there's ways of you telling people what your salary is without telling what the salary is. So we did a lot of role-play, where I broke down kind of what I do, and I said I earned this and then they earned that or whatever, and it's a safe space to have a second opinion for somebody to be like, “I know somebody who's in that role, I'll ask what she earns at that company”. Or it empowers you to actually use the data that you can see on LinkedIn to see what the market rate is, so for [job role] in [city] with how many years experience, this is how much she should be paid, and that's a global index that they've got because they know what people's salaries are. Glassdoor does the same thing as well.

S8.P20: So I think these networks are integral, not only to have an actual person to bounce ideas from, and somebody who may be in a different company, they might even be in a different role, but they'll give you an idea because they'll know through their networks as well what is acceptable and where the company's really trying to do one over on you. Which is a tough thing to say because especially in tech, it's this whole idea of, “Oh, we're family”, and it's just like, “No, fuck all that shit. Pay me what I'm worth, I show up and I deliver good results and I help your company make more money”, that's it. You're not going to pay me in socials and wine, I can't give that to my landlord, and that's also not what I paid to learn the skills that I've learned or go to these networking events or these courses, or learn the software and all of that stuff. So these women's networks empower you to kind of be like, “Wait, if there are other women making money, and they're less experienced than me, what am I doing wrong? Why should I be the one that's practically giving away myself for free?”

S8.P25: I could see where [manager] was very, very insecure, whereas me and [name], by contrast we are very secure. I will tell you you're wrong, I don't care what title you have, I will tell you you will lose money if you do this. We know who we are and nobody manages us, we're the type of people that you hire and you say, however you want to get it done, just let me know what you need for me, so when we came in and did that it was quite different.

S8.P35: It's one of those things that taught me and now when I mentor women in tech I let them know, secure your bags, don't let anybody treat you stupidly, there's jobs out there, as long as you're good at your job, that's all that matters. They're not worth you sacrificing your mental health, your self esteem, because that's all that will happen.

S8.P36: I feel like our natural inclination is to give people a chance to fix their behaviour, but sometimes they don't deserve that chance. And not in a bad way, but in a way that your self defence needs to be up where it's like: okay, first time, maybe you were feeling a bit funny that day and you probably spoke to other people that way, fine. Second time, it's a no, and I'm going to let you know, categorically, do not speak to me like this. So "When you said this, this undermined me, it made me feel that I am not good at my job, which I know is not true, so please do not do it again". That's it. If we don't stand up for ourselves, nobody else will, because more often than not, nobody will see it, or like in my scenario where I didn't realise it until I'm crying and my friend is asking what happened, and she's then says, "This is exactly what happened to me last week, I thought it was just me".

S8.P41: I definitely think tech has the power to empower women, it's given more of us voices. So I work in tech, but I also run a business, and when it comes to the entrepreneurial space, women, not businesses, are the ones retiring their husbands and saying my husband works for my business full-time. That's a movement that's happening in the startup space, and a lot of these are women, you've got two women cofounders behind apps and things like that. So I definitely think it is empowering. It's huge. It's a beacon of hope.

S8.P43: I love the fact that in tech there's more and more opportunities. The other day I found myself interviewing for a role and the guy said, "Oh, you seem to have moved around a lot". And at this point my head was just not in the game, I was at work, so I just said: "Well, the current role that I'm doing at the moment is actually maternity cover. The role before that there was a very huge gender pay issue that I did raise and it wasn't addressed and I'm a principled person, and I couldn't really stick around for that. I also have a very strong network in tech, and I mentor people and I'm the first person to say that's the sort of stuff that we shouldn't tolerate. Then the role before that it was a contract role, and the one before I got made redundant. So any further questions...". I literally just explained the truth.

S8.P44: I run my own business, that's what I'm passionate about. Don't get me wrong, the day job that I do at the moment and the product that I work with, I love it to pieces, I give it my all during its hours, but I'm not going to promise to anybody that I won't leave if you start treating me wrong. And I think that's where I've come to three and a half years in, and I think that's what excites me about the future is that it literally just means that we have more choices, we don't have to be grateful for having jobs. In fact, we flip the script so they should be grateful to have us as part of their organisation, not only because we're good at our jobs, but also because it gets to a point, like when I left [company], the COO said, "I'm aware that we have a bit of an issue around gender here", and I told him that categorically, I said, "Do you know how many women have left your company in the past three months? That doesn't look good".

S8.P45: I definitely think mentorship is important, because again, you've got that one person that can follow your career journey and really advise you. So yeah, 100%, it's vital. It's helped me and I know I've been able to help other people in that way.

S8.P46: The best manager I ever had, that's how she gave feedback, in a positive way. She was like, "If I'm going to give you feedback that's something for you to work on, I'm (a) going to give you suggestions on how you can actually do that, and (b) I'm going to share it with you in a way that you can work on it. I'm not just going to be like, 'Oh, that was crap'. Who does that help? Because I want you to go in and do the same thing next week and feel within yourself that practising that bit came out good". I could feel myself growing and learning, because otherwise, what's the point? Every time we do something, there's potential for us to give ourselves our own feedback, because we feel it and we know when we mess up or skip something, we know all of that within ourselves. Especially for women, I find that we put that through such a harsh lens, as in the whole thing was shit because I missed this thing. So when you get feedback from people that aren't you it's so important for it to be uplifting and to come from the foundation that – I know you can do this, first of all the fact that you did it in the first place is wicked, like – please celebrate yourself. We don't celebrate ourselves enough as women. It's just, "Oh, on to the next. Oh, it wasn't that good". Or like people compliment us and we go, "Oh, it was nothing". No, it wasn't nothing, you stayed up all night the night before. So because I know that, I always like to give feedback. I always like to give feedback full-stop, because I know that some people don't do it, and then I've also had the situation where you didn't give me any feedback, but then all of a sudden I've done the whole thing wrong. Did we not have a one-to-one, did I did I not share it with you, did I not say I'd love it if I could run through it with you?

Card 3: Networks

S1.P17: I didn't used to use female networks. When I was younger, I used to be a bit hostile towards these environments. I remember early in my career, I knew the woman who started the network Ladies That UX, which is quite big now and most people know about it, and I was so put off, like, "Why would I go and just hang out with women and talk? It's so exclusionary to men", and that was honestly because I just didn't have the ability to see the world outside of myself, and I hadn't experienced at that time firsthand what it's like and the differential treatment you get. So in the beginning I didn't understand.

S1.P18: In my later years, it's been really nice having female networks, especially in this company that we talked about which was very male-dominated. The five women in the company would often get together and form our own little network and talk about our experiences and support each other.

S1.P19: I think part of the reason why I just never experienced as much differential treatment was because I'm a UX designer, so I'm kind of part of the Product and Engineering teams. Just from connecting with my female colleagues in our mini female network made me realise how, not only for women in tech, but if you're a woman in tech in a non-tech area, you are treated so much worse.

S1.P33: I'm in a bit of a massive filter bubble on Twitter, and it really empowers me in that I can see that people from all over the world and in the tech industry are talking about the same things as me, and we are sharing experiences and we are amplifying each other's voices and that sort of thing. It's so refreshing, and sometimes if I'm having a bit of a down day, I can just go on Twitter and look at my echo chamber, and it's, women in tech, sensitive men in tech, LGBTQ people in tech, just that is really empowering.

S1.P33: I don't go out to events much anymore, and I haven't tended to go to women in tech events, but a large part of it is more so because I'm an introvert and I find it exhausting. So I like having digital networks and that breadth of community on my phone, in an app.

S1.P34: Twitter obviously is an echo chamber, and I won't see all the shitty, you know, Uber executives and misogyny to the same extent on my Twitter feed, but I know it exists and people do raise these issues a lot as well, and it explodes in the media, in this Me Too era for sure.

S1.P35: In terms of other types of technology, Elpha is a really nice community, it's a community where you need to log in, and it's just women in tech all over the world, and that is excellent, it's super nice. It's like Reddit, like a forum base, you post something and it's got all kinds of topics that affect women in tech.

S1.P36: I'm very active in lots of Tech/UX Slack communities. One in particular is quite big, it's called Designer Hangouts, and it's for designers, but they have quite a nice channel, which is just called Women in Tech and that helps us kind of just get together on any issue that affects women in tech. It can be just as direct as you know, "I'm pregnant and I'm in tech, and I'm not receiving any support", or having your period while being a woman in tech, and there are no tampons or pads. This was another thing in my previous company, I remember so many times a colleague of mine would just do the rounds and ask all the five women colleagues quietly, like "I'm on my period, do you have anything", because our bathrooms just didn't have a supply! Yeah, stuff like that, these tech companies just aren't built and designed to accommodate women.

S2.P31: At work, we have a lady's Slack channel, and we'll often share resources there and we'll go for ladies lunches and stuff like that. We also host design challenge meet-ups as a company, and we've done a couple where we've partnered with London Women in Tech, which is like the leading women in tech organisation in London.

S2.P43: My whole career exists in thanks to technology, not just because I work in the tech industry, but also I found my job thanks to LinkedIn, and I'm in connection with my network thanks to different social networks, and I can use different tools to kind of use that to my benefit. I volunteer for a University in London where I mentor students, and I've met them through digital networks as well.

S2.P50: I think the most important thing is to have people that can be there to encourage you, and that can be there to pass on advice, and I think it's really helpful when you can identify with those people.

S2.P52: I think equally in your career, if you have people around you that are like, "It's not impossible. It's not unattainable. I've done that, and you can do it too, and this is how", or maybe, "I haven't done it, but this is something that has happened to me that I can pass some advice on that might be applicable in this situation". It's invaluable to have people around you to encourage you. Whether that's in a leadership position, like your line manager, or it's just having a colleague that can support you through that. I think it's the most important thing.

S2.P53: I think it's maybe just because I'm in the tech industry now, that I just see more representation, there's just women around me, and so that representation is very helpful and encouraging for me to stay where I am, because I know I'm not the only one.

S3.P10: To be honest, I don't really feel like I've had access to female support networks until recently, when I joined several networks, like Elpha, and just found that, "Okay, here there are avenues to access people outside my immediate circle".

S3.P11: I was a mentor for women who didn't report to me, and I still talk to most of these women today. You kind of just have to build networks, and so, now because it was a support organisation, I was able to hire in very young, diverse, hungry, smart people and promote them, and that was really meaningful to me. As a result, I have these extremely smart human beings, whom I also just now reach out to for help and ask questions and get their insights. I feel like you have to build it, and I wish I had had some of that, but it's okay that I didn't, because someone has to do it.

S4.P19: I have gone to some meet-ups of the Women in Tech Barcelona, which are super cool. I mean, there's also men there, but it's organised by women, and to empower women. So I do that, and I think that's amazing.

S4.P20: I just think there's some insecurities that I have that I would feel safer and more comfortable talking with a woman, so I would rather have my old female colleague there, because she thinks a lot of the same things that I do for sure. So now that she's left, I tried to go to meet-ups, I don't go as much as I should, but I try.

S4.P21: I had this this girl the other day text me, she found me on LinkedIn, and was like, "Oh, I also moved to Barcelona, we're girls, I work in tech, we should stick together. Like anything you need, let me know", and that was really cool.

S4.P22: I definitely think women networks outside of work help, and inside of work help for different reasons. As a woman we go through a lot of the same things, some of the problems are going to be really similar. Then you go through other problems, like developer problems, that are the same for men and women, that I can just speak with my colleagues. Then just mundane, normal things, I want to talk to a girl. I don't want to talk to a man about hair removal or something. I mean I do, it happens, I only work with men, but I would feel more comfortable with someone who knows what I'm talking about. So definitely normal things, things more related with insecurities that I feel because I'm a woman.

S5.P14: I think it's nice to have women in the team and in the office, we have a network of women in the office, but I've only been at my job for 2 weeks, so I haven't had the chance to develop those relationships.

S6.P14: My Head of Department brought in a load of female networks that she works with, because she's very passionate about things like mentorship. She's been really, really good at making sure that her female team members have access to these kind of networks as well, so she's done things like: she's a member of club, for women and non-binary only, and she's taken me there a few times for meetings; and she's done things like arrange Lunch & Learns, where she arranged some Women's Day events, like bringing in two women who started a tech company, and bringing them in to speak to the entire company about their experiences as female tech company founders. The company has now also brought in access to coaching and mentoring which has been very useful, and when those opportunities have come up, I've taken them up on it.

S6.P16: I think I really started to progress in my role and confidence when I did have this mentor in the company who made it very clear and was very vocal about the fact that she has my back in meetings. For example, it's simple things that she worked really hard with me on like presentation skills, so preparing for presentations together, running through the slides multiple times to make sure I was conveying confidence and expertise in what I'm talking about. Having that kind of support has been very useful in terms of it giving me confidence in the fact that I know what I'm doing. It's not like I need someone to fight my battles for me, but the knowledge that someone is there, that will step in, and does believe in what you're doing has been really useful.

S6.P15: The networks that I use the most are my friend networks. So I have a Facebook chat with loads of girls I was friends with at university, and so we're often sharing experiences in there, and asking for advice in there on work-related things, and other things. Other than that, I subscribe to a few newsletters and things.

S7.P6: I think even within a company if there are company organised women-only groups, you can't be completely upfront or super transparent about what you've been going through, because the industry is so small, being in Silicon Valley is even smaller, it's literally a niche. So you have to be super, hyper careful about who you tell and who you can trust, because a lot of that will come back to maybe hurt your career, professionally.

S7.P26: There's this portal that got started by women, FLIK, and you can post a profile and then women founders will reach out to you for help in certain parts of their business. It's like an unpaid apprenticeship, but also a way for women to gain experience from women founders.

S8.P3: I didn't have tech experience prior, and I think at that time when I joined tech I recognised that I wanted to learn all about this new industry that I had just joined. So I reached out and went to a lot of networking events, just around general personal development topics, so like confidence, project management, or just general topics, I love a good panel talk. There was quite a few, especially around being women in tech, where I could listen to women who probably were a little bit more marginalised, in terms of being the only female engineer or coder, or that kind of get mistaken for being the assistant when really they're the one running the team, those sorts of fun stories.

S8.P15: In terms of negotiating, following that, I went to a negotiating workshop, and then the job that I do now, I negotiated a much higher salary, they said, "We can't reach that, but we can do a little bit lower", I said that's fine, because the way I'd negotiated is I'd gone above, up to market rate, so even what they had agreed to at the lower level was more than what I was on at my previous company, and they came back and gave me the figure that I asked for in the first place. So through going through this experience it taught me to be comfortable talking about money and walking away if it's not acceptable.

S8.P18: I 100% think women networks are important. So I've used them for negotiating workshops, or even when I was freelancing, so there's one particular network called Hustle Crew and I now work for them where I reached out to the Founder and I was about to start freelancing, and I was just like, "I've never freelanced in tech, what do you charge?", and she literally told me, if I know the company's got money, so if it's Amazon or Groupon, I charge this rate, and then if I know it's a smaller company, this is the rate that I charge. There was about £200-300 between both of those rates, and she was real about it. Even in that moment, I was just like, "First of all, thank you so much, because you let me know the minimum I should accept", and she told me that as well, your day rate, you shouldn't be anywhere less than £150/day, so that's what I did when I was freelancing.

S8.P19: I then kept that relationship with her when I was working full-time, and she actually led the workshop. It was through a female network called For Working Ladies, and they were in combination with BumbleBiz, so Bumble the app had sponsored it. And you do role-play, in the same way that I just explained to you, there's ways of you telling people what your salary is without telling what the salary is. So we did a lot of role-play, where I broke down kind of what I do, and I said I earned this and then they earned that or whatever, and it's a safe space to have a second opinion for somebody to be like, "I know somebody who's in that role, I'll ask what she earns at that company". Or it empowers you to actually use the data that you can see on LinkedIn to see what the market rate is, so for [job role] in [city] with how many years experience, this is how much she should be paid, and that's a global index that they've got because they know what people's salaries are. Glassdoor does the same thing as well.

S8.P20: I think these networks are integral, not only to have an actual person to bounce ideas from, and somebody who may be in a different company, they might even be in a different role, but they'll give you an idea because they'll know through their networks as well what is acceptable and where the company's really trying to do one over on you. Which is a tough thing to say because especially in tech, it's this whole idea of, "Oh, we're family". No, pay me what I'm worth, I show up, I deliver good results and I help your company make more money. You're not going to pay me in socials and wine, I can't give that to my landlord, and that's also not what I paid to learn the skills that I've learned or go to these networking events or these courses, or learn the software. So these women's networks empower you to kind of be like, "Wait, if there are other women making money, and they're less experienced than me, what am I doing wrong? Why should I be the one that's practically giving away myself for free?"

S8.P21: I definitely think it's important to have women colleagues that you can talk to because that was the type of relationship I had with [name]. I learned so much from her, but she then also became somebody who I could talk to honestly about the stuff that I was going through. I had two colleagues that knew the ins and outs of what was happening, they knew every time [manager] had said something off-key to me, they were in the meetings where she'd cut me off and then regurgitate my idea as though it was hers, and I'd watch her do the same thing with [name] as well. So having those people that you can go just go for a coffee with or go for lunch with and talk about the realities and say, "I just had my review, this is the feedback that they gave, what do you think I should do, what I can do?" And because they are inside the network they're able to advise, they're able to tell you stuff about people's personalities, or even people that were at the company before that might have been treated that way and what they did, that also then becomes very helpful information, because when you're in the middle of it you start to second guess yourself and think, what am I doing to be treated this way? But when you have an internal network that can see the wood for the trees, and sees it from the outside, they can be like, "Nope, they're just like that, they did it before with this person".

Card 4: Diversity

S1.P4: I entered the tech industry in an agency environment, so I spent several years in agencies which are a lot more diverse gender-wise than working in-house for a tech company, which is what I've done the second half of my career.

S1.P9: I found myself in this environment, full of just men, and when diversity issues were raised they wouldn't take ownership and responsibility for it. So for example, one thing that always kept coming up was, "We need to hire more women, we need a woman engineer". But that then became communicated as there aren't female engineers, and that it was a pipeline problem that the company didn't have a female engineer. So, I found that male-dominated tech companies just refuse to see their own role in creating this inaccessible environment for women engineers to apply to.

S1.P10: It took me quitting on the grounds of lack of diversity inclusion to explicitly say that women like me, when we consider companies to work for, we go on the “About You” page and we look at who's in Leadership, and who's in the Engineering team, and what's the diversity, and if all we see are white men, then we just don't apply. That's a problem, this refusal to acknowledge that the way you've built your company and this saying of “the best person for the role”, and then just being lazy and not delivering diversity or diversifying the pool of candidates, that hurts the company in the long run.

S1.P11: I definitely think that's part of why women tend to apply to, not necessarily woman-dominated companies, just diverse, because part of it is that feeling safe and valued in a place is really important. There has been so much research on this – that businesses, products, team collaboration, all of those things that being an organisation involves and building a business – it becomes better, and richer, and generates better ideas, and more revenue, etc., if the people in the company are more diverse. It's just fact, that's what the research shows. The more uniform a team is, then the lesser the quality of the output. So it's not generally “we need women just because”, we need a wide variety of people, and perspectives, and experiences to improve the things we're building.

S1.P28: I absolutely think high emotional intelligence is important to have. I think being in a leadership position means you're a leader of people, and if you don't value and respect people, not just men, people in general, and see people and all their diversity, and emotional spectrum, and all that stuff, then you shouldn't be a leader.

S1.P29: I don't know if you've read the book, *Why do so many incompetent men become leaders*, it's by a Psychology Professor that also researched a lot on personality and stuff, and now he does a lot of organisational leadership and management psychology. In it, complaints about not having women in leadership positions aren't just from disgruntled women who don't become leaders, we're not just sitting here with all our opinions, like, “Oh, we wish we were leaders”. There is so much research out there on how companies thrive when there's diversity in leadership. So yeah, for sure, definitely, if companies still have a very male-dominated leadership, they're going to lose out. And it kind of, sucks to be them, like survival of the fittest.

S1.P38: I would love to see more companies be like my current company where, again, it's not about having 80% women in leadership. It's just recognising diversity, and all the diversity that comes with gender diversity, but also personality diversity, and neurodiversity, and just encompassing diversity in its widest sense. I think gender is the biggest piece, with race possibly, that can help the tech industry understand the importance and benefit to the massive value that comes with having a wider range of people working for a company. So yeah, I want to see more companies have the makeup and the culture values that my current company has.

S1.P39: I also want to see more venture capitalists and companies that fund other companies, pay more attention to diversity. They often already do, so they only fund diverse companies, and I'm hoping I'll see more and more of that in the future.

S2.P39: I think any kind of diversity, it's just bringing in perspective. So, the more you diversify – a company or an industry, or your friend group, whatever, like your community – the more you diversify, the more perspectives you're bringing into it, and the more representation you'll find.

S2.P40: It can be really small things, like if we're building an app and we need to consider accessibility. If we don't have anybody in the company that is disabled, how can we tailor to that experience, if we don't have anybody to contribute that perspective?

S2.P41: I think gender diversity is just about creating a more inclusive space and providing different perspectives, in the same way that bringing racial diversity or cultural diversity, language diversity, ability diversity, brings all sorts of beautiful things.

S2.P57: I think 5-10 years ago, the scales were just an overwhelming amount of men in the industry versus women. Now, you're seeing a lot more women going in and doing computer science degrees at university and that's really great diversity to see, but unfortunately, it just takes time for then those women that are coming into the industry to work their way up into those leadership positions.

S3.P7: I ascribe to the theory in general, that in order to build for someone, you need that person thinking about it.

S3.P8: There are a lot of studies about how diversity of background and experience can increase a team's productivity and diversity of thought, and it's that, the way that we experience the world and bring that experience, and how we then approach problems, means that women are uniquely able to look for, build things, that are meant for women, or meant for folks who are not just men.

S3.P18: Building my own business, it's still important to me to hire women and women of colour.

S4.P18: Preferably I would love to have more diversity.

S4.P28: I think there's characteristics that make women good developers, so I think ideally, you need to have a mix of men and women, that would be perfect, but that's not what happens. I definitely think companies suffer from having less women. Just different perspectives, you know, even diversity in terms of like cultural diversity.

S5.P7: I think everyone has something unique to contribute, everyone has their unique point of views, and I think that diversity is always something important.

S5.P12: Within our bootcamp, we were all pretty diverse just in terms of our interest, so some of the women were more interested in the design aspect of developing websites, and then some of us were more interested in the logic part behind it. I think people tend to gravitate towards just what they're interested in, but maybe some women might have been more interested in the technical aspects of programming, and then felt deterred by maybe the lack of women in the industry or whatever.

S6.P10: I'd say there's always benefits in having differences of opinion and differences of experience in a business. I know that at my company, at the moment, having women in the leadership team, for example, has made a massive difference to the direction of the company. It's a stereotype, but in my experience, it's been true basically, that when women are on leadership teams and in positions of power, there's a much more sort of nurturing environment for employees, and the companies are just more successful, because there is this knowledge base coming from different avenues of life, basically.

S6.P11: Last year, when there weren't any women in the leadership team at that point, as the two women that were on the leadership team had both left the company, there was a period of time where those roles weren't filled by women. During this time, it was very easy for each team, and each group of friends to sort of silo off. There were quite significant divisions between departments, because there was a lack of communication, and there were quite a few big egos walking around, so that meant that it was very difficult to communicate with other departments about joint projects, for example.

S6.P12: Socially, during the time where there weren't women in the leadership team, there weren't many community projects for the company as in like, thinking about how to make events more inclusive, or how to make our processes more diverse. When these women joined the leadership team, particularly because one of the hires was a Head of People who was very very understanding of the issues, and she very quickly moved to implement more diverse and more inclusive processes. For example, thinking of team-building activities that weren't revolved around alcohol, for example, which not only benefited the women in the team, but obviously also benefited employees who didn't want to drink.

S6.P13: After the women leadership hires, there was a much better focus into increasing diversity and inclusion in the company. For example, actually looking at all the hires that the company has had, and seeing at what point have women historically been falling out of the process, and how can we make sure that an equal number of men and women are reaching late stages of the interview process. Those kind of processes have really helped to bring in diverse candidates, with a breadth of experience, to bring in different viewpoints and different values to the company. So we're not just hiring for company values anymore, it's for talent, and potential, and that kind of stuff.

S6.P31: I think the ultimate end goal is just to not have diversity and inclusion policies at all, because it's just innate. So for example, looking at hiring, looking at a candidate pipeline, just to automatically receive even numbers of men and women for the same role. I guess after that, I think it just comes down to the right representation, for example, once we get to a point where an entire leadership team is made up of women and it's not seen as a niche product or a niche company, or a female company, then I think we will have reached a good level of diversity.

S8.P1: In my first job, I probably say in terms of the male/female split, they were all right. In terms of cultural diversity, I was most definitely the only Black person there for at least a year, but in terms of gender, they had women in leadership and things like that.

S8.P37: So many of these products are meant to be for us, but there's nobody in the room building it that looks like us, and I mean that as a woman of colour, as a Londoner, as a woman, as somebody who didn't grow up doing tech, I mean that in all the ways that make me a unique person that's not white and male and privileged. I'm going to say that social diversity comes into it as well, we didn't all go to Cambridge [University], but it's the people that didn't go to Cambridge that you're selling your product to and you want them to get benefit out of it, so we have to be in spaces where we feel comfortable.

S8.P42: I'd like to see the tech industry moving further into diversity in all sort of senses. I'm kind of looking forward to us moving, and getting more of these toxic cultures out of the industry. I think what it's done it's taken a lot of the things from traditional management in corporate spaces and just put it inside a funky building with an app as the product, but I still think we still have some models of leadership that don't work for the world that we live in and they also aren't nice.

Card 5: Representation & Role Models

S1.P4: I entered the tech industry in an agency environment, which are a lot more diverse gender-wise than working in-house for a tech company, so it wasn't really on my radar, being a "woman in tech" or being a "woman in a digital industry". I knew we had issues like most other industries, but I found myself surrounded by women, and in leadership positions, it wasn't 50/50, but I never felt like "wow I'm in this super male dominated industry". So you know, issues of inclusion and representation, all that stuff, wasn't really on my radar in the beginning.

S1.P11: From speaking to my female friends in the tech industry, like me, they don't apply to places that are male dominated, or they prefer not to. Women, like me, when we consider companies to work for we go on the "About You" page, and we look at who's in Leadership, and who's in the Engineering team, and what the diversity is, and if all we see are white men, then we just don't apply. It doesn't mean we don't exist, it means there's something wrong with a company from our point of view, so to me that's why women don't apply.

S2.P10: It's not to say that there aren't women, there are women in the industry, I think just not in the traditional sense of it. So for example, I work in the tech industry, but I'm in a management position, and I'm not in a technical management position. And the other women in my company are like designers or the office manager – actually, right now we have a male office manager, but all our other offices have female office managers – and like operations manager, recruitment, HR, these are all the roles that the women in the company will fulfil. Then within the actual engineering department, I think, in the last two years that I've been at the company, we've actually seen a huge increase in women. So when I started, there were two female engineers, and I think now we're looking at more like 35 to 40% of engineers are women.

S2.P11: I definitely have to say that the overwhelming majority of the engineers that you'll see, the people that are actually in technical positions and have the technical tools, are not women.

S2.P13: One of my really good friends, she's a technical lead, which is essentially the most senior position that you can be in the company other than at a director level. There's six technical leads in my office for my company, and then they all sit under the technical director, and she's the only female technical lead and actually, globally, I think we've got maybe 25 technical leads across the globe, and I think she is also the only female technical lead globally. So I think that says a lot more, but the more senior you go, and the more technical the position, the less women you'll see in the room.

S2.P39: I think any kind of diversity, it's just bringing in perspective. So, the more you diversify – a company or an industry, or your friend group, whatever, like your community – the more you diversify, the more perspectives you're bringing into it, and the more representation you'll find.

S2.P50: I think the most important thing is to have people that can be there to encourage you, and that can be there to pass on advice, and I think it's really helpful when you can identify with those people. I think that's why representation in media is really important, because it's important to see people that you identify with doing the things that you want to achieve. I think it's part of the reason why there aren't that many women in technical positions in tech, and they'll usually fulfil the supporting roles or the management roles, because STEM fields aren't really something that you will see in the media that women will pursue.

S2.P51: When I was graduating high school, I would have never considered a career in tech or engineering, and now that I work in the industry and I have women around me that are really smart, technical people, I wish somebody had been there when I was 17 doing my college applications, telling me actually, "You can do that, and it's fine that maybe math isn't your forte, you just have to work at it and you can improve". You're not just born bad at something, you have to practice skills, and it's like that with everything.

S2.P53: I don't really know if there have been improvements on representations of women in tech in popular media or pop culture. I'm sure there's been lots of change. I think I have observed some of those changes, but I can't think of concrete examples. I think it's maybe just because I'm in the tech industry now, that I just see more representation, there's just women around me, and so that representation is very helpful and encouraging for me to stay where I am, because I know I'm not the only one.

S2.P55: I remember my first manager when I met her, she rubbed me completely the wrong way, and I think in retrospect, it's because I had all of these preconceived notions of what a professional women should be, like a bold, very direct, give no fucks woman, wasn't something that I was comfortable with. I thought a woman should be well-spoken, and should be mindful of how she comes across, and maybe shouldn't be so direct, and be mindful of how she presents arguments to people, and I think she really ruffled my feathers, because I was super uncomfortable with the idea of somebody being like that. I think the reason why she really bothered me is because I had this notion of how a professional woman should behave. I think in retrospect, she was just really fucking good at her job, and I try to channel her now. I think it's really important to have people there that represent, "You're not going to step all over me, you're not going to push me to the side like, I'm here, and I have an opinion and it'll be heard". I think it's really good to have people like that around you, and I think it says a lot about where I was and where I am now, because I've had people like that around me to show me that being well-spoken or mindful is not the only way that you can get what you want when you're a woman in the workforce.

S2.P56: In general, I've had some really amazing women that I've worked with, and I think it's just really important to have people around you that are encouraging and that are going to support you and hold you up, and not tear you down. I've also met a lot of people that will try to tear you down, women as well, and that sucks. Equally, there's really encouraging awesome men and women as well, that are great to have around, but especially people that you identify with, it's just good to have that representation.

S4.P29: I definitely thought there were preconceived notions in society that would make me avoid tech and development. I never really thought about development. Honestly, the more tech and science areas, it was only guys in my school, there was not one woman. So I think subconsciously, I was probably never drawn to that, I was kind of thinking about between Arts and Economics, because my that's what my family and all my friends did, and I just thought, okay.

S4.P31: I never really saw myself as a developer, also because I thought developers were mostly men, I didn't know women in the field. I mean, if you asked me, I'm sure there were women developers, but I didn't know about all the amazing women developers that existed.

S4.P32: I think representation is the most important thing. If I had grown up hearing about this woman that sent men to the moon, like a programmer, maybe I would have thought about it differently, like, there was no badass woman in tech that I knew. Still not a lot, I mean, I know some, for example, the black hole picture that they took, I know one of the team leaders was a woman, so that's really cool. But you still don't know a lot nowadays, and I think that definitely needs to change because representation is super important, like I saw my mum in the business area, and teachers, etc., but not women in tech.

S4.P51: I think initiatives like coding scholarships for women, or bootcamps for women to learn to code are super important. Le Wagon does this scholarship for young women, which I think is very important as the thing they're missing the most is the demographics, and I think that's super important because as my colleague said you need to go after women, because women don't have, even if it's the confidence to apply, they don't think they can, they don't have role models, they don't have representation.

S4.P53: Like I said, there's not a lot of role models. For example, I think if [name], who's one of the directors of Le Wagon wasn't a woman, I'm not sure I would have gotten the bootcamp. I think she's super pro-women, that's why she has all the scholarships for women and everything. And I think you need women in power positions, you need women as CEOs and CTOs and CFOs, and then I think you'll see it trickle down. I think that's only going to happen when you have women in power positions and making decisions, because women are for women, I mean, they're supposed to be for women.

S4.P54: Three of us asked the Head of HR to organise a Women's Day event because we are more women in the company now, we have no women in power positions, and we have to lift us up, right? And she said "No, but if you want to do something on your own, you can". So I came up with this idea with other girls in the company, where we were going to print a picture of a woman that inspired us and write why, and then pin it up in the office so everybody would be able to see it, and it would stay there for a week, and everybody would be able to read about the stories. And actually, only three of us women put examples down, and then all the others were from men, like all my colleagues in my team for example. Like AOC, Megan Rapinoe, a colleague of mine put Greta Thunberg and his description of why she inspires him is super cool, it was like, "Yeah, because she goes against old men that don't care about climate change, because they're going to die anyways", this random guy that I never hear his voice joined, no one told him, he just joined on his own, and put a chess player, it was super cool.

S4.P56: Going back to Le Wagon, one of the directors that leads everything, she hires women, its mainly female interns, and now one of them is the Manager. If it wasn't for her I would not have gotten the scholarship, and I would not have done it.

S5.P4: I guess for me, I never had a sense of limitation, that certain fields were just not available to me because I didn't feel represented or anything. I just never looked at things that way.

S5.P11: It was definitely encouraging to see so many women interested in tech, but I know we're still really far away from having that many more women working as software developers. So I think even though we had so many women in our batch, a lot of them didn't end up going into the more technical roles.

S5.P13: In my company as a whole, I think it's pretty balanced, but more of the women are not in those technical roles. A lot of the woman are in HR, or in payroll, or marketing departments and design, that's where most women are. The developers, there's only three of us, out of maybe 20-30 developers. You can definitely see the imbalance on the developer side.

S6.P29: I think that there's kind of the default media coverage of the tech industry, and then there's "women in tech", which is another default, which seems to be a very separate bucket of content. I think it's very easy for women's things to be seen as a niche interest, so I think tech as a whole, is seen as a general interest, but by which that defaults to being a male interest, and so women in tech are represented in different ways, in different areas. So for example, there's always coverage of like the Google CEO, Amazon CEO, Facebook CEO, that kind of stuff, they're seen as general interest, but, for example, female CEOs, they're always sort of sidelined to the women's section or the smaller business section, and that kind of stuff.

S6.P31: I think the ultimate end goal is just to not have diversity and inclusion policies at all, because it's just innate. So for example, looking at hiring, looking at a candidate pipeline, just to automatically receive even numbers of men and women for the same role. I guess after that, I think it just comes down to the right representation, for example, once we get to a point where an entire leadership team is made up of women and it's not seen as a niche product or a niche company, or a female company, then I think we will have reached a good level of diversity.

S7.P3: I feel like when I watched *Silicon Valley*, or that one film about Facebook [*The Social Network*], and others, to be honest, I don't think they have predominantly featured women, especially women in leadership. It's always kind of the same storyline about this group of geeky nerdy dudes or programmers, or as the *Valley* calls it, "brogrammers", and there's like one token lady, sitting in the corner, and she's smarter and just brighter than all these dudes combined, but of course she doesn't get any showtime which is ridiculous. So I think when I watch it, women are not put in the forefront of the narrative, or even the images that are being shown.

S7.P11: I think representation is important, so ideally, if we could hire an equal amount of women and men that would be amazing.

S8.P39: I definitely think it's so important to have representation, 100%. I think that's why I enjoyed it when the *Black Panther* film came out, and Shuri's character was really hailed as being a leader in STEM. She's a fictional character, but you're literally watching this woman who is responsible for all the tech.

S8.P40: I watch a lot of action movies, so you're used to watching things like *Batman*, where this old white guy does all the tech. Or I guess for *Batman*, Morgan Freeman changed that role, but it's always a dude that builds all of the gadgets. Even in *Charlie's Angels*, which is lots of women, all of the things come from Charlie. So watching a woman be like, I just created this thing that does that and it does this, you're like, "Oh!". It's the same with something like *Hidden Figures*. When that film came out it was like, "Ah, the three black women doing the maths behind that", that story didn't exist before, it's like, wow, we've been in this industry for a minute, but we've always just been the minority as women, and then I guess for me the layer of being a woman of colour as well.

Card 6: Gender Roles & Stereotypes

S1.P6: I was asked to give performance feedback on one of my colleagues who was also someone who I sometimes reported to on projects. Personality wise, he was a bit different from the "default personality" in that environment (which was very extroverted and like authoritarian). He was very nurturing, and he would often send Juniors into client meetings on their own, and he was very "everyone's equal" and "I trust you", that sort of thing, almost 'feminine' in his leadership style. He was just lovely, so he got along with everyone, men and women.

S1.P7: The truth was that the women were the ones who were conscientious enough to give feedback when asked, whereas the men just didn't have time and stuff like that, so the majority of the feedback was from women.

S1.P13: Companies have what I call "default personalities", which is the type of personality that gets promoted, or that gets elevated or that receives credit for good work and they tend to be the ones that are the loudest and who individually take credit for a piece of work, rather than a more collaborative, "us", "we", "the team did it", which is a typically more female way of talking about these things.

S1.P14: There's the expectation that if you want to advance your career, and when it comes to performance feedback, it's very often "be pushier, talk about yourself more often, push yourself out there, single yourself". There's the expectation that you single yourself out as the star on the team, which is a more masculine way of behaving for sure.

S1.P15: In a company I worked at, I was quite senior by then, and one of the more senior members of the team. There was this all day workshop, and my male manager asked me: "Hey, if you don't have much to do, can you come to this workshop and take notes?", but I wasn't even part of this project, I didn't know the context, and was just brought in as a note taker for a workshop. I have never come across someone bringing in a male colleague to note-take for workshop. It was as if I was in Mad Men and one of the secretaries. I thought is this really a good use of my time, and also if you do the actual cost calculation of my salary, and how much it costs to put someone on my salary in a three hour workshop and just sit and take notes. It was a bit of a joke. Just record the session and transcribe it, why do you need an actual paid human to sit in there, and if you're going to pick a human, you pick a woman?

S1.P22: I'm in a female founded company now and our entire culture is built on feedback. It's so explicit. I'm giving performance feedback on our female CEO on Tuesday. It's so transparent and so nurturing and they really value feedback, whereas I don't think male dominated companies see it to the same effect. It's a bit of a soft, squishy complainy thing, "Why do we need to deal with these womanly things?" It's almost the vibe I get.

S1.P24: This whole feedback thing, which think comes from a place of a "feminised" way of communicating with other people and relating to other people, listening carefully and trying to develop humans, not machines, that's been so amazing. It's been so refreshing to see that, I haven't worked in a place that values that as much as where I am now.

S1.P27: My current manager is a man as well, but he's not very "masculine" in his leadership style, you can tell he's a type of person who would pick a place like this to work. He's just a very psychologically safe and nurturing manager that has high emotional intelligence, all those things.

S2.P23: It's about tearing down unconscious biases about people. It's impossible, because we all have biases, whether that's associated with gender or age or race or somebody's ability to fluently speak English (language barriers as well). I think we're all guilty of biases. I don't think it's just old men that are really bad at it, maybe they're not as good as young women, but young women are also guilty of it.

S2.P29: We were on our way to a meeting with one of our clients, a really, really big, tech giant. I've been managing this account, so I'm one of the key stakeholders in that relationship, if not the key stakeholder in that relationship. There was this meeting and it was more so of a commercial meeting, so I wasn't really an essential attendee in that meeting, I was more so going because I had a history in the project that I've been running, and it's a great learning opportunity for me. We were on the way to this meeting, and I asked my line manager, who, for all intents and purposes is a wonderful person, I really like having him as my line manager, but he said something to me that just really ruffled my feathers, and I do wonder if it had anything to do with the fact that I am a woman. I said, "Oh, you know, I don't really know why I'm coming to this meeting, I don't know if I'm going to add any value to it, but I'm happy to be here to learn". And he then essentially asked me to be the scribe of the meeting, which was not the reason I came to the meeting, it's not my role to take notes.

S2.P46: I think women are almost conditioned to not register others taking credit for our work, that kind of thing. Like when things go wrong, I'm much more likely to be like, "I'll take the accountability for that", when things go right: "This is a team effort. We all did this together". Whereas I have observed that men tend to be more like, "It's all thanks to me".

S2.P48: I think you have to ask for what you want in your career, and that goes everyone, men and women. I think unfortunately, men tend to be less afraid to ask for it, and that's I think where they have an upper-hand. I have so many female friends that say, "I think I deserve that promotion/raise", and I ask, "Well, have you asked for it?". 99.9% of the time the answer is no, and it's because we are afraid that we might not be worth it or deserve it.

S3.P6: From an econometrics standpoint, I know that women are more likely to be in part-time work, I know women are more likely to take the combinations at work, and women are more likely to stay home, because childcare is fucking expensive. What then, are the ways that policymakers can deliver interventions that allow women who want to stay in the workforce to stay in the workforce, and start to chip away at those gender norms?

S3.P21: I got feedback at my last job that I was aggressive, and a lot of women leaders do, and that's okay. It's outside of what you expect from a woman, it's outside of my prototype, and I was lucky to have male leaders be like, "You're not aggressive. You're just being direct. They wouldn't say that to a man, ignore it". So there's both the good and the bad.

S4.P25: I read an article that said that men will apply if they meet 60% of requirements or something in tech, and for women it's 90% or more, so women feel they need to check all the boxes. So companies need to come after us, and I think that doesn't happen a lot.

S4.P26: I think women have something unique to contribute to tech, women tend to be stereotypically great at multitasking, which for tech is really good, you need to do a lot of things at once sometimes, so I think that definitely helps. I do think women have certain characteristics that will make them better developers in certain areas, and then men have other other characteristics that will make them better developers in other things.

S6.P10: It's a stereotype, but in my experience it's been true basically, that when women are on leadership teams, in positions of power, there's a much more sort of nurturing environment for employees, and they're just more successful because there is this knowledge base coming from different avenues of life.

S6.P22: There's a stereotype that women are more emotional, but I've found in the workplace, the completely opposite has been true to me, I think men are much, much quicker to emotions in the workplace than women are, because very early on women realise that emotions won't get you anywhere, so it's all about playing the long game basically, and using your confidence and your connections to sort out problems yourself basically without being emotional.

S6.P24: I don't feel that I have had to masculinise my behaviour. I think actually, there have been cases where it has been quite beneficial to overplay the feminised traits. So kind of very early on in my career for example, it would get you far by being nice, offering a cup of tea, doing stereotypical things like that early on in your career to make people think you're friendly basically, and make people trust you.

S7.P8: I absolutely believe women have something unique to contribute to the tech industry. Unfortunately, I feel like a lot of women get labelled as just having more innately “soft skills” than these hard skills to offer, which I don't necessarily agree with. Although I do agree that from the consumption of time, we are socialised to be more collaborative, to be more holistic, to be more nurturing, and really bring out the best in people, sorry that's a generalisation, but just kind of in general. And I feel like a lot of the companies in the Valley, it's dominated by men, and I'm not saying every single one of them are like this, but more so than often, it is just driven by profit, driven by numbers, like “let's get that equity, let's get that funding, and let's grow grow grow grow”.

S7.P11: If you hire more women in leadership positions who have the EQ [emotional intelligence] skills, and who are empathetic, compassionate, nurturing, I absolutely think this has the potential to create a more nurturing and supportive environment. But, if the women that you're hiring have low EQ skills, maybe high IQ geniuses, but don't have any people skills and don't understand how social relationships work, and can't bring out the best in people, it doesn't matter if it's a guy or if it's a woman, it's going to be the same thing. So I think representation is important, so ideally, if we could hire an equal amount of women and men that would be amazing, but if either subsets of the population that you're hiring have high IQ and very low EQ, or low EQ and low IQ, it's not going to help.

S7.P12: I don't think it's a question at this point that just statistically speaking, women do a lot more of the hidden unpaid labour than men in relationships and marriages. Otherwise known as we just have our shit a lot more together. I don't have kids, but I can only imagine as somebody who has kids, you're not only trying to advance your career just as much as your husband, but you also have to take care of the kids, you have to wash the dishes, you have to do all these house duties, and on top of that go to the gym, like there's all these societal expectations – you have to look perfect, and you have to work out – I mean it's so crazy. And I think technology, like virtual meetings, working from home, it gives you a lot more time and a lot more flexibility to be able to take care of these other aspects of your life, that if you were going to in person, just the mental, physical, and the transportation energy that you have to put into making that happen is just exhausting, so it takes out that layer which I think is incredible.

S7.P17: It depends on the company you work at and the culture that you're in, but unfortunately, in more bro-y type cultures, and you're maybe a token woman, or maybe there's two other girls there, for sure you kind of need to masculinise your behaviour a little. To garner respect you essentially have to be one of the guys, it just is what it is. If it's more of a mixed environment, or if you're maybe on an all female team, what I found that has been really interesting is that almost being too much of one of the guys and being too masculine is actually kind of a downfall, because if you're too aggressive, too blunt, and too upfront, then you're seen subconsciously as somebody who I don't know what the right word is, but people just don't think of you super positively. But then if you're too demure or too passive, then you're also seen as somebody who doesn't add value to the team, so it's having to constantly navigate and tiptoe between that if you're on more of a mixed gender team or an all female team, which is really interesting.

S8.P14: I think this is probably quite a feminine thing or something with women, where I leave breadcrumbs hoping that they'll fix it or leave clues to lead them to what I was too afraid to say, so I definitely think that it is tough.

S8.P17: I think it is you're expected to definitely show up and do your best, but I think women tend to take the approach of saying, I'll do it now and then hope they'll treat me properly after, or they'll see it, I don't need to talk about it. Whereas, I think we should be taking an approach of let me negotiate this thing now, like, “Okay, you want me to do it, I'm 100% willing to go the extra mile there, but I want an extra day annual leave, or I want a pay rise or a bonus in relation to this, or a job title change”, or whatever. I think being braver with it and being quite businesslike as opposed to treating it like a friendship.

S8.P22: It took me by surprise having this manager engaging in that kind of negative behaviour, because I never, never, never, never expected it, because I've had that, but from a man. So it was very disappointing, because again, you get excited when you see women in leadership and you think you're going to be amazing, but she definitely lead from the masculine thing, the very old-school masculine thing might I say, because there are male leaders that are good at what they do. But this was the very, "I need to be right at all times. If we are in a meeting, I need to be the one with the ideas, nobody else can lead, I don't need to listen to people, or I'll listen to them in their one-to-ones but outside of it, I'm just not going to". It was very fake.

S8.P46: Especially for women, I find that we put that through such a harsh lens, as in the whole thing was shit because I missed this thing. So when you get feedback from people that aren't you it's so important for it to be uplifting and to come from the foundation that – I know you can do this, first of all the fact that you did it in the first place is wicked, like – please celebrate yourself. We don't celebrate ourselves enough as women. It's just, "Oh, on to the next. Oh, it wasn't that good". Or like people compliment us and we go, "Oh, it was nothing".

Card 7: Insecurities & Preconceived Notions

S2.P15: In my first job, I was working on a project where I was in over my head. It actually wasn't a particularly technical project, it's just that there was nobody available to do it, so they were just like, "Just give it to the Junior kid, and we'll catch her if she falls". Except nobody caught me when I fell, so I just fell, and then I got really reprimanded for it. I remember vividly, I was asked into a board meeting and then for an hour I was told all the things that I did wrong and I felt horrendously about myself. In time and in retrospect, I then realised that actually all of those things that they said were obviously my fault, but they were also a representation of the failure of the people that were meant to be there to guide me and manage me, and nobody really took responsibility for that. It all just fell on me, and I was gullible enough to think, "Oh, yeah, this is actually all my fault".

S2.P26: I have to say that everybody in a work environment wants to be respected, and everybody has their things that they are self-conscious about, but I definitely say that through observation, I found that probably my female colleagues have a knack for picking that stuff apart a lot more, in the same respect that maybe our male counterparts might not pick it apart as much, and are more likely to just kind of let things brush off their shoulder.

S2.P27: I think it's maybe just being a woman in society, maybe not necessarily in tech. Although I'm sure that it doesn't help to be the minority, and therefore that negatively impacts how much you do pick things apart in your work environment, but I think it's just a result of being a woman in the world, where things are often your fault, so it's kind of been ingrained in us to retrospectively try to figure out what was it that you did, you're more likely to take responsibility for things, so when something happens you're more likely to try to understand what you did wrong.

S2.P48: I have so many female friends that are like, "Oh, I I think I deserve that promotion, I think I deserve that raise", and I'm like, "Well have you asked for that promotion, have you asked for that raise?", and 99.9% of the time, the answer is no. And it's because we are afraid that we might not be worth it, like we might not deserve it, and it's such a sill fear, because if you never ask, then you'll literally never get it or you'll wait a ridiculous amount of time to get there.

S2.P51: When I was graduating high school, I would have never considered a career in tech or being an engineer. Now that I work in the industry, and I have women around me that are really smart, technical people, I wish somebody had been there when I was 17, doing my college applications, telling me actually, “You can do that, and it's fine that maybe math isn't your forte, you just have to work at it and you can improve”.

S2.P55: I remember my first manager, my very first boss, when I met her, she rubbed me completely the wrong way, and I think in retrospect, it's because I had all of these preconceived notions of what a professional women should be. Like a bold, very direct, give no fucks woman, wasn't something that I was comfortable with. I thought a woman should be well-spoken, and should be mindful of how she comes across, and maybe shouldn't be so direct, and be mindful of how she presents arguments to people, and I think she really ruffled my feathers, because I was super uncomfortable with the idea of somebody being like that. I think the reason why she really bothered me is because I had this notion of how a professional woman should behave. I think in retrospect, she was just really fucking good at her job, and I try to channel her now.

S4.P3: By the end of the bootcamp, I was totally convinced I wanted to work in development, but then I didn't know if I could find a job because I feel like that's a lot of the insecurities of people that do coding bootcamps, especially, I think being a woman, played heavily into that.

S4.P7: I left my first job as a software developer, so I was applying to other jobs in tech outside of programming, I was kind of running away from programming. I thought maybe I'm not good enough to do this, and I had huge imposter syndrome. So I was like, I'm not good enough for this, let's apply to be Community Manager at an accelerator which is a lot of what I did before I got my first developer job.

S4.P10: I do feel a little bad that I'm the only woman, I do have a lot of thoughts like, “Oh, maybe I was only hired because they didn't have any women, and they thought like, 'Oh, we need a woman, so let's hire her'”, things like that, which I think is pretty normal.

S4.P11: I had a lot of imposter syndrome also because I'm a Junior developer and I think again, being a woman also doesn't help, but my colleagues were super great about that, and they told me that they also have impostor syndrome, and they got to the point of showing me how many messages they trade amongst each other during the day asking questions, saying it's so normal, so now it's a lot better.

S4.P13: I thought about leaving the tech industry after my first job, for sure. These super big organised companies, they're not really focused on helping you with your insecurities, because everything is so organised, like it's really standardised for everyone. So I think that definitely played a role in not feeling comfortable or welcome in the environment.

S4.P15: In my previous company, I started feeling like maybe I didn't like it, because I didn't like the environment, I didn't feel supported. So I started thinking that maybe it wasn't for me, and I think if I had gotten another job outside of development before the offer for my current job, maybe I would have taken it.

S4.P20: I just think there's some insecurities that I have that I would feel safer and more comfortable talking with a woman, so I would rather have my female colleague there, because she thinks a lot of the same things that I do for sure.

S4.P22: There are definitely normal things, like things more related with insecurities that I feel because I'm a woman, where I wish there was a woman on my team that I could talk to.

S4.P27: I think the worst thing for women is lack of confidence. Men have a lot of confidence, women don't have confidence, and to apply for jobs, especially in tech, you need confidence because you need to justify your tests a lot. In programming there's a lot of right answers and you need to justify yourself. I feel like for a woman, looking at a video chat of all men, or talking to all men, it's really hard to maybe justify your answers if they go against what you think and just want to battle it out a little bit. I think for men, it's easier to do that, either because they're men talking to men, or because by nature and by culture, men are better at confrontation, and men are better at demanding things they want than women, that's my experience at least. Women are a little more like yes, and they're a little less confident, just culturally, I think especially in South Europe, and so I think that plays a factor.

S4.P29: I definitely thought there were preconceived notions in society that would make me avoid tech and development. I never really thought about development. Honestly, the more tech and science areas, it was only guys in my school, there was not one woman. So I think subconsciously, I was probably never drawn to that, I was kind of thinking about between Arts and Economics, because my that's what my family and all my friends did, and I just thought, okay.

S4.P30: I did a year in the US, and I did some IT classes and I really liked it. When I came back for university, I was kind of drawn between going into Business or trying out for Computer Science, but I went to Business because I got into the university, and I was like, okay, decision made for me. So I didn't do Computer Science, and I think that's also because of my insecurities, maybe if I had a sure thing, like, I didn't want to risk not getting into something else, so I just went into Business, it kind of felt like my safest choice and you can do a lot of things with it, so that was my thought process.

S4.P51: Le Wagon does this scholarship for young women, which I think is very important, and the thing they're missing the most is the demographics. I think that's super important, because as my work colleague said, you need to go after women, because women don't have the confidence to apply, and even if they do have the confidence, they don't think it's something they can do.

S5.P8: It felt really nice being in a coding bootcamp that was overwhelmingly women, because I think I was worried that it would be the opposite, and then having that feeling of having to kind of prove yourself just because you're a woman coding.

S6.P5: I don't think I saw myself going into the tech industry, I didn't have much awareness of tech as an industry. Back then, I didn't have much thought that the tech industry was going to be so massive.

S7.P1: Being completely honest, I never thought I was going to go into tech at all. It was just one of those things that I kind of stumbled into, I came in basically as a complete outsider to business and to tech, I was this arts kid.

S7.P2: I didn't do STEM, I didn't go to Engineering school, and the only concept of tech or whatever I had even heard was literally from the show Silicon Valley. That show was not my vibe. I remember interacting with people from Engineering school while I was in college, and I just kind of was not aligned, we were just two dots shooting in different directions. So that's kind of what I mean when I say I never saw myself going into the tech industry.

S8.P38: I didn't know what tech was. I imagined tech to be like nerdy white guys looking at a screen doing code. I didn't know that you didn't need to code to work in tech. I found myself in a very formal corporate career that just wasn't for me, so then I started looking for jobs based on the culture, things like flexible working and that, and then that's how I ended up in tech. That's how I ended up in it, I came to it for the perks that make it unique in that sense. Well, not as unique anymore, thankfully the rest of the world has caught up.

Card 8: Workplace Environment

S1.P22: This was in an environment where feedback, especially negative feedback, was not well received at all. When I left, everyone came to me with all their grievances as if it was the only way they could vent their frustration was to someone who was on their way out, possibly because they knew I'd have an exit interview with HR. Even my male colleague came to me and said, "I'm not being liked by the Head of Engineering right now because I give a lot of negative feedback, and they don't like that". I'm in a female founded company now and our entire culture is built on feedback. It's so explicit. I'm giving performance feedback on our female CEO on Tuesday. It's so transparent and so nurturing and they really value feedback.

S1.P23: This previous, very male-dominated company, they were expecting people to be in the office at 9am-6pm. And working from home was "oh yeah, that's flexible working", if it's told in advance, and it's one day a week. Working for a female founded company, the environment is just so transformed. It's very understanding and nurturing. Everyone can work flexibly because they understand people have caring responsibilities, children or elderly parents, or anything. Here, you can work from home as much as you want, and you work the hours you need as long as you manage other people's expectations, you can work weekends and less on weekdays. And I take advantage of that, and so just from the life quality perspective, that's a lot better.

S1.P24: This whole feedback thing, which think comes from a place of a "feminised" way of communicating with other people and relating to other people, listening carefully and trying to develop humans, not machines, that's been so amazing. It's been so refreshing to see that, I haven't worked in a place that values that as much as where I am now.

S1.P25: Being in a female-founded space I definitely feel more psychologically safe! There's no belittling and no bullying and no patronising tones. This previous company was all of those things, and zero psychological safety. Like I mentioned, if you voiced a critical opinion, you were shut down. That's the complete opposite of psychological safety. There were actual bullies there, people would bully each other.

S1.P26: I think these negative and toxic environments hurt, and it hurts men as well, it hurts sensible men that are sensitive.

S1.P30: Being in a positive environment I feel empowered just in the day-to-day that I have the freedom and that everyone trusts everyone, we're all trusted to do our best work. There was extremely low trust in my previous place. Also career development-wise, the fact that it has such a strong feedback culture, that's very woman driven, I feel like I have a proper shot at identifying my weaknesses and improving on them. I haven't typically had that before, because either the "default optimised performer" was male or masculine or you didn't receive feedback.

S3.P12: I'll tell you my experience with some women leaders my previous job. I was asked to take on a new role, and that would come with a very hefty promotion and bump in pay. At the time I had mentioned that my partner's job was moving us to another country to my manager who was a woman, and her managers who were women still wanted me in that role. When the time came for the promotion, I was put in a position of being asked to take the role without the promotion and money that came with it because I was moving, and they would need to fill that role at the end of the year which was still nine months down the line, so that was pretty brutal. Our HR person who was working through all of this, was also woman, so it didn't feel like I had the support of other women, in a way that I thought, "Gosh, would you do this to a man? Probably not. So you're a woman, why are you doing this to another woman?".

S3.P14: My mentor at that job was a man, he advocated for me, but then I found out after I left, that he was doing shit, like inviting all the guys on his team to a basketball game, organising things just for the guys, and not asking any women on his team. So some women decided to launch a formal complaint against him. They did an investigation, nothing happened, and the following cycle, he was promoted, so that was really disappointing for everyone involved. It was also very hard for me to reconcile that someone who was so good to me could do this, or didn't recognise what he was doing, or just didn't care, whatever it was, to the women on his team.

S3.P19: It is weird, because of those good experiences I had at my last job and having had so much positive. Ultimately I told you a lot about negative things that happened, but there was so much positive.

S4.P5: I worked in a team, we were five or six developers, and it was a pretty new team in the company as they used to outsource everything. It was all men, all over 35-40, which was a little tough. I will say I really learned a lot, and I'm forever thankful, I got along with everyone, but the environment was really bad, because not only was I the only girl, I was super young, they were super old, there was nothing in common.

S4.P8: I got a new job which is great. I'm the only girl still, we had a girl for like a month, but she left, and I don't think it was because the environment was bad, the environment is really good. My team is only men, we are about 10 now, when I joined I think we were six or seven. Everybody's super Senior, I'm the only Junior, and everybody helps me a lot so that part is great, so environment, huge plus.

S4.P15: In the other company I started feeling like maybe I didn't like developing, because I didn't like the environment, I didn't feel supported. So I started thinking that maybe that wasn't for me and I think if I had gotten another job outside of programming before I got the offer for my current job, maybe I would have taken it.

S4.P18: There's not one day where I felt I didn't want to go to work, and in my other job, I took sick days, I was like, I just don't want to go to work, I don't want to do this. I haven't felt it with this company.

S4.P39: The other day the CEO came to me because they just had a meeting with the Product team and all the company, and the Product lead from our team told him that I had finished something, it wasn't like "the team finished this integration", it was like, "[participant name] finished this integration", and the CEO came to me and was like, "Really good. I know it's done, it was really important", so I actually felt really valued which was really cool.

S4.P45: Like I said, my environment is really good, my team is really good, but I really think it's a bubble, because I don't think the environment in the rest of the company is as good.

S5.P8: I did a coding bootcamp and my batch was the first to have significantly more women than men. It felt really nice, actually, because I think I was worried that it would be the opposite, and then having that feeling of having to kind of prove something just because you're a woman coding. Actually, it felt like most of the women were the stronger programmers out of the batch, but it just felt like a really supportive group.

S5.P9: I don't know if things would have been different if there had been more men than women in the group. I think it definitely depends on the group of people, and my gut feeling would be to say that if it were the opposite, that maybe that supportive environment, it wouldn't have felt the same. I think it might have felt a little bit more competitive than supportive.

S6.P10: It's a stereotype, but in my experience it's been true basically, that when women are on leadership teams, in positions of power, there's a much more sort of nurturing environment for employees, and they're just more successful because there is this knowledge base coming from different avenues of life.

S6.P11: Last year when there weren't any women in the Leadership team, by nature of that there were two women, but they both left the company, so there was a period of time where those roles weren't filled by women. During this time, it was very easy for each team and each group of friends to sort of silo off. There was quite significant divisions between departments because there was a lack of communication and there were quite a few big egos walking around, so that meant that it was very difficult to communicate with other departments about joint projects, for example. Then socially, there weren't many community projects for the company as in, thinking about how to make events more inclusive, or how to make our processes more diverse. When these women joined the leadership team, also, because they're both brilliant at their jobs, so it's not just because they were women that these positive changes happened, but after that there was a lot more, particularly because one of the hires was a Head of People. Once the Head of People had joined she was very, very understanding of the issues, and very quickly moved to implement more diverse and more inclusive processes. For example, thinking of team building activities that weren't revolved around alcohol, for example, which not only benefited the women in the team, but obviously also men in the team.

S6.P18: That company had a very "laddie" environment, so there was a lot of things, like if you were part of the right friendship group then opportunities opened up for you, for example, to work on special projects, or to attend events, or to be part of strategy meetings, that kind of stuff. A lot of it revolved around the team activities like football, so if you were part of the football team then you were in a bit of a clique.

S6.P19: In this group chat with my friends that I have that I was talking about earlier, it seems like there's constantly sort of micro-aggressions being described there from male team members. Even last week, a friend of mine, she's also at a tech company, she's in charge of ordering the lunches for the team and one male co-worker was very patronising, and very passive aggressive towards her, because she wouldn't distribute the menu to him early on enough for his liking. So, it seems like because he felt that she was in an inferior position to him, that she's probably paid less than him, that he considered himself as in a superior role to her, he was very passive aggressive and rude to her over Slack and this kind of stuff. So small micro-aggressions like that happen a lot.

S6.P20: Another case from my previous company, a senior member of the team wrote some quite derogatory things about me on a messaging platform, because he didn't know that they were visible, so because he didn't know how to use Slack very well. So that was reported, I think, what's more symptomatic is lack of action on the part of the People team, or the HR team. So after reporting this not much was really done, the HR team didn't take it very seriously, the managers didn't take it very seriously.

S7.P7: Unless you've really lived in the Valley or you have a certain personality, it is a very, very, very cut-throat place to be.

S7.P9: I was pretty lucky because in all the places that I worked there were things like great maternity leave, having tampons in the bathroom, or even a nursing room, it actually was readily available, so that stuff was spot on. But did I feel that that bled in really successfully culturally, no. So I almost sometimes felt, was this just for show, or for press, was this just for community building, or whatever. But did I really feel supported in my career as a young woman who didn't really have a ton of outside experience, and was just trying to make the best out of the situation and really learn and do a good job at, no.

S7.P10: You can probably phrase it as maybe Marketing or PR, or is it because leaders really care? You might hear this in other interviews too, but a lot of times it's really whoever is in charge of your company or of your team, they really end up setting the culture and the priorities for the team and it's like a trickle down effect, everything trickles down. If all they care about is driving money, revenue, and profits, then that's how you're going to be measured every single day versus, "Oh, is she super collaborative and she makes all of our stakeholders feel great and she brings out the best", nope don't care.

S7.P11: If you hire more women in leadership positions who have the EQ [emotional intelligence] skills, and who are empathetic, compassionate, nurturing, I absolutely think this has the potential to create a more nurturing and supportive environment. But, if the women that you're hiring have low EQ skills, maybe high IQ geniuses, but don't have any people skills and don't understand how social relationships work, and can't bring out the best in people, it doesn't matter if it's a guy or if it's a woman, it's going to be the same thing. So I think representation is important, so ideally, if we could hire an equal amount of women and men that would be amazing, but if either subsets of the population that you're hiring have high IQ and very low EQ, or low EQ and low IQ, it's not going to help.

S7.P18: I've definitely found that each company has its own culture, and set of values and traits that it really values, and ultimately if you don't fit into that or figure that out, and some companies are more obvious than other companies, but if you don't fit into that then unfortunately you're probably not going to be as well-liked as everybody, or get promoted as fast, or get the shiny projects as fast.

S7.P19: There's actually a recent team where I've felt more comfortable and valued, and it maybe, probably helps that everybody is a woman. But I think also it's that everybody has a great balance between EQ and IQ, like the social and EQ intelligence is there, because I also have been in teams where it has been all women, but there has been very low EQ, and that's led to not feeling psychologically safe and things like that. So I think it really just comes down to EQ, but I don't know if women statistically have more EQ skills than dudes, I'm not sure.

S8.P9: In the meantime, I'd realised somebody else was being paid differently to her male counterpart, she unfortunately then left, and I left shortly after, because when I had the conversation I was basically being bullied by the Head of Sales, and I wouldn't say HR was joining in, but HR was present when a lot of inappropriate things were said to me. So by then it had become quite a toxic environment: I'd get cut off in meetings; I'd be undermined; as well as just generally not being treated very well as somebody who did a lot for the company. So I made the decision to leave, which was a bit bittersweet, because by that point, they had hired a director who began to do all of the things that I was telling them to do, but getting shut down and treated badly for.

S8.P21: I had two colleagues that knew the ins and outs of what was happening, they knew every time [manager] had said something off-key to me, they were in the meetings where she'd cut me off and then regurgitate my idea as though it was hers, and I'd watch her do the same thing with [name] as well.

S8.P26: Company culture is lead from the top down. No matter what you think the leader is like, or what they do or don't do, they set the tone for how things are done. So they show you how to discipline somebody, and you begin to absorb that, you may know within your soul that talking to somebody this way is wrong, but you've seen it modelled, and you've seen that that's how things get done here, so let me just be really rude and disrespectful because that's what you've seen modelled. And there's nobody else to be like, "Actually, no, there's another way of doing this". So these two women in leadership ended up with split personalities, I think that's why even to a certain point one of them stopped socialising, because you have to be so fake. Because what [manager] would say to me behind closed doors was fucked up, and then we'd be in a team meeting or it's lunchtime and she wants to crack jokes with me. I was at the point where she actually lucky that all of the stuff that she'd done behind closed doors, I hadn't told everybody. But it did get to a point where I told people because it was actually ridiculous because she's pretending, and I'm just here in silence, like standard abuse stuff.

S8.P34: It also meant that when [manager] started treating me this way, it made me so angry because I thought I had a place that was safe. And I remember the first time she did it, I went back to my desk and I just sat there and stared blankly at the screen because I didn't even want to be there. I wanted to leave that meeting and walk out of the building, and be like, "You don't actually deserve me". So it was a bit of a PTSD from him and it gave me trust issues, and then she brought some more as well, she added an extra source to the PTSD in terms of, okay, this shit can come from men AND women.

S8.P42: I'd like to see the tech industry moving further into diversity in all sort of senses. I'm kind of looking forward to us moving, and getting more of these toxic cultures out of the industry. I think what it's done it's taken a lot of the things from traditional management in corporate spaces and just put it inside a funky building with an app as the product, but I still think we still have some models of leadership that don't work for the world that we live in and they also aren't nice.

S8.P47: In my current role, they don't give two shits if you work remotely or take a long lunch, and if anything, it makes you work harder. If we're there for an hour and a half, two hours, nobody cares, there's no snide comments, there's nobody keeping an eye or doing a register of when anyone comes back unlike my last job, because they know that if you trust people, then they will work. Like if I know I've taken an hour and a half for lunch, then I'll make sure I come in early the next day or just stay a little bit longer to do it or, in fact, I'll know within myself that I worked 12 hours on the Monday. If you want to clock my movements, let's do it holistically.

S8.P48: Even around International Women's Day, the CEO didn't want us to do anything because it might exclude everybody, and we were like, where the fuck did that come from, because the engineers are the first people to say we need to celebrate the few women that we have at this company. Why am I fighting with my CEO to just have a little lunch to celebrate the women at the company when there's other companies that have spent a whole day creating an entire conference for the entire company to listen to female leaders in tech.

Card 9: Power Dynamics & Structural Inequalities

S1.P5: I used to think if women just fight hard enough, they can just get to places, just work hard and you'll get to places. I was totally blind to structural inequalities and dynamics, like power dynamics and more.

S1.P7: He got very good feedback, but then his manager who didn't like him, rated him very, very low on the scale. The manager basically ignored all the positive feedback my male colleague got, and explicitly said, "It's because there's so much good feedback from women, so I'm not going to put too much weight on the feedback because it's almost all from women".

S1.P8: Then there was this assumption that I gave positive feedback to my colleague, because he flirted with us women, and it just pissed me off so much. And my colleague who received his feedback, he obviously saw the wrongness in this whole gender thing.

S1.P9: I worked in-house for a tech startup and it was quite a typical environment, me being the only woman in the department, or not even in the department, but in the room. So being the only woman in a Product Team of 3-4 men that sat with an Engineering department of all men, and just noting the aggregate of the implications of there only being men around me, both in terms of the day-to-day and meetings, concepts of constant interruptions, gaslighting and mansplaining, all that stuff. It's very real, and also from a 'them versus me standpoint'.

S1.P10: A topic that kept coming up was the need to hire more women and that we needed a woman engineer. But that then became communicated as there aren't female engineers, and that it was a pipeline problem that the company didn't have a female engineer. It's not a pipeline problem... There are no women engineers in London? I personally know about a 50/50 split of women engineers. Among my friends, if I exclude all the people I work with, I actually know more women engineers than men, because they're my friends. They exist, they're not a mythical creature. So I found that male dominated tech companies just refuse to see their own role in creating this inaccessible environment for women engineers to apply to.

S1.P12: I don't know if this is just a consequence of being in an environment with lots of men, so the likelihood of men taking credit for my work or contributions was just higher, just because there were more men. I can't remember ever experiencing women that did that. We had portfolio showcases at work and my hand-drawn sketches, designs, wireframes, my scribbles, stuff that I had clearly made, were in a manager's portfolio with no accreditation. I've had women managers as well and they haven't done that and taken my work and put it in their portfolio without crediting me. If I put other people's work in my portfolio, I say and include design credit for the person, that's just what you do.

S1.P13: I had a female colleague who was receiving feedback that said something to the effect of "you could be more tactful in meetings". So my female colleague who received this feedback, was very to the point, she wouldn't interrupt people, but she'd be very straight talking, wouldn't take bullshit and would easily call out other people's bullshit and stuff in meetings, but she wouldn't be inappropriate. She received feedback from this older female colleague, male colleagues didn't receive that kind of feedback, and I've been in loads of other environments where male colleagues they interrupt you, they're rude, and more, and that isn't being called out. Like when a woman does it, it's, "Oh, you're not being tactful", or she's kind of being perceived as difficult or that sort of thing.

S1.P15: In a company I worked at, I was quite senior by then, and one of the more senior members of the team. There was this all day workshop, and my male manager asked me: "Hey, if you don't have much to do, can you come to this workshop and take notes?", but I wasn't even part of this project, I didn't know the context, and was just brought in as a note taker for a workshop. I have never come across someone bringing in a male colleague to note-take for workshop. It was as if I was in Mad Men and one of the secretaries. I thought is this really a good use of my time, and also if you do the actual cost calculation of my salary, and how much it costs to put someone on my salary in a three hour workshop and just sit and take notes. It was a bit of a joke, just record the session and transcribe it, why do you need an actual paid human to sit in there, and if you're going to pick a human, you pick a woman?

S1.P19: I think part of the reason why I just never experienced as much differential treatment was because I'm a UX designer, so I'm part of the Product and Engineering team. Connecting with my female colleagues in our little mini network made me realise how, not only for women in tech, but if you're a woman in tech in a non-tech discipline, you're treated so much worse. There are specific examples of people shouting at my colleague on the Finance side, or just being incredibly demeaning. For example, I overheard a Head of Engineering actually shout at her because she came and poked him on the shoulder because he hadn't responded to an email where she asked for an invoice for something. So she was just trying to do her job and the exact thing he said was, "For fuck's sake, can't you see I have my headphones on!". It was the power dynamic and his complete lack of respect, I just got the vibe that, "Oh, you're just the accountant, you're not worthy of bothering me. If you're an engineer, you're worthy of bothering me".

S1.P28: I think being in a leadership position means you're a leader of people, and if you don't value and respect people, not just men, people in general, and see people and all their diversity and emotional spectrum and all that, then you shouldn't be a leader.

S1.P29: There is so much research out there on how companies thrive when there's diversity in leadership.

S1.P36: These tech companies just aren't built and designed to accommodate women.

S1.P37: I'm not a mother, but I hear so many stories of if you're a pregnant woman in tech, then you have to make some really hard choices, or you have to be in a place that really understands your "predicament", your "situation", like you're an anomaly, like, "Oh, you're pregnant, how do we accommodate this?". It's not designed for people to be pregnant. I've become so much more aware of it now that I work in my current company, which is a startup essentially for women who want to build a career and not sacrifice it just because they decided to have a family. A lot of our target audience are couples where both the man and woman, or both sides are high earners and the woman wants to continue her career, and then realise if you have a kid and "I either need to sacrifice my career, or I need to move out of London". Just this realisation that not just tech, but high income industries, so careers like finance or engineering or law, they just squeeze women out as soon as they're women that have children.

S2.P11: I definitely have to say that the overwhelming majority of the engineers that you'll see, the people that are actually in technical positions and have the technical tools, are not women.

S2.P12: Also the clients that I work with, so I'll sit in a meeting with clients, and I'll be in a boardroom with a bunch of men in their 30s to 40s, and there's me a 20 something old Project Manager in the room, and I have nothing in common with any of these people, I don't have any of the technical knowledge to properly uphold a conversation with them. So you really are outnumbered quite often.

S2.P13: One of my really good friends, she's a technical lead, which is essentially the most senior position that you can be in the company other than at a director level. There's six technical leads in my office for my company, and then they all sit under the technical director, and she's the only female technical lead and actually, globally, I think we've got maybe 25 technical leads across the globe, and I think she is also the only female technical lead globally. So I think that says a lot more, but the more senior you go, and the more technical the position, the less women you'll see in the room.

S2.P22: I think it's not just gender, I think it's also age, so, not just being a woman, but being a young woman in the industry. Oftentimes I'm not just the only girl in the room, I'm also oftentimes the youngest by a decade in the room.

S2.P35: Something happened that did shock me to my core with a couple of my co-workers. One of the directors, he's no longer at the company, he basically was a line manager of a female colleague, and she was talking to him about career progression, and long story short, at some point he basically offered sex in exchange for her growth.

S2.P57: I think it would be really great to see more women in leadership positions, because I think the focus has been on bringing more women into the workforce and into the industry, because I think 5-10 years ago, the scales were just an overwhelming amount of men in the industry versus women. Now, you're seeing a lot more women going in and doing computer science degrees at university and that's really great diversity to see, but unfortunately, it just takes time for then those women that are coming into the industry to work their way up into those leadership positions. So over time, I'd like to see women being given the same opportunities to grow within their companies, into those positions, as much as their male counterparts, but that'll be another decade of work to get there.

S3.P4: I think of systems change as something you have to start from the inside, and work within that system, and be able to use it to advocate and then break and reshape something.

S3.P12: I'll tell you my experience with some women leaders my previous job. I was asked to take on a new role, and that would come with a very hefty promotion and bump in pay. At the time I had mentioned that my partner's job was moving us to another country to my manager who was a woman, and her managers who were women still wanted me in that role. When the time came for the promotion, I was put in a position of being asked to take the role without the promotion and money that came with it because I was moving, and they would need to fill that role at the end of the year which was still nine months down the line, so that was pretty brutal. Our HR person who was working through all of this, was also woman, so it didn't feel like I had the support of other women, in a way that I thought, "Gosh, would you do this to a man? Probably not. So you're a woman, why are you doing this to another woman?".

S3.P14: My mentor at that job was a man, he advocated for me, but then I found out after I left, that he was doing shit, like inviting all the guys on his team to a basketball game, organising things just for the guys, and not asking any women on his team. So some women decided to launch a formal complaint against him. They did an investigation, nothing happened, and the following cycle, he was promoted, so that was really disappointing for everyone involved. It was also very hard for me to reconcile that someone who was so good to me could do this, or didn't recognise what he was doing, or just didn't care, whatever it was, to the women on his team.

S3.P24: There's a degree to which I wonder if sometimes women in power just feel like their hands are tied.

S4.P5: So I worked in a team, we were five or six developers, and it was a pretty new team in the company as they used to outsource everything. It was all men, all over 35-40, which was a little tough. I will say I really learned a lot, and I'm forever thankful, I got along with everyone, but the environment was really bad, because not only was I the only girl, I was super young, they were super old, there was nothing in common.

S4.P12: The company is still growing, I'm still the only girl in tech, but in the other areas there are more girls joining which is cool. Still no woman in a position of power, but hopefully one day.

S4.P25: I think the startup world of what I know, is more supportive, but it also lacks. Like the other day, my boss was like, "We've gotten three CVs from women", but my other colleague, replied, "Yeah, but we need to go after women, women apply a lot less". So there's things where companies want to have women, but maybe they don't necessarily actively go after women, and so I think that's that's definitely a problem. I read an article that said that men will apply if they meet 60% of requirements or something in tech, and for women it's 90% or more, so women feel they need to check all the boxes. So companies need to come after us, and I think that doesn't happen a lot.

S4.P44: Now we have an HR department, which is a little better, but before we didn't. There's this weird guy in my company that just makes sexist comments all the time, and he's really obvious about it, and it's disgusting. Now the HR person came, he was the first meeting she had, and she told him off and he can't do anything, which really bothers me. Like I said, my environment is really good, my team is really good, but I really think it's a bubble, because I don't think the environment in the rest of the company is as good, because everybody knew he acted like that and no one did anything. The CEO waited for the HR person to come, to tell her that she needed to talk to him, it kind of sucks, like he could have done it himself, but I think they're friends or something.

S4.P48: I was reading an article that said that one of the reasons why women drop out a lot from tech, especially programming, and go more into product, is because when they take maternity leave when they come back everything is different, and there's really no time to explain what's happening and all that, so a lot of the times women just end up dropping out, or leaving, because they don't feel welcome, they don't feel like they can keep up, because in tech, it's super hard. Like I took a week vacation last year, and when I came back, everything was different, it took me two or three days to understand what was going on.

S4.P49: In my team, I have a colleague that just had a baby and he's going to stay the three months at home, which is the maximum allowed time in [country] for men. He's going to experience everything being different when he comes back, and I'm sure all my team is going to come together and support and help him. He's not even looking at emails, he's just taking care of his baby, which is great. I'm sure we're all going to help him and explain to him what's going on and try to get him back up to speed, and I think that's exactly what should happen to women, that's something that's very important.

S4.P52: I saw a talk with the Commissioner from the European Union and the CEO of Booking.com who is a woman, and she still has a lot less women on the tech side. It's more women than men in the company, but then on the tech side there are less women. They were discussing things like, "What do you think companies should do? What do you think governments should do?". What Booking.com does is they give a lot of scholarships to women for university for STEM and tech, and then women usually go work with them after. They were also saying that it was very important at the government level, that instead of governments enforcing quotas, especially in big companies, they should force companies to share their quotas, because it looks really bad if you only have 10% of women in tech. All these huge tech companies that pretend they're super cool to work in, and then if they have those numbers, it's embarrassing, and people are going to criticise them. So the Booking.com CEO was like, "I think quotas are fine. I think you should force us to share our quotas, because public criticism is very important." So maybe if people see that Apple doesn't work with women, they're not going to buy products.

S5.P16: It would be nice to see more women in higher positions in the tech industry, because even in my last job working as a structural engineer it just seemed that at a certain point women have to choose between a career and a family, and if you choose the family, then usually you're sacrificing those higher positions in the company, and it'd be nice to live in a world where you don't have to do that, but I know that it's hard.

S5.P17: It's really easy to ignore what female employees are going through and what they need when women are not represented in management. So I think having more women in those management positions would probably help to get some recognition on what female employees need to be able to have a career that includes reaching some of those higher positions within companies. Although sometimes, from some experiences I've had I realised that sometimes when you have women in those positions, they won't necessarily be your advocate. Sometimes those women are just as bad as the worst male stereotype in those positions, and I don't know why they're like that, whether it's to fit in with the guys, by like being extra hard on the younger women or what, but I know that doesn't fix everything. But I still think having more representation of women in those positions would help to get more equity in the workplace.

S6.P9: I think those are some positives, but I think more generally, because it's still mostly male-dominated – the vast majority of tech businesses are started by men, and a lot of the funding is coming from men as well – I think there is this imbalance, but as a woman you've got to kind of learn how to exploit it yourself, and I think I'm doing that to some extent, but I guess there are still imbalances.

S6.P10: It's a stereotype, but in my experience it's been true basically, that when women are on leadership teams, in positions of power, there's a much more sort of nurturing environment for employees, and they're just more successful because there is this knowledge base coming from different avenues of life.

S6.P11: Last year when there weren't any women in the Leadership team, by nature of that there were two women, but they both left the company, so there was a period of time where those roles weren't filled by women. During this time, it was very easy for each team and each group of friends to sort of silo off. There was quite significant divisions between departments, because there was a lack of communication, and there were quite a few big egos walking around, so that meant that it was very difficult to communicate with other departments about joint projects, for example. Then socially, there weren't many community projects for the company as in like, thinking about how to make events more inclusive, or how to make our processes more diverse. When these women joined the leadership team, also, because they're both brilliant at their jobs, so it's not just because they were women that these positive changes happened, but after that there was a lot more, particularly because one of the hires was a Head of People. Once the Head of People had joined she was very, very understanding of the issues, and very quickly moved to implement more diverse and more inclusive processes. For example, thinking of team building activities that weren't revolved around alcohol, for example, which not only benefited the women in the team, but obviously also men in the team.

S6.P17: In my previous role, at another company, I raised a grievance with them over pay. Basically, there were two roles in the same team, both with the same title, but both with different specialisms. At the point of hire, I was offered my pick of each of the two roles, so I selected one based on the information that it offered more progression and more development. Then a few months later, that role was filled by a male-coworker, I then found out that he was on a higher pay grade than I was, so I went through a six month long grievance with this company to try and rectify that. In the end, they raised my pay a little bit, but still not to the level that I knew he was on, so that's why I left that company basically. So in a nutshell, I felt very undervalued at that company, because I felt that I had been miss-sold on these two specific roles, by nature of the fact that they hired someone for a role that they told me was not going to offer as much progression or development, but then hired a man under a much higher pay difference. That was one very, very major incident with that company.

S6.P19: In this group chat with my friends that I have that I was talking about earlier, it seems like there's constantly sort of micro-aggressions being described there from male team members. Even last week, a friend of mine, she's also at a tech company, she's in charge of ordering the lunches for the team and one male co-worker was very patronising, and very passive aggressive towards her, because she wouldn't distribute the menu to him early on enough for his liking. So, it seems like because he felt that she was in an inferior position to him, that she's probably paid less than him, that he considered himself as in a superior role to her, he was very passive aggressive and rude to her over Slack and this kind of stuff. So small micro-aggressions like that happen a lot.

S6.P21: Fortunately, I've never had anything happen in my current company, because I think by this stage, I've grown out of accepting that behaviour. So I think when things like that do arise, I'm very, very, very quick to call it out now, because I've had a lot of bad experiences basically while I was quite young. So now that I'm reaching 30, I'm much more confident, I have courage in my convictions basically to call out this behaviour. Which when you're young in a company and when you're a woman, a young woman in a company particularly, it's quite a tough thing to call out this negative behaviour.

S6.P29: I think that there's kind of the default media coverage of the tech industry, and then there's "women in tech", which is another default, which seems to be a very separate bucket of content. I think it's very easy for women's things to be seen as a niche interest, so I think tech as a whole, is seen as a general interest, but by which that defaults to being a male interest, and so women in tech are represented in different ways, in different areas. So for example, there's always coverage of like the Google CEO, Amazon CEO, Facebook CEO, that kind of stuff, they're seen as general interest, but, for example, female CEOs, they're always sort of sidelined to the women's section or the smaller business section, and that kind of stuff.

S6.P30: I think for things like conferences and content, it's becoming more and more important to make sure that you have an equal split of men and women speaking or exhibiting, for example. I think a lot like the music industry, now for example, if festivals don't have an equal split of men and women on the lineup, then it's easy to call them out on it and they get a lot of negative coverage for doing things like that. So I think the tech industry does need to do the same for its PR stunts, its events, it's hiring, but I don't know if it's there yet.

S6.P32: I don't know for sure why it's much harder to find enough women for senior roles, but my instincts are that there are less candidates for these roles because there are less women at those levels. For pretty standard reasons, like, when women go on maternity leave, they leave the workforce and then it's very hard for them to re-enter the workforce, and things like that. I think in tech also, I think it's hard to attract women to these roles, because of this fast paced, high stakes, high energy environment where we are expected to work long hours, we're expected to put in a lot of time and energy in our work, which is good, it's good for me, that's what I prefer to do, but without really solid, flexible working policies and maternity and paternity policies, it's very difficult to attract women at higher levels of seniority into these kinds of companies, unless they have these flexible policies there, which my company has started to do, but it's not completely there yet.

S6.P33: I think it's easy for tech companies to implement cool sounding policies, for example, dog friendly offices. It's very, very difficult, however, to find child friendly offices. I think the newest Google campus, wherever it is in San Francisco, has a gym, a sauna, a cinema, but doesn't have any childcare facilities. I think that was the case, but hopefully they've changed that by now, but that's what I was reading a few months ago. So, it's that kind of stuff where without women seated at the table to implement these kind of company directives, it seems like men just forget the fact that children exist and that a lot of their employees will have children, and so they need to factor in family-friendly policies to make sure that it's accessible enough for people to do their work, even if they have kids at home or kids in the office, or wherever.

S7.P4: I've definitely gone through experiences of being treated differently, I don't think it was solely because of gender, but I think it was definitely a combination of being young and also looking young, and then gender stacked on top of it. When I first started out my career I was super young, I was in a mostly male-dominated industry, and what I noticed that was really interesting – and they were older, so you would have the older dudes and then you would have the older women who might be your colleagues or your supervisors or your manager – but the whole notion of “women supporting women”, I'm going to be completely honest with you, and maybe my experiences are just really narrow, I did not feel like I received that at all throughout the experiences that I've been in. It was more kind of, and I think you hear this in the news and also on Elpha a lot where a lot of women talk about how, because women in an older generation, or the token women in the room, they had to go through all these hardships to get to where they were, they didn't have support, they just had to tough it out, that they kind of almost expect that same mentality to be placed onto younger women. So instead of, “We're kind of in this together, I'm going to help lift you up”, it's more kind of like, “I had it tough, and so I'm going to be tough, maybe even tougher, on you”. More that, versus, there's enough room at the table for everybody, and we should be here together, and I'm going to help you out even more, because I've been in your position and I have more power now, and I want to lift you up. So that has definitely been an experience.

S7.P5: I think another experience is being the youngest and only lady in a room full of these older male Senior leaders. You definitely have that sometimes, because they all have kids, some of them have daughters, you have that father-daughter relationship that's just kind of automatically placed upon you. I mean I've had some great experiences with older male colleagues, where they are in a more leadership position or have more power, and because they're incredibly empathetic, so they really nurture and kind of mentor me to really shine in my job, but then you have other people who are just like, “I don't see any value in what you're offering”, maybe because subconsciously you're young and female, and so I'm kind of going to step all over you. I've had that happen to me and other women that I know as well, from older women leaders, and also older male leaders as well.

S7.P8: I feel like a lot of the companies in the Valley, it's dominated by men, and I'm not saying every single one of them are like this, but more so than often, it is just driven by profit, driven by numbers, like “let's get that equity, let's get that funding, and let's grow grow grow grow grow”, and then you explode because you haven't thought about the foundation, about building a successful business or culture that is inclusive of everybody, and so you burn out your employees, they leave, and then you basically are like, “oh shit this company has no stable foundation at all, so now we're just going to lay off all these people”, and that's not fair to the people who have been loyal to your company, and that's not fair for the new people that you hired. So I think there's a lot of great value that women can add.

S7.P10: You can probably phrase it as maybe Marketing or PR, or is it because leaders really care? You might hear this in other interviews too, but a lot of times it's really whoever is in charge of your company or of your team, they really end up setting the culture and the priorities for the team and it's like a trickle down effect, everything trickles down. If all they care about is driving money, revenue, and profits, then that's how you're going to be measured every single day versus, “Oh, is she super collaborative and she makes all of our stakeholders feel great and she brings out the best”, nope don't care.

S7.P13: I think because a lot of technologies come from Silicon Valley and these companies are kind of seen as leaders, at least in the US, I think a lot of things that they do, a lot of other industries and companies are really eager to adapt. I've had people reach out to me in the past and say, “Oh, what's it like working in Silicon Valley, can I interview you to see what best practices we can implement in our office”. So, whatever Facebook or Microsoft is doing, other companies in the country or even the world want to emulate, and so I think it's really important for them to set a good precedent, because what they do is aspirational and people will follow.

S7.P16: I can't tell you the number of times when early in my career, I started off in a Junior level and I had been expected to work at like a Senior Manager level, and I did not get compensated for it, tried pushing for promotions, did not get it, and would get very vague answers on why I wasn't good. Was it because I am a woman or a young woman, I don't know for sure and I can't say with certainty, but do I maybe feel like subconsciously because of my identity, and maybe some generalisations that society or people might place on that bundle package of my identity markers? Did that subconsciously play a part, probably.

S7.P17: It depends on the company you work at and the culture that you're in, but unfortunately, in more bro-y type cultures, and you're maybe a token woman, or maybe there's two other girls there, for sure you kind of need to masculinise your behaviour a little. To garner respect you essentially have to be one of the guys, it just is what it is. If it's more of a mixed environment, or if you're maybe on an all female team, what I found that has been really interesting is that almost being too much of one of the guys and being too masculine is actually kind of a downfall, because if you're too aggressive, too blunt, and too upfront, then you're seen subconsciously as somebody who I don't know what the right word is, but people just don't think of you super positively. But then if you're too demure or too passive, then you're also seen as somebody who doesn't add value to the team, so it's having to constantly navigate and tiptoe between that if you're on more of a mixed gender team or an all female team, which is really interesting.

S7.P18: I've definitely found that each company has its own culture, and set of values and traits that it really values, and ultimately if you don't fit into that or figure that out, and some companies are more obvious than other companies, but if you don't fit into that then unfortunately you're probably not going to be as well-liked as everybody, or get promoted as fast, or get the shiny projects as fast.

S7.P20: I would love to see the tech industry be a little bit more in tune with the real world moving forward, and also literally moving forward.

S7.P22: Women leaders of startups, especially these emerging startups, like Tyler Haney was basically forced to resign from Outdoor Voices. Apparently, she did some things that people weren't happy about, and then she had some disputes with her ambassadors. I'm not sure. But she did bring up, whether she was in the wrong or the right, a really good point that there's this very popular narrative about media or people trying to basically tear down women founders and talk negatively about maybe their behaviours or the things that they did, and she said that that same level of scrutiny is not applied to male founders. Everybody knows Elon Musk is insane, but people applaud that for him being genius, but when that same thing is applied to somebody like Tyler Haney, she's called all these names, like a horrible boss. Obviously I don't applaud the former CEO of Huawei, I don't know if you heard that story, but she like completely destroyed her employees psychologically. Obviously I don't support that at all, and I'm glad that she got backlash because of it, but it is interesting how these behaviours are extra amplified with women founders.

S7.P25: Even the dating dynamics of a tech woman in San Francisco with tech bros, that's probably another research paper in itself. It's just very interesting because a lot of the themes that I've spoken about and the power dynamics sometimes unfortunately bleed into the dating scene in San Francisco as well. It's just some of the things that I've heard from my girlfriends about these tech bros who they go on dates with and the things that they say... Wow you would never say that to anybody. In their mind they see it as like, you know, I'm just stating facts, I'm like yeah but you know you know, anyways, so.

S8.P7: I was by myself in the department until about three months in, I kind of came in and set everything up. Meanwhile while I was doing all of that, it then came to my attention that I was being paid differently to my new colleague, who also would be the first person to admit that I did more than him, I was basically doing two roles while he was doing one, and much of what he was doing he was able to come in and just do because I'd set it up. So I started to have those conversations around, okay, I'm now doing two roles, let's talk numbers, because you're not going to train me, so let's talk salary. I didn't actually let them know that I knew that I was being paid differently, I just kept on hoping that they would look at their own bloody spreadsheet and go: "Oh, this doesn't make sense".

S8.P9: In the meantime, I'd realised somebody else was being paid differently to her male counterpart, she unfortunately then left, and I left shortly after, because when I had the conversation I was basically being bullied by the Head of Sales, and I wouldn't say HR was joining in, but HR was present when a lot of inappropriate things were said to me. So by then it had become quite a toxic environment: I'd get cut off in meetings; I'd be undermined; as well as just generally not being treated very well as somebody who did a lot for the company. So I made the decision to leave, which was a bit bittersweet, because by that point, they had hired a director who began to do all of the things that I was telling them to do, but getting shut down and treated badly for.

S8.P23: I actually bumped into her after leaving and she was lovely, and I realised that in hindsight, and also when HR left, on her last day, I had a chat with her, and I basically said, "Look, I'm going to be honest with you, I'm disappointed in you. There were some ways that I got treated, that you just stood by for, and as part of that I also want to let you know that I'm really happy that you're leaving because I could see that you're unhappy". These two women had just been turned into completely different people, that's what I learned after. They had been turned into completely different people because of the pressure that they had from above. I'm going to say it how it is, the director is a crap manager, he shouldn't be in charge of people, he doesn't know how to talk to people, he's two-faced, he's very, very toxic, but he then gets other people to do his dirty work, so it's very hard for you to discern that it's actually him.

S8.P26: Company culture is lead from the top down. No matter what you think the leader is like, or what they do or don't do, they set the tone for how things are done. So they show you how to discipline somebody, and you begin to absorb that, you may know within your soul that talking to somebody this way is wrong, but you've seen it modelled, and you've seen that that's how things get done here, so let me just be really rude and disrespectful because that's what you've seen modelled. And there's nobody else to be like, "Actually, no, there's another way of doing this". So these two women in leadership ended up with split personalities, I think that's why even to a certain point one of them stopped socialising, because you have to be so fake. Because what [manager] would say to me behind closed doors was fucked up, and then we'd be in a team meeting or it's lunchtime and she wants to crack jokes with me. I was at the point where she actually lucky that all of the stuff that she'd done behind closed doors, I hadn't told everybody. But it did get to a point where I told people because it was actually ridiculous because she's pretending, and I'm just here in silence, like standard abuse stuff.

S8.P28: So my new manager, I was kind of getting bullied by him in all of my one-to-ones, to the point where I said, I'm not having a conversation with you without HR present because you're not going to make me feel like I'm shit at my job because I'm not, look at the figures. It also got to a point where I was just like, we don't actually need to talk, I don't get anything from you, you don't support me, you don't train me, if I bring a problem to you you make me feel stupid for having the same problem that my other male colleague has, but apparently he's magical at dealing with it. Then also he started to treat me stupidly because I was very open with my experience of anxiety, so then he started to sort of mollycoddle me and was quite patronising, I was not having that either because I do my job.

S8.P29: Then essentially, I found myself crying in the hallway and my friend came to comfort me and told me he did the same to her, and then slowly we realised that there was a network of four women who he was treating the same way. So behind closed doors, he's cutting people off, he's doing the *Sex & The City* where she was like "There's this guy and every time I open my mouth, he puts his hands up", he was doing that to one of them. We were women, that weren't necessarily at the top of the food chain, but we ran shit, if it was our projects, you knew it was our project, we're hosting the meeting, we were good at our jobs, but we found he'd only do it with the women. That was very much when he started to do the whole, "Why don't you be more like [male colleague]". So in front of everybody, "[Participant] is amazing, look at her, she's hitting the targets", but behind closed doors, "Why can't you be more like [male colleague]? Why can't you handle these accounts, what's going on". White male [colleague] who's never had another job? That was what took the biscuit.

S8.P30: Then I had a great experience where he decided to call over a male staff member who was actually quite bad at his job, but was also liar. So he'd say that he'd done something he hadn't, he'd steal people's ideas, we'd do a competition for how many people can phone up customers or send a particular email campaign and he'd make up his figure and log fake calls, that's what I mean when I say he was shit at his job, but was also a liar. And I was sitting down and the manager was just like, "Let's go through your accounts, which ones of these can we give to [male staff member] because you clearly can't handle them". I was blown away, because this was in front of everybody, everything up until that point had happened in our one-to-ones, so nice as pie in front of everybody, then behind closed doors, "You're not doing good enough, what's wrong with you?". That was the last straw for me, because again, I'd protected him, all of these people didn't know that we had all these issues, the only people that knew were the people that he'd also been treating the same way and HR because I messaged her and I said, "Look, this is what he said to me at certain points, I'm not doing it, I'm not standing for it. I love working here, but I cannot take this treatment". Eventually, we all wrote a report.

Card 10: Workplace Bullying, Aggression, Harassment & Differential Treatment

S1.P7: The manager basically ignored all the positive feedback my male colleague got, and explicitly said, "It's because there's so much good feedback from women, so I'm not going to put too much weight on the feedback because it's almost all from women". The truth was that the women were the ones who were conscientious enough to give feedback when asked, whereas the men just didn't have time and stuff like that, so the majority of the feedback was from women.

S1.P8: That was the first proper moment I can remember that I thought: "Wow, okay, yeah, I've experienced this firsthand now, my opinion not being valid because of my gender", and it was just the most ridiculous thing. I didn't immediately act on anything at the time and just carried on with it and my career.

S1.P13: I had a female colleague who was receiving feedback that said something to the effect of "you could be more tactful in meetings". So my female colleague who received this feedback, was very to the point, she wouldn't interrupt people, but she'd be very straight talking, wouldn't take bullshit and would easily call out other people's bullshit and stuff in meetings, but she wouldn't be inappropriate. She received feedback from this older female colleague, male colleagues didn't receive that kind of feedback, and I've been in loads of other environments where male colleagues they interrupt you, they're rude, and more, and that isn't being called out. Like when a woman does it, it's, "Oh, you're not being tactful", or she's kind of being perceived as difficult or that sort of thing.

S1.P17: I used to be a bit hostile towards female networking environments, and that was honestly because in the beginning I didn't understand. I just didn't have the ability to see the world outside of myself and I hadn't experienced at that time firsthand what it's like, and the differential treatment you get.

S1.P19: I think part of the reason why I just never experienced as much differential treatment was because I'm a UX designer, so I'm part of the Product and Engineering team. Connecting with my female colleagues in our little mini network made me realise how, not only for women in tech, but if you're a woman in tech in a non-tech discipline, you're treated so much worse. There are specific examples of people shouting at my colleague on the Finance side, or just being incredibly demeaning. For example, I overheard a Head of Engineering actually shout at her because she came and poked him on the shoulder because he hadn't responded to an email where she asked for an invoice for something. So she was just trying to do her job and the exact thing he said was, "For fuck's sake, can't you see I have my headphones on!". It was the power dynamic and his complete lack of respect, I just got the vibe that, "Oh, you're just the accountant, you're not worthy of bothering me. If you're an engineer, you're worthy of bothering me".

S2.P35: Something happened that did shock me to my core with a couple of my co-workers. One of the directors, he's no longer at the company, he basically was a line manager of a female colleague, and she was talking to him about career progression, and long story short, at some point he basically offered sex in exchange for her growth.

S2.P36: The sexual harassment got reported and he was put under disciplinary supervision. It was just one isolated case and there was nobody to corroborate that that had actually happened, so he was just put under disciplinary review. Then there had been some talks of there being maybe some inappropriate commentary coming from this individual directed towards women exclusively. At some point, there was an incident, I don't know the specifics, but I do know that they had something to do with what happened to my colleague around the lines of some sort of professional reward being exchanged for sex or some sort of sexual action.

S2.P59: It would be great to see all these cases of sexual harassment just disappear. There was an article about this woman who worked at Uber, I don't know if she was the COO or something, and she left the company and came out with this huge article about this big scandal that involved her, and it's Uber! We're talking about a huge tech giant, the kind of company that you would expect to be the example, and it still happened. It would be great if it just never happened again.

S2.P60: I think what speaks louder is the action that companies take after something like sexual harassment happens, so calling it out, and saying: "We hired this person, this person did these things using our name because they are a senior person in a position of leadership, and they took advantage of that leadership and that power and used it to their personal gain, and that is completely unacceptable, and these are the steps that we're going to take to try to not let it happen again in the future. And it might happen again in the future, and then we'll call it out again, and we'll take a stance again."

S3.P12: I'll tell you my experience with some women leaders my previous job. I was asked to take on a new role, and that would come with a very hefty promotion and bump in pay. At the time I had mentioned that my partner's job was moving us to another country to my manager who was a woman, and her managers who were women still wanted me in that role. When the time came for the promotion, I was put in a position of being asked to take the role without the promotion and money that came with it because I was moving, and they would need to fill that role at the end of the year which was still nine months down the line, so that was pretty brutal. Our HR person who was working through all of this, was also woman, so it didn't feel like I had the support of other women, in a way that I thought, "Gosh, would you do this to a man? Probably not. So you're a woman, why are you doing this to another woman?".

S3.P14: My mentor at that job was a man, he advocated for me, but then I found out after I left, that he was doing shit, like inviting all the guys on his team to a basketball game, organising things just for the guys, and not asking any women on his team. So some women decided to launch a formal complaint against him. They did an investigation, nothing happened, and the following cycle, he was promoted, so that was really disappointing for everyone involved. It was also very hard for me to reconcile that someone who was so good to me could do this, or didn't recognise what he was doing, or just didn't care, whatever it was, to the women on his team.

S4.P16: We had a really weird guy that worked for us for like a month, and he was a lot older, but he was a Junior developer, and that was a little complicated. He would yell at me for no reason, be a bitch to me all the time, and my colleagues would always stand up for me and they would tell him off and they would tell him to stop. They'd be like, "You're only doing that because she's a girl, because she's young, that's not acceptable", and then he ended up being fired. So I felt really supported. If I was in a company where no one did anything, it would have been terrible, maybe I would have left.

S4.P18: The other day, a director of the company come to me and said, "You need to organise an event for women in the company", and all my male colleagues were like, "No, there's no reason. You guys are not doing anything for women. She's not going to organise anything." They stood up for me, which was great, I definitely think that helps a lot.

S4.P44: Now we have an HR department, which is a little better, but before we didn't. There's this weird guy in my company that just makes sexist comments all the time, and he's really obvious about it, and it's disgusting. My colleagues call him out, which is cool. Now the HR person came, he was the first meeting she had, and she told him off and he can't do anything, which really bothers me. Like I said, my environment is really good, my team is really good, but I really think it's a bubble, because I don't think the environment in the rest of the company is as good, because everybody knew he acted like that and no one did anything. The CEO waited for the HR person to come, to tell her that she needed to talk to him, it kind of sucks, like he could have done it himself, but I think they're friends or something.

S4.P46: I've seen women be given tasks that are not really relevant and not really what they should be doing, because the men don't want to do it. Their boss doesn't want to do it, and because it's all men, it is what it is. Like asking the Marketing person, which is a girl, to do something that has nothing to do with marketing, just because they didn't want to do it.

S4.P56: In my old company it was disgusting, I had a guy that asked me why porn kept popping up on his computer. He was like, "You're tech right? Like why does porn keep popping up?" What the fuck.

S6.P17: In my previous role, at another company, I raised a grievance with them over pay. Basically, there were two roles in the same team, both with the same title, but both with different specialisms. At the point of hire, I was offered my pick of each of the two roles, so I selected one based on the information that it offered more progression and more development. Then a few months later, that role was filled by a younger male co-worker, I then found out that he was on a higher pay grade than I was, so I went through a six month long grievance with this company to try and rectify that. In the end, they raised my pay a little bit, but still not to the level that I knew he was on, so that's why I left that company basically. So in a nutshell, I felt very undervalued at that company, because I felt that I had been mis-sold on these two specific roles, by nature of the fact that they hired someone for a role that they told me was not going to offer as much progression or development, but then hired a man under a much higher pay difference. That was one very, very major incident with that company.

S6.P18: I think more generally, that company had a very "laddie" environment, so there was a lot of things like if you were part of the right friendship group then opportunities opened up for you, for example, to work on special projects, or to attend events, or to be part of strategy meetings, that kind of stuff. A lot of it revolved around the team activities like football, so if you were part of the football team then you were in a bit of a clique.

S6.P19: In this group chat with my friends that I have that I was talking about earlier, it seems like there's constantly sort of micro-aggressions being described there from male team members. Even last week, a friend of mine, she's also at a tech company, she's in charge of ordering the lunches for the team and one male co-worker was very patronising, and very passive aggressive towards her, because she wouldn't distribute the menu to him early on enough for his liking. So, it seems like because he felt that she was in an inferior position to him, that she's probably paid less than him, that he considered himself as in a superior role to her, he was very passive aggressive and rude to her over Slack and this kind of stuff. So small micro-aggressions like that happen a lot.

S6.P20: Another case from my previous company, a senior member of the team wrote some quite derogatory things about me on a messaging platform, because he didn't know that they were visible, so because he didn't know how to use Slack very well. So that was reported, I think, what's more symptomatic is lack of action on the part of the People team, or the HR team. So after reporting this not much was really done, the HR team didn't take it very seriously, the managers didn't take it very seriously.

S7.P4: I've definitely gone through experiences of being treated differently, I don't think it was solely because of gender, but I think it was definitely a combination of being young and also looking young, and then gender stacked on top of it.

S7.P16: I can't tell you the number of times when early in my career, I started off in a Junior level and I had been expected to work at a Senior Manager level, and I did not get compensated for it, tried pushing for promotions, did not get it, and would get very vague answers on why I wasn't good. Was it because I am a woman or a young woman, I don't know for sure and I can't say with certainty, but do I maybe feel like subconsciously because of my identity, and maybe some generalisations that society or people might place on that bundle package of my identity markers? Did that subconsciously play a part, probably.

S7.P18: I've definitely found that each company has its own culture, and set of values and traits that it really values, and ultimately if you don't fit into that or figure that out, and some companies are more obvious than other companies, but if you don't fit into that then unfortunately you're probably not going to be as well-liked as everybody, or get promoted as fast, or get the shiny projects as fast.

S7.P21: My friend, who was a developer, she was basically sexually harassed by this dude and he got fired.

S7.P22: Women leaders of startups, especially these emerging startups, like Tyler Haney was basically forced to resign from Outdoor Voices. Apparently, she did some things that people weren't happy about, and then she had some disputes with her ambassadors, I'm not sure. But she did bring up, whether she was in the wrong or the right, a really good point that there's this very popular narrative about media or people trying to basically tear down women founders and talk negatively about maybe their behaviours or the things that they did, and she said that that same level of scrutiny is not applied to male founders. Everybody knows Elon Musk is insane, but people applaud that for him being genius, but when that same thing is applied to somebody like Tyler Haney, she's called all these names, like a horrible boss. Obviously I don't applaud the former CEO of Huawei, I don't know if you heard that story, but she like completely destroyed her employees psychologically. Obviously I don't support that at all, and I'm glad that she got backlash because of it, but it is interesting how these behaviours are extra amplified with women founders.

S7.P23: It's just not the same level of scrutiny. I don't know, it just feels like women are on a more scrutinised pedestal, does it make any sense.

S8.P7: I was by myself in the department until about three months in, I kind of came in and set everything up. Meanwhile while I was doing all of that, it then came to my attention that I was being paid differently to my new colleague, who also would be the first person to admit that I did more than him, I was basically doing two roles while he was doing one, and much of what he was doing he was able to come in and just do because I'd set it up. So I started to have those conversations around, okay, I'm now doing two roles, let's talk numbers, because you're not going to train me, so let's talk salary. I didn't actually let them know that I knew that I was being paid differently, I just kept on hoping that they would look at their own bloody spreadsheet and go: "Oh, this doesn't make sense".

S8.P26: What [manager] would say to me behind closed doors was fucked up, and then we'd be in a team meeting or it's lunchtime and she wants to crack jokes with me. I was at the point where she actually lucky that all of the stuff that she'd done behind closed doors, I hadn't told everybody. But it did get to a point where I told people because it was actually ridiculous because she's pretending, and I'm just here in silence, like standard abuse stuff.

S8.P28: So my new manager, I was kind of getting bullied by him in all of my one-to-ones, to the point where I said, I'm not having a conversation with you without HR present because you're not going to make me feel like I'm shit at my job because I'm not, look at the figures. It also got to a point where I was just like, we don't actually need to talk, I don't get anything from you, you don't support me, you don't train me, if I bring a problem to you you make me feel stupid for having the same problem that my other male colleague has, but apparently he's magical at dealing with it. Then also he started to treat me stupidly because I was very open with my experience of anxiety, so then he started to sort of mollycoddle me and was quite patronising, I was not having that either because I do my job.

S8.P29: Then essentially, I found myself crying in the hallway and my friend came to comfort me and told me he did the same to her, and then slowly we realised that there was a network of four women who he was treating the same way. So behind closed doors, he's cutting people off, he's doing the *Sex & The City* where she was like "There's this guy and every time I open my mouth, he puts his hands up", he was doing that to one of them. We were women, that weren't necessarily at the top of the food chain, but we ran shit, if it was our projects, you knew it was our project, we're hosting the meeting, we were good at our jobs, but we found he'd only do it with the women. That was very much when he started to do the whole, "Why don't you be more like [male colleague]". So in front of everybody, "[Participant] is amazing, look at her, she's hitting the targets", but behind closed doors, "Why can't you be more like [male colleague]? Why can't you handle these accounts, what's going on". White male [colleague] who's never had another job? That was what took the biscuit.

S8.P34: It also meant that when [manager] started treating me this way, it made me so angry because I thought I had a place that was safe. And I remember the first time she did it, I went back to my desk and I just sat there and stared blankly at the screen because I didn't even want to be there. I wanted to leave that meeting and walk out of the building, and be like, "You don't actually deserve me". So it was a bit of a PTSD from him and it gave me trust issues, and then she brought some more as well, she added an extra source to the PTSD in terms of, okay, this shit can come from men AND women.

Card 11: Repercussions & Lack of Repercussions

S1.P21: As far as I know there were no repercussions. My female colleague would raise it and then she would be criticised for complaining too much, but then again, this was in an environment where feedback, especially negative feedback, was not well received at all. And I think it was because of the lack of any women in leadership that there was no feedback culture.

S2.P36: The sexual harassment got reported and he was then put under disciplinary supervision, which I think is bullshit, because you should just fire someone at that point, it's completely unacceptable behaviour. It was just one isolated case and there was nobody to corroborate that that had actually happened, so he was just put under disciplinary review. Then there had been some talks of there being maybe some inappropriate commentary coming from this individual directed towards women exclusively, and then this individual put his notice in, so he had like a three month notice that he had to see through. At some point, there was an incident, I don't know the specifics, but I do know that they had something to do with what happened to my colleague around the lines of some sort of professional reward being exchanged for sex or some sort of sexual action. Obviously, she reported that as well, and then his notice was brought forward to immediately, so then action was taken, because there were obviously two people that could corroborate that that had happened to them, but he obviously got out without a scrape on him because as far as the world is concerned, he just quit and made a willing decision to leave the company.

S2.P60: I think what speaks louder is the action that companies take after something like sexual harassment happens, so calling it out, and saying: "We hired this person, this person did these things using our name because they are a senior person in a position of leadership, and they took advantage of that leadership and that power and used it to their personal gain, and that is completely unacceptable, and these are the steps that we're going to take to try to not let it happen again in the future. And it might happen again in the future, and then we'll call it out again, and we'll take a stance again."

S3.P14: My mentor at that job was a man, he advocated for me, but then I found out after I left, that he was doing shit, like inviting all the guys on his team to a basketball game, organising things just for the guys, and not asking any women on his team. So some women decided to launch a formal complaint against him. They did an investigation, nothing happened, and the following cycle, he was promoted, so that was really disappointing for everyone involved. It was also very hard for me to reconcile that someone who was so good to me could do this, or didn't recognise what he was doing, or just didn't care, whatever it was, to the women on his team.

S4.P16: We had a really weird guy that worked for us for like a month, and he was a lot older, but he was a Junior developer, and that was a little complicated. He would yell at me for no reason, be a bitch to me all the time, and my colleagues would always stand up for me and they would tell him off and they would tell him to stop. They'd be like, "You're only doing that because she's a girl, because she's young, that's not acceptable", and then he ended up being fired.

S4.P44: Now we have an HR department, which is a little better, but before we didn't. There's this weird guy in my company that just makes sexist comments all the time, and he's really obvious about it, and it's disgusting. Now the HR person came, he was the first meeting she had, and she told him off and he can't do anything, which really bothers me. Like I said, my environment is really good, my team is really good, but I really think it's a bubble, because I don't think the environment in the rest of the company is as good, because everybody knew he acted like that and no one did anything. The CEO waited for the HR person to come, to tell her that she needed to talk to him, it kind of sucks, like he could have done it himself, but I think they're friends or something.

S6.P20: Another case from my previous company, a senior member of the team wrote some quite derogatory things about me on a messaging platform, because he didn't know that they were visible, so because he didn't know how to use Slack very well. So that was reported, I think, what's more symptomatic is lack of action on the part of the People team, or the HR team. So after reporting this not much was really done, the HR team didn't take it very seriously, the managers didn't take it very seriously.

S8.P32: He got fired. He got fired because he didn't take the feedback. Now to the company, they presented it as he doesn't have the skills to take us where we want to go, but we knew internally that he had had several talkings to from the founders to say you need to be mindful of what the hell you're doing, phrases like this are unacceptable in this company that we're building blah, etc., but he just didn't take heed.

Appendix B – Concept Card Definitions

Definition for Card 1

The Female Experience

The subjective realities, experiences, and feelings connected with being a woman in the tech industry, as well as society. This includes unique experiences, events, and feelings exclusive to a specific individual, as well as overall shared experiences that women tend to go through in life, or experiences that participants have seen other women go through.

Definition for Card 2

Empowerment

A process that enhances autonomy, self-confidence, self-efficacy, self-worth, and self-direction, enabling women to gain increased control and power over their lives. Women can gain power in different dimensions of their life, including psychological, political, social and economic.

Consequences: Feeling more empowered has the potential to increase self-confidence, self-esteem, autonomy, and self-efficacy. Additionally, feeling empowered may have a protective effect against negative experiences.

Definition for Card 3

Networks

Networks are used to interact with others, for example, to develop professional networks, which enable women to build support systems, exchange information, build new skills, share experiences, and ask for advice and resources. Examples of networks include: friend networks; digital networks; networking events and workshops; and networks within the workplace.

Consequences: Networks are useful and empowering support systems and can be used for self-development, to find jobs, further career progression, mentor others or find mentorship.

Definition for Card 4

Diversity

The inclusion of different types of people in a group or an organisation. This includes diversity in gender, race, ethnicity, sexual orientation, disability, nationality, culture, age, and neurodiversity.

Consequences: Diversity can offer a significant competitive advantage as this brings in a diverse set of perspectives, and work and life experiences. Greater diversity in companies have shown superior financial and stronger operational performance, increased innovation, greater team performance, and enhanced company reputation and responsibility.

Definition for Card 5

Representation & Role Models

The depiction or portrayal of women in a particular way. This includes representation of women in the media, as well as in the tech sector. A role model is someone others often look up to as an example, and whose behaviour or success inspires others to emulate this.

Consequences: Increases in representation and the number of role models available may have a positive influence in attracting women to the tech industry, and encouraging women to study science, engineering, and technology subjects. Decreased or negative representation may have the opposite effect, deterring women from pursuing scientific subjects and a career in the tech industry.

Definition for Card 6

Gender Roles & Stereotypes

Gender roles are a set of ideas based on expectations of behaviours and attitudes that are generally considered acceptable, appropriate, or desirable for a person based on their perceived gender. Gender stereotypes are widely accepted judgments or biases about a person or group based on gender.

Consequences: Gender roles and stereotypes existing in society may be reproduced within the tech industry and a company environment.

Definition for Card 7

Insecurities & Preconceived Notions

Insecurities refers to anxieties about oneself. These can negatively impact self-concept, self-efficacy, self-esteem, and confidence. Insecurities here relate primarily to uncertainties and anxieties about one's capacities and skills to succeed in the tech industry. Within the context of this study, preconceived notions relates to opinions formed, as well as beliefs and ideas, about the tech sector and being a professional woman.

Consequences: Insecurities affect beliefs about self-concept and self-efficacy, and can discourage women to enter the tech sector. Preconceived Notions about the tech industry can also deter women from considering a career in the tech sector, as well as discourage women from studying science, technology and engineering subjects.

Definition for Card 8

Workplace Environment

Workplace environment refers to an employee's surroundings when working, this includes the physical environment, work policies and procedures, and psychological aspects such as well-being. This also incorporates workplace or organisational culture which consists of the shared beliefs and values established by leadership and then communicated and reinforced through the organisation, ultimately shaping employee perceptions and behaviours.

Consequences: Workplace environment affects how employees feel about their jobs, influences work habits and behaviours, and influences well-being.

Definition for Card 9

Structural Inequalities & Power Dynamics

Within the context of this study, structural inequalities refers to the embedding of gender inequalities in social structures based on institutionalised conceptions of gender differences. Power dynamics alludes to the manner in which power works in a setting. These dynamics can affect how different groups of people interact with each other, especially in a context where one side has more power than the other (e.g. being a woman in a male-dominated space). Within the context of this study, structural inequalities and power dynamics relate primarily to the tech industry, and relevant companies and organisations.

Consequences: Structural inequalities and power dynamics impact the tone of company culture, and how co-workers communicate and work together. If power dynamics are unbalanced or not quite right, they can damage psychological safety among employees, and also affect whether employees treat other co-workers with respect or disrespect.

Definition for Card 10

Workplace Bullying, Aggression, Harassment & Differential Treatment

This refers to negative treatment women often experience in the workplace. This includes workplace bullying, micro-aggressions, sexual harassment, and discriminatory, biased, derogatory, aggressive, and/or inappropriate behaviour. Moreover, this includes differential treatment women may experience in the workplace as a function of their gender.

Consequences: This influences internal perceptions of an organisation and leads to lower job satisfaction, poorer well-being, and higher intent to leave a company or the tech industry. It may also impact external perceptions of a company, leading to poorer company reputation.

Definition for Card 11

Repercussions & Lack of Repercussions

Repercussions refers to consequences following unjust, wrongful, discriminatory, and biased treatment. Lack of repercussions refers to a lack of consequences following these behaviours. For example, an employee being fired following the sexual harassment of co-workers is an example of repercussions and action taken.

Consequences: Lack of repercussions to unjust treatment can lead to poorer internal (i.e. from employees) and external (e.g. from stakeholders) perceptions of a company, as well as higher intent to leave from employees who experienced this treatment. Repercussions to unjust treatment can lead to better internal and external perceptions of a company.

Appendix C – Concept Card Memos

Memo for Card 1

The Female Experience

“The Female Experience” was created as a category that attempts to encapsulate the intricate complexities and subtleties of being a woman in society and the tech sector, and the unique experiences that come with it.

Memo for Card 2

Empowerment

This category encompassed various types of personal, interpersonal, and collective empowerment. This includes sources of empowerment which influence autonomy, self-confidence, self-efficacy, and self-esteem, and also refers to different arenas of empowerment such as social, psychological, and financial empowerment.

Memo for Card 3

Networks

This category was initially two separate categories; women networks and support networks. Support networks more broadly referred to professional and personal contacts, and relationships (whether digital or face-to-face), which offered emotional, social, and professional support. Whereas, women networks was more specific to developing networks, contacts, and relationships with other women in the tech industry (both digitally and face-to-face). However, women networks also emerged as a significant support system. Therefore, the decision was made to integrate these two themes into an overarching theme, “networks”.

Memo for Card 4

Diversity

This category encompassed all kinds of diversity, including diversity in gender, race, ethnicity, sexual orientation, disability, nationality, culture, age, and neurodiversity.

Memo for Card 5

Representation & Role Models

“Representation” and “Role Models” were integrated as one category due to the close relationship between these. Role models are representations of women that inspire others, and increased representations of women also leads to an increase of available role models.

Memo for Card 6

Gender Roles & Stereotypes

“Gender Roles” and “Gender Stereotypes” were merged into one category due to the close inter-relationship between the two concepts.

Memo for Card 7

Insecurities & Preconceived Notions

Both “Insecurities” and “Preconceived Notions” emerged as separate minor categories. The decision was made to merge these following the consideration that preconceived notions about the tech industry and/or being a professional in the tech industry often led to insecurities about self-concept and/or self-efficacy, and vice versa.

Memo for Card 8

Workplace Environment

Workplace environment consists of both negative and positive work environments. At first, negative and positive work environments were two separate categories. However, these were merged into one overarching category as there was often an overlap. For example, participants would frequently mention both negative and positive aspects of a work environment together. Therefore, the category “workplace environment” better encapsulates the nuances in the environment present in a company.

Memo for Card 9

Structural Inequalities & Power Dynamics

This category emerged as the largest category, following *The Female Experience*. Structural inequalities and power dynamics are one category as they are closely linked. Structural inequalities happen due to imbalances in the distribution of power (i.e., social, cultural, economic, political). This in turn affects power dynamics, and power dynamics reproduce and reinforce structural inequalities.

Memo for Card 10

Workplace Bullying, Aggression, Harassment & Differential Treatment

This category encompassed any kind of negative and unjust behaviour perpetrated by another person. This included micro-aggressions, bullying, sexual harassment, differential treatment, and disrespectful, discriminatory, biased, derogatory, aggressive, and/or inappropriate behaviour.

Memo for Card 11

Repercussions & Lack of Repercussions

Repercussions and lack of repercussions were merged into one concept as these emerged as minor sub-themes, primarily linked to *Structural Inequalities & Power Dynamics* and *Workplace Bullying, Aggression, Harassment & Differential Treatment*. Although these could have been integrated into the two related categories, they were mentioned several times as significant, thus meriting their own category to highlight repercussions or lack of repercussions in the face of unjust, wrongful, and biased treatment.