The impact of Athena Swan accreditation on the lived experiences of early- and mid-career researchers: A qualitative study of an Athena Swan gold award-holding department

Ruby Christine Mathew

University of York

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ABSTRACT

The Athena Swan (AS) charter was established in 2005 as a benchmark charter to address gender inequality issues in UK higher education institutions. In addition to providing a framework for implementing equality and diversity policies and practices among participating members, the bronze, silver and gold awards given by the AS certify participating institution's commitment to and progress towards gender equality initiatives. Despite the increasing significance of the AS benchmark in the UK higher education sector, studies have seldom examined how the impact reported in the studies has shaped the lived experiences of the institutional members. This is especially important for women academics in their early- and mid-career stages in Science, whose voices are rarely recorded in relation to their daily life in AS-accredited departments. Therefore, this thesis adopts a Straussian grounded theory approach using a case study to examine the impact of AS accreditation on the lived experiences of early- and mid-career academics in Science disciplines in a department recognised as excellent in terms of successfully implementing Athena Swan principles within its culture.

This thesis empirically contributes to the literature on the impact of AS accreditation by showing that despite the case study department being recognised as excellent by the AS benchmark charter, the lived experiences of the early- and mid-career academics do not reflect the AS principles of inclusivity in their workspaces. Moreover, AS accreditation can be seen as window dressing with limited impact on the real-life experiences of early- and mid-career researchers. The AS gold action plans, without understanding the specific needs of the postdoctoral researchers, have resulted in its failure to improve the everyday working lives of early- and mid-career researchers who explained the loss of faith in gender equality initiatives like Athena Swan. Thus, in the context of this thesis, it is argued that the Athena Swan has, essentially, failed as an instrument to improve gender equality in academia

Furthermore, this thesis has wider implications for performative theory in relation to subcultural spaces wherein the departmental culture was found to be weak in promoting values of inclusion and support across the subcultures. Thus, the spaces become performative for women, requiring them to perform the ideal scientist role in accordance with the hegemonic norms in their subcultural spaces, suggesting that the AS accreditation of the department has not challenged the ideal scientist norm in Science disciplines.

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AUTHOR'S DECLARATION

I declare that this thesis is original work and I am the sole author. Neither this work nor any part of it has been submitted for an award at this or any other university. All sources are acknowledged as references.

Chapter 1. Introduction

Studies on UK Higher Education Institutions (HEIs) have shown that women are underrepresented in senior roles, especially in Science (Fagan and Teasdale, 2020). Women are also reported to be leaving academic institutions over ongoing challenges they face within academia which studies raise as a concern due to the waste of talent and resources in the academic workforce (Bryant et al., 2017; O'Connor, 2019). The literature generally criticises the structural policies and the cultural practices in Higher Education (HE), which suit male workers, to be the reason for the persistence of inequalities in UK academia.

The continuing underrepresentation of women in Science disciplines in academia, especially in the senior roles, has raised concern resulting in universities developing equality initiatives focusing on women. As per Phipp's (2008) evaluation of gender equality initiatives in UK universities, from the early 1980s, there have been interventions in UK academia towards improving women's representation especially in senior positions. The early interventions started with women students and faculties being encouraged to form groups which were supposed to provide mutual support through mentoring and networking activities for them. A few examples of gender equality initiatives for women in UK Science disciplines included Women in Science and Engineering (WISE); Women in Science and Technology (WIST); Women in Science, Engineering and Technology (WISET) etc and initiatives were undertaken mostly at the university level.

The Athena project, named after the Greek goddess Athena, who represents wisdom, strength and skill, began in 1999 as a response to improve the academic culture which acts as a barrier for women's career advancement in UK academia (Rosser et al., 2019; Wieners and Webers, 2020). The success of the Athena project is said to have led to the establishment of the Athena Scientific Women's Academic Network (Athena Swan) by Equality Challenge Unit (ECU) in 2005 to recognise gender equality initiatives in HEIs. The UK HEIs are encouraged to join the charter to show their commitment towards gender equality and diversity, and institutions can further apply

for the bronze, silver and gold award applications in relation to the AS principles adopted in their organisational structures and cultures. While the initial focus of the charter was on women in Science, this was extended in May 2015 to the Social Sciences, Humanities, Business and Law disciplines. The Athena Swan charter, based on ten key equality principles, encourages the participating institutions to implement them in their organisational policies and practices.

The Athena Swan principles, according to ECU (2020a), are:

1. We acknowledge that academia cannot reach its full potential unless it can benefit from the talents of all.

2. We commit to advancing gender equality in academia, in particular, addressing the loss of women across the career pipeline and the absence of women from senior academic, professional and support roles.

3. We commit to addressing unequal gender representation across academic disciplines and professional and support functions. In this we recognise disciplinary differences including:

the relative underrepresentation of women in senior roles in arts, humanities, social sciences, business and law (AHSSBL); the particularly high loss rate of women in science, technology, engineering, mathematics and medicine (STEMM).

4. We commit to tackling the gender pay gap.

5. We commit to removing the obstacles faced by women, in particular, at major points of career development and progression including the transition from PhD into a sustainable academic career.

6. We commit to addressing the negative consequences of using short-term contracts for the retention and progression of staff in academia, particularly women.

7. We commit to tackling the discriminatory treatment often experienced by trans people.

8. We acknowledge that advancing gender equality demands commitment and action from all levels of the organisation and in particular active leadership from those in senior roles.

9. We commit to making and mainstreaming sustainable structural and cultural changes to advance gender equality, recognising that initiatives and actions that support individuals alone will not sufficiently advance equality.

10. All individuals have identities shaped by several different factors. We commit to considering the intersection of gender and other factors wherever possible.

Participation in the Athena Swan charter is voluntary and there are no set targets or mandatory policies which need to be met for accreditation (Gregory-Smith, 2017). Instead, institutions are guided by the above-mentioned Athena Swan principles to identify gender equality challenges within their institutions and to develop and implement action plans to overcome them. Furthermore, the Athena Swan as an external benchmark charter recognises the participating HEIs' commitment to gender equality by giving them a series of awards based on the Athena Swan application document. Member institutions are encouraged to apply for bronze, silver and gold awards based on the implementation of the Athena Swan principles in the participating academic institutions and departments. The impact of the Athena Swan accreditation on gender equality initiatives in these institutions is generally measured based on the quantitative and qualitative evidence presented in the award application. The bronze award is granted to institutions or departments depending on a self-assessment report on gender equality which recognises the challenges and an action plan to address these challenges.

The silver award is granted to those institutions which show successful implementation of these plans while the gold award recognises sustained advancement towards gender equality in the department (ECUa, 2019). Gold-awarded institutions are considered to be the beacons of achievement with regard to gender equality in HEIs and are considered to be an icon for the academic disciplines and wider society. The AS accreditation and awards therefore are generally considered to be dependent on the institutions' or the departments' commitment to gender equality.

While participation in the charter is voluntary, AS accreditation is arguably used as a marketing asset by HEI institutions to indicate their gender equality initiatives to attract human resource talents and international students (Gregory-Smith, 2017). Also, in 2011, Athena Swan was recognised by the National Institute for Health and Research (NIHR), a major funding institution for medical research among the UK HEIs, where an Athena Swan partnership and silver award was added as a mandatory requirement for HEIs to be funded. Another statement by Research Councils UK (RCUK) in 2013, required the participating institutions to provide evidence of their commitment towards equality and diversity, for which Athena Swan participation can be beneficial (UKRI, 2020). This is claimed to have encouraged UK universities to apply for Athena Swan accreditation to adhere to the Athena Swan policies within their institutions (Rosser et al., 2019). The charter has grown from ten members in 2005 to 164 members in 2020, which is shown as an achievement on the AS website, treating it as evidence of HEIs recognising the importance of gender equality initiatives.

Despite international acclamation of the AS programme, studies on the impact of AS accreditation are sparse, particularly relating to the experiences of early- and mid-career women academics working in an AS-accredited department. Additionally, there are growing concerns about how the self-reported positive impact in AS award documents converts to lived experiences of women academics working in Science departments (McKie, 2020). For instance, O'Connor (2019) questions if interventions like AS have successfully challenged gender issues in the higher education sector given that under-representation of women in senior roles persists.

 It is important to understand this in relation to studies which argue that gender becomes performativ (Butler, 1990) in organisational settings where gender is materialised in the workspace through cultural norms which shape the everyday experiences of women academics. This may position women in disadvantaged position resulting in their negative career experiences and subsequently result in them leaving the academic career. This thesis understands gender as

performativity as developed by Judith Butler in her work, Gender Trouble (1990) which challenges the binary categorisation of gender and argues that gender is constituted and reconstituted through the reiteration of gender norms (Jenkins and Finneman, 2018).

 As Gond et.al (2016) rightfully point out, there are few studies which have explored the notion of performativity in an organisational context, and few in AS accredited institutions. As mentioned earlier, several studies claim that AS-accredited institutions with silver awards shows more positive perceptions in relation to gender equality compared to bronze award institutions or non-award institutions; thus, it becomes imperative to understand how AS accreditation may impact the performativity dimensions in organisations. This helps us to understand how the AS principles may have impacted the everyday working life of women who are considered to have improved experiences as a part of the departments which are awarded 'excellent' in terms of its commitment towards gender equality.   While the notions of embodiment and intersectionality are understood to be relevant when discussing the lived experiences of women academics, it is not in the scope of this research to examine these concepts in depth. Moreover, the key contributions in this thesis are not centred around embodiment or intersectionality.

Therefore, the aim of the current study is to examine the impact of the Athena Swan accreditation on the lived experiences of early- and mid-career academics. For this purpose, this study uses a grounded theory approach to conduct the research in a research-intensive Science department which holds an AS gold award, positioning the department in the excellent category for its gender equality initiatives.

1.1. Significance of the Study

This thesis aims to investigate the impact of the Athena Swan accreditation on the lived experiences of early- and mid-career academic women in an AS gold-awarded department in a research-intensive Science department. While there are ample studies addressing women academic's continuing under representation in the Science subject areas, the literature assessing

the impact of the Athena Swan initiatives suffers from limited evidence in showing how these initiatives are transformed into the lives of women academics (Schmidt and Cacace, 2017). Therefore, the empirical evidence in this thesis contributes to the discussions on the impact of external benchmark charters like Athena Swan on the gender equality issues in Higher Education Institutions in the UK. It addresses the gap in the literature by reporting the voices of the early- and mid-career researchers in Science disciplines and shows how the departmental action plans in an AS excellent department transform into their lived experiences. Also, this thesis offers empirical evidence by adding the experiences of departmental members in an AS accredited department who may not be directly involved in the AS departmental process. The findings further address the gap in the knowledge by connecting subcultural theory to the performative spaces in the HE institutions. This thesis contributes to the emerging literature on spatial performativity by illustrating the gendered dimensions of the subcultural spaces and how women negotiate their everyday working lives in these spaces.

Contribution to Knowledge

Despite the Athena Swan gender equality charter monitoring equality initiatives in academia, the persistence of under-representation of women in academic Science continues to raise concerns. As Blackburn's (2017) and Avolio's (2020) literature reviews on gender issues in Science careers highlight, the research continues the struggle to understand the challenges women academics in Science disciplines face from the entry level to different stages of progression. This further recommends the requirement to give voice to women who continue to be a minority in Science disciplinary areas. The studies which have examined the gender issues women face in academia have recognised early- and mid-career researchers as a group which struggles to survive in academia (Hart, 2016; Hollywood, 2019). Despite the scenario, the current literature shows a gap with studies seldom having documented their voices; therefore, this thesis empirically contributes

to the literature by reporting the voices of early- and mid-career researchers, an area which has often been neglected in previous studies.

Secondly, studies have rarely addressed how the equality initiatives in the UK HEIs are transformed into the lived experiences of early- and mid-career researchers. The recent Athena Swan application documentary analysis of Barnard (2017) identifies the AS accredited departments' focus on early-career researchers as a significant area of activity in their application documents. Despite the growing importance given to the ECR population in the departmental application, studies have seldom focused on reporting how the Athena Swan targeted action plans in the application documents have transformed into the daily lives of mid-career researchers. Therefore, this thesis addresses the research gap by illustrating how the Athena Swan departmental accreditation transforms into the everyday working-life experiences of early- and mid-career researchers.

Additionally, in the light of continuing challenges for women in academic Science, recent studies question the evidence showing the impact of gender equality initiatives in academia. For example, Laver's (2018) examination of gender equality interventions across academic disciplines concluded that the current literature shows limited evidence to demonstrate how gender equality interventions like Athena Swan impact women's experiences in academia. Previous studies which attempted to examine the impact of Athena Swan interventions have mainly focused on the use of quantitative evidence and examining the AS award application documents (Ovseiko, 2017b). This limits the information provided to the academic institutions in terms of how the action plans developed as a part of the AS initiative to improve equality practices have transformed into the lived experiences of the departmental members and limits their opportunities to have improved designs to positively impact the working lives of women academics. Therefore, this thesis will contribute to the emerging literature on the impact of the Athena Swan gender equality monitoring

charter on the experiences of women academics in HE by reporting on their everyday working lives.

Furthermore, the qualitative investigations on the impact of AS accreditation also mainly focus on the application documents, qualitative surveys, information collected from the Self-Assessment Team (SAT) members and the success stories explained by the women engaged with the Athena Swan process (for example, Barnard, 2017; Ovseiko, 2019; Schmidt, 2020) with less regard for the women who are not directly engaged with the Athena Swan departmental application process. This study therefore empirically contributes to the knowledge by reporting on the impact on women who may not be directly involved with the Athena Swan departmental process.

Additionally, it contributes to the current understanding on the impact of gender equality external benchmark charters in terms of improving institutional commitment towards gender equality. It shows that the AS external benchmark accreditation and the awards may only involve superficial benefits rather than having any real-life impact on early- and mid-career researchers. Thirdly, there are limited studies which understand the lived experiences of women academics, especially in Athena Swan gold-awarded institutions which are recognised to be *excellent* in addressing the cultural issues related to gender equality in institutions (ECU, 2019a). Moreover, recent studies discussing the impact of the Athena Swan have questioned if the perceived positive impact reported in the AS accredited institutions is the result of the departmental AS accreditation (Caffrey et al, 2016; Gregory-Smith, 2017). This shows a gap in the literature in understanding academic women's experiences as part of a department which is considered *excellent* by the AS charter in terms of promoting positive cultural changes in academia. Therefore, this study offers empirical evidence by reporting the impact of the AS gold award by investigating the lived experiences of women in an AS gold-awarded Science department.

Also, this research has implications for the theory, in relation to the subcultural spaces which become performative for women. The findings reflect the issues faced by women from an

organisational culture perspective where the cultural norms in the organisational spaces become performative for women. There are few studies which have explained the concept of spatial performativity in relation to gendered organisational cultures. Though there are some studies which examine how gendered relations are reproduced and maintained in organisational cultures, according to the recent review by Beyes and Holy (2020), there has been limited investigation into how spaces matter in a gendered context through daily organisational performances. These studies include Skoglund and Holt's (2020) action research which considers how gender binaries are rationalised in workplaces; Liu and Grey (2018) examine gendered spaces using an archival study and van Amsterdam (2015) uses an autoethnographic account to show her embodied experiences as a maternal body in a Dutch university department.

Other studies which engage with gendered spatial work using participants' interpretations of daily use of organisational space include Tyler and Cohen (2010)'s focus on aesthetic usage of spaces which extends Butler (2011)'s performativity in organisational spaces showing the embodied notion of spaces which become performative for women. Similarly, Wasserman and Frankel's (2015) study applies Lefebvre's spatial theory to an Israeli Minister's Headquarters showing the experiences of how gender is constructed and reproduced through the spatial arrangement of buildings. However, the findings of the current study extend the performative dimension of spaces to subcultural theory and explain how the spatial norms become different in the workspaces resulting in differential experiences for women. Thus, it connects subcultural theory to the theory of gendered spaces in the organisations providing evidence showing the spaces to create different meanings for women despite similar structures.

Finally, the findings extend the performative dimension to the Athena Swan activities in the department itself which are explained as creating an *outsider* feeling for early- and mid-career academics. The inclusive and supportive culture claimed as a result of the Athena Swan accreditation by recent studies is challenged in the current study which shows the Athena Swan

process itself creates feelings of invisibility for women. As shown in the review of Gond et al. (2020), there are few empirical contributions towards performative dimensions of gender in academic institutions while an understanding of the Athena Swan becoming performative for women is rare. The current study shows women's experiences of feelings of invisibility in relation to Athena Swan activities in the department and the high visibility in the website and award application. Therefore, the findings of the current study also contribute to the performative notion of Athena Swan itself in the case study department.

1.2. Methodological Considerations

This study relied on a qualitative methodology adopting a grounded theory (GT) strategy to examine the impact of the AS gold award on the daily lives of early- and mid-career academics. Grounded theory was developed by Glaser and Strauss in 1967; it presented a rigorous method for qualitative research through systematic data collection, analysis thereby contributing to the theory grounded in data. There are two streams of grounded theory: Classic GT and Straussian GT derived from the differences raised by Strauss and Glaser. Strauss and Corbin's (1990) reconfiguration of Classic GT offered a systematic method to deduce theory from data resulting in Straussian GT.

My decision to follow the Straussian path was mainly due to the practicality associated with the PhD research. Unlike Classic GT which requires the researcher to go into the field without engaging with the literature, Straussian GT allows the researcher to indulge in an initial literature review. The departmental guidelines require the PhD researcher to demonstrate their familiarity with the field before being sent for data collection. Therefore, the flexible nature of Straussian GT and the non-committal literature review which provides a safety net for a novice researcher factored in my decision to use Straussian GT in this research (Urquhart, 2012). For that purpose, an AS gold-awarded Science department in the UK was selected as the case organisation to examine the lived experiences of women academics. The study used semi-structured interviews,

document analysis and participant drawings, as data collection methods. The data analysis was conducted with the assistance of NVivo software which further facilitated the theory-building process. NVivo further facilitated the clarity of the iterative process of GT, further supporting the validity of the study (Hutchinson et al., 2010).

1.3. My Background

In line with the epistemological underpinnings of the current study, I consider myself an integral part in the research process and therefore, I acknowledge that my personal and professional experiences might have had an impact on this research study. The initial motivation to explore the current research area on the gender issues women face in the organisational context emerged from my personal journey. I come from a South Indian society, where like other girls around my hometown, I grew up under the watchful eyes of society; we were required to '*sit, stand, walk, speak*' (Young, 1980) and dress appropriately like girls. A bowed head, lowered voice and body parts well covered and clad in long clothes were considered ideal for good girls. Moreover, the social space was limited; we were required to be home before sunset and I found meaning in Young's (1980: 154) words, '*a girl who does not follow these social spaces can be violated by the extreme form of such spatial and bodily invasion as the threat of rape*'. The women who did not succumb to these roles were threatened with the fear of rape and other sexual harassment.

Rape in India is pretty common, and often a woman's character is questioned when facing such violent invasion. I am currently writing up this study in the wake of a countrywide outburst in response to a gang rape case in Uttar Pradesh where a lower caste girl was gang raped, beaten up and had her tongue cut out resulting in her death (BBC news, 2020). Similarly, the infamous Nirbhaya rape case in 2012 was a painful turn in my life when the newspapers reported the politicians in the country openly blaming the deceased girl's character for occupying public spaces after dark. While we often complied with the performativity conditioned through the cultural

norms of our society, for many women, the Nirbhaya incident spurred questions on spatial restrictions faced by women in the face of threats of rape and violence.

Thus, my research journey had already started as an idea; my questions were forming, trying to understand the unequal societal cultural norms restricting women's lives. During my graduate studies on journalism, I further came across women's experiences, outcries of being discriminated against in the workplace. They talked about their embodied selves being restricted by the spaces they occupied in the workplace and being reminded not to provoke the male co-workers through their sexuality. Some described losing their jobs when they got married, often reminding employers of the reproductive bodies of women as a liability. Others talked about quitting jobs after marriage since they found their professional identity questioned by co-workers and employers after marriage. The women I interviewed always talked about these experiences, about how they were required to quit their jobs since the employers did not find it feasible for them to have roles as home makers and full-time workers. The project did not get published, but the experiences influenced my understanding of women in an organisational context.

My personal experiences as a working woman started as an office administrator in an international retail company in Dubai. During my interview, the interviewer asked me if I planned to conceive soon to which I replied '*No*'. I did not understand the relevance of my reproductive function in relation to the job. Though the experience left me perplexed, I accepted the job offer and started working in the office. I kept trying to figure out my space in the office, trying to fit in, and working hard. It took a year, but I was finally fitting in, trying to follow the unspoken but essential office norms of working long hours. It was then that I got pregnant!

It was unexpected; I felt guilty. I did not know if I should inform the office manager that I was pregnant. I was not too stressed about informing the office manager of my pregnancy, since it was not *so soon* after I had started working in the office. However, I felt conscious, embarrassed and somehow felt my personal spaces invaded when I went to talk to my male manager about my

pregnancy. I could say it was uncomfortable for both of us, but I was assured that this would have no impending consequences on my job. However, I felt the need to prove my loyalty. Despite severe morning sickness, swollen ankles and a growing stomach, I dragged my monstrous body across the office and continued to put in long hours, overcompensating for my pregnant body.

I often negotiated my bodily needs over the requirements of the office duties. I did not take a sick-day, and continued training new admin staff. It was then that the promotion came up for senior office administrator. I had earlier been assured by my manager that I was fully eligible. I was managing the admin department by then, as well as training new admin employees. It was just the job title and the payment which were missing. It was in a Monday morning meeting that Human Resources (HR) announced that a staff member who had previously finished training under me would be promoted to the senior admin post.

I felt myself close to tears. I couldn't believe the news. Maybe I had heard wrong. I needed to talk to HR. I went to the HR office, trying to make sense of what was happening around me. The HR manager, as always, welcomed me with the smile, asked me to take a seat and explained the situation. They needed a reliable person for the position, preferably a man, who did not threaten the institution with the possibility of childbirth-related leave and other responsibilities. The ideal candidate for the senior position, therefore, was a man whose professional body, unlike mine, did not intrude in the public domain. The incident left me devastated. I felt betrayed and understood that no matter what, I could not win. I felt defeated. I quit the job!

This experience at my workplace acted as a driving force to look within the area of women's experiences in the workplace and the ways work life is negotiated. I acknowledge my personal experiences have had a lasting impact on my identity as a woman and as a researcher. In undertaking the current research journey, I was guided by my passion about gender issues women face in the workplace, the spaces we constantly negotiate and the opportunities we miss in the workplace.

PhD Journey

At the beginning of this research journey, guided by my passion for the subject, I was very excited about making a difference and I thought the passion I felt for the area of gender inequality could guide me through the research process. However, I found the journey to be difficult, sometimes fuelled by the events in my personal life. Many times, I found myself falling into the edges of anxiety, panic attacks and depression. The major aspect was that my life experiences as a South-Indian woman and as a dissatisfied employee in my previous occupation often drove me towards the habit of making 'assumptions' in the early research stages. This was prominent while conducting the research review, when my supervisors kept striving to guide me not to make prior assumptions. Despite constant reminders from my supervisors to avoid assumptions, I found my personal experiences guiding me towards the idea of maternity itself as being the problem.

However, after constant struggle throughout the prior phase of reviewing the literature and research questions, it was decided that I needed to focus on a topic which could make a contribution to theory. Therefore, with the help and guidance of my supervisors it was decided that I would focus on understanding the impact of the Athena Swan accreditation on the experiences of academic women. The initial focus of examining the experiences of pregnant and new mothers was considered not practical due to the limited sample available from a single department. Moreover, it was decided that capturing a wide range of experiences of women at different academic career stages would give me a wider perspective while analysing the data.

I found the first phase of the research process challenging and found myself eagerly waiting for data collection. The data collection phase was the most enjoyable time in the research process. My participants, all of them having finished their PhD studies, were eager to help with the research. I found many participants were empathetic towards my position as a PhD researcher, having had to go through the same journey at some point in time. My identity as a female researcher played a

role in gaining their trust and they offered me specific personal information on their roles as women academic researchers in the workplace.

Also, my experience as a professional interviewer during my journalism studies helped in developing a rapport during the interviews. This resulted in the participants providing me with detailed explanations of their everyday working lives, how they negotiate their workspaces and their embodied experiences. During the early phases of data collection, I felt fear and anxiety, unsure of the responses from my participants, and towards the end, I felt myself more confident and satisfied. In turn, I wanted to do justice to the trust bestowed upon me; therefore, I genuinely tried to interpret the participants' views and represent their voices in this thesis.

Finally, the data analysis phase was a much-anticipated phase in the research process. Due to the volume of rich data and the time constraints associated with the research project, my supervisors advised me to consider using NVivo software, to assist me with data analysis (a detailed description of NVivo is given in the analysis section). I was anxious since I had no prior experience with NVivo software, hence a two-day course was recommended by my supervisors. I secured a place on an NVivo training workshop where I received detailed hands-on training to do data analysis. I also engaged with a one-to-one training course on NVivo offered by my university. This helped me to gain more confidence in the analysis and writing up processes.

To conclude, I was aware that my personal and professional experiences could influence the research process; therefore, I kept a reflexive diary to record my feelings, and experiences throughout the research journey. Reflecting upon this journey, I find myself coming back to the sentiments I shared at the beginning of this journey. I want to make a difference to the women who struggle to find their spaces in the workplace. I am now at a place where I believe, '*little drops of water make the mighty ocean*' (Carney, 1845). I hope to provide a voice for the early- and mid-career researchers who struggle to negotiate their spaces in the workplace, who are sometimes overlooked in the academic community. I believe that this thesis can support the academic

institutions to review their gender equality initiatives, and gender equality charters like Athena Swan to review their evaluation criteria for excellence.

1.4. Research Questions

The main research question at the beginning of the data collection was very general as required by grounded theory which advises the researcher to keep an open but not an empty mind while starting the data collection. Therefore, with an aim to reflect the everyday experiences of women academics in an Athena Swan gold-awarded department, this research started with the basic question:

1. What is the impact of Athena Swan accreditation on the lived experiences of women academics? Further questions emerged during the data collection and analysis process including:

1. How do early- and mid-career academics understand their workplace in relation to their mini cultures in an Athena Swan gold-awarded department?

2. What are the manifestations of the mini subcultural practices on women's experiences in an Athena Swan accredited department?

3. What are the impacts of Athena Swan departmental initiatives on the experiences of women in these subcultural spaces?

1.5. Thesis Overview

In this chapter, I have presented a brief review of this thesis and argued for the requirement to conduct this study using the Straussian GT approach. This Straussian GT research begins with a brief non-committal literature review critically reflecting the current approaches on gender equality with particular focus on HEIs in the UK. In the literature review, there are three sections to guide the researcher to understand the current debates on gender equality issues in UK HEIs.

Firstly, the chapter highlights the meanings and definitions of gender, its evolutions and the current debates. Secondly, the implications of gender from an organisational perspective illustrate structural and cultural inequality perspectives particularly in the context of UK HEIs. Finally, I have shown the current discussions which focus on the Athena Swan charter interventions in UK academia and their impact on gender equality initiatives. This chapter also highlighted some areas which have been rarely explored in the literature.

The next chapter focuses on the methodological considerations of this thesis. The chapter illustrates different qualitative approaches and the justification for this study to adopt Straussian GT. Next, a brief review of the case study organisation and the methods of data collection are presented. Finally, the chapter concludes by showing the data analysis procedures and the ethical considerations in this research.

The fourth and fifth chapters focus on the findings of the study showing detailed analysis by using the narratives of the respondents. The categories derived from the interviews are thematically arranged using NVivo and presented as findings in this chapter. This chapter also demonstrates the findings through memos, participant drawings and some documentary evidence. In Chapter 4, I illustrate how the experiences of the participants are linked to the subcultural spaces they occupy in the department. It further identifies two subcultures which display differential cultural norms demonstrating the lack of uniformity in the inclusive and supportive principles of the Athena Swan across these subcultures.

In Chapter 4 I present Subculture A, which was the minority consisting of only two corridors. However, I found Subculture A to be significant in the current research context which shows the impact of the spatial narratives for women's experiences. Moreover, this further illustrates that the positive experiences for women in the AS accredited departmental spaces might not be always reflective of the Athena Swan principles embedded in their cultures. Chapter 5 presents evidence of Subculture B, identified as characterising the majority of the corridors in the department. It

further illustrates that the Athena Swan has not yet challenged the ideal scientist norm associated with masculine practices in the department, which may have negative implications for academic women.

Chapter 6 presents the discussion in this thesis; the thematically analysed data are further critically discussed in this chapter where the theory emerges from the data. It draws upon the evidence across Subcultures A and B to show the implications of the subcultural norms for performativity theory. Moreover, the discussion focuses on the impact of spatial performativity in relation to the Athena Swan principles towards retention of early- and mid-career women researchers in academia. In general, the chapter discuss the spheres of contribution to knowledge on the impact of the Athena Swan accreditation in gold-awarded departmental cultures. Finally, the concluding chapter presents the recommendations for institutions, alongside the wider implications of the Athena Swan Equality Charter.

CHAPTER 2: LITERATURE REVIEW

This chapter presents a broad review of the literature focused on gender issues and the practices to achieve gender equity in organisations. While classic grounded theorists recommend the researcher should not conduct an early literature review so as not to contaminate the theory with prior assumptions, the Straussian GT approach supports a literature review in the early stages of research. This is because an earlier review of the literature provides the researcher with a wider perspective to guide the data analysis, inform the researcher on the significant issues in the research area and shows the researcher gaps in the knowledge (Birks and Mills, 2015). Also, as a PhD scholar, it was important that I show my understanding of the current area of research prior to being allowed into the field for data collection. Additionally, as a novice researcher, a general understanding of the current debates and the possible contributions was necessary to boost my confidence. Therefore, I followed Straussian advice to conduct a non-committal literature review in this study. However, it is advised that grounded theorists should not dwell too heavily on the literature since this can lead to contamination of the data, thereby forcing data in the wrong direction. Therefore, from the Straussian point of view towards GT, the current study has maintained a purposefully broad literature review prior to the data collection.

To understand the AS gender equality initiatives in UK HEIs and their impact on women's experiences, it is important to understand the meaning of gender itself. I will begin this section by giving a brief history of the emergence of gender as a key concept in sociological studies. This will be followed by a discussion involving the key debates on gender in the sociological context. The next section will present the current debates on gender from an organisational perspective. Finally, the literature on AS gender inequality interventions in UK HE contexts will be examined.

2.1. Understanding Gender: History and Development

From an earlier sociological perspective, gender was considered as *natural*, *given* or sometime as referring to societal *roles* which rendered gender unproblematic (Jackson and Scott, 2002). Such an understanding of gender was questioned by the earliest liberal feminist theories which were concerned with the inequality between 'the sexes' designated by biological characteristics. Though the work of De Beauvoir (2010) in *Second Sex* raised the issues women faced in the social designation of sexual roles, the academic usage of the term 'gender' is the result of the Women's Studies Movement in the 1960s and 1970s as an attempt to insist on the social inequality of sexual differences (Scott, 1987). According to Glover and Koplen (2000), 'Sex and Gender: On the development of masculinities and femininities' by Robert Stroller (1968) is the first study to distinguish 'sex' and gender.

From a psychological perspective, Robert Stoller provides clinical evidence to argue that biological sex is independent of psychological sex thereby shedding light on the differences between sex and gender. Stroller explains the parental influence in the creation of gender identity thereby formulating concepts of femininity and masculinity in this process (Bradley, 2013). Stroller's analysis of gender identity is considered to have inspired Ann Oakley's (1972) influential feminist text, *Sex, Gender and Society*, which treats sex as biological and gender as culturally and socially constructed. Oakley (1972) defined gender as the socially and culturally created rules of masculinity and femininity [the rules created by the society in terms of how men and women should behave based on their biological differences].

Unlike Stroller's analytical use of the terms, Oakley's theory of gender linked the concept of gender to the inequality experienced by women. Bradley's (2013) review of gender theories claims that this approach of Oakley (1972) and other feminist researchers (including Millett, 1971; Mitchell, 1971; Rubin, 1975) was critical of the feminist case to contest the view of sex as 'natural' arising from genital differences and thus impossible to change and laid out a functionalist approach to gender role theory (Parsons and Bales, 1956).

While the earliest feminist theories were concerned with themes of equality for the sexes, this approach was questioned by socialist feminists like Betty Friedan (1981) for it does not recognise difference; she argued that '*there has to be a concept of equality that takes into account that women are the ones who have babies*' (Friedan, in Tong 1998: 30, cited in Calas & Smirich, 1999), urging us to recognise the difference referring to the example of women's reproductive capacity. Therefore, the scholarship on gender equality turned from themes of equality to themes of difference by the 1980s and 1990s, focusing on the difference between sex and gender [sex as biological and gender as socialisation into sexed beings] giving rise to gender role theory (Calas & Smirich, 1999). Gender role theory therefore has been the dominant sociological perspective in the debates about sex difference (Connell, 1995).

The basic idea of gender role theory was that gender roles were acquired through socialisation in relation to masculinity and femininity being the dynamic arrangements referred to as '*configuration*' by Connell (1995: 72) of the social practices of gender. While the feminine holds behaviours placed in the expressive category, including warmth, affectionate, gentle, compassionate etc., the accepted masculine behaviours include leadership, ambitious, analytical, decision-maker etc. (Yockey, 1978). Thus, woman's oppression was attributed to her feminine self; for example, the resistance towards women's entry to universities was justified by claiming that women's '*feminine mind was too delicately poised to handle the rigours of academic work*' (Connell, 1995: 21). Therefore, the mental difference would interpret their capacities in their role to be a good wife and mother rather than their intellectual capabilities.

By the late 1970s, the feminist sociologists argued for abandoning gender role theory since it masked the power constraints of gender (Carrigan et al., 1985). This dichotomic attempt to define gender as the male role and the female role gives gender a '*separate but equal*' (Walsh, 1996: 62) relationship between men and women. This over-simplistic definition of gender has failed to bring out gender inequality sufficiently. Moreover, role theory failed to consider the dynamics of sex

roles in different social situations. For example, Yockey's (1978) study examined the masculine and feminine in social and work situations and found that women express more masculine traits at work. This indicates that it is the context that shapes the behaviour, or the behavioural patterns can change according to different situations rather than the limited strategies for change implicated in role theory. Thus, the sex role approach was limited in its focus towards gender by not considering the diversities of gender relations and the fluidity of the gender construct. Moreover, the naturalistic view of gender roles was challenged by arguing that gender can be unlearned. Feminist studies largely drew on the work of French historian and philosopher Foucault (1980) on the history of sexuality which explained the development of sexual categories and identities through different centuries to discuss the artificial nature of gender. Thus, the constructivist perspective towards gender challenged the binary notion of gender and considered it be an oppressive system of thinking.

2.1.1. Gender as a Social Construct

For Connell (1983), gender as a social construct is a more complex concept which can be explained through the relationships between power and desire. Connell examined the gender practices and the gender order which empowers certain men and constrains others and developed different forms of masculinities and femininities. She developed the concept of '*hegemonic masculinity*' [dominant masculinity in relation to other forms of masculinities] where hegemony is the dominance acquired through a state of play where other groups are not eliminated but marginalised (Connell, 1987). This makes hegemonic masculinity the elite form of masculinity positioning the other masculinities in relation to it and legitimising women's subordination (Connell & Messerschmidt, 2005). While Connell (1987) argues that hegemonic masculinity is constructed as the dominant masculinity, she also introduces '*emphasised femininity*' [soft, sexually coy] as a counterpoint to hegemonic masculinity posing '*sexes as opposites*'. Thus,

according to Connell, gender relations constituted through social practice can be changed according to social situations. Moreover, she emphasised power as a major constraint in the construction of gender in different social relations.

The approach towards gender as changeable in relation to social situations is contested by West and Zimmerman (1987), in their ethnomethodological text, '*Doing gender*', where they claim that, as members of society, we do gender through interactions and doing gender is unavoidable. Contradicting the argument of subversion of gender binary theories, West and Zimmerman maintained that gender can never be undone. Developing this idea through the work of Goffman's 'Gender display', they argue that doing gender involves a complex of socially guided perceptual, interactional and micro-political activities of feminine and masculine nature' (1987:127). In this account, gender is a routine, methodical and recurring accomplishment. This theoretical framework has received considerable recognition among feminist theorists; in 2005, there were over 60 articles published that employed the notion of '*doing gender*' (Deutsch, 2007; Martin, 2003), and in 2009, a symposium and special issue of *Gender and Society* (Jurik & Siemsen, 2009) was dedicated to the topic.

The debate continues regarding the possibility of '*undoing gender*' with Connell (2010) presenting the case of transpeople arguing a transformative way to experience the workplace while West and Zimmerman argue that gender cannot be undone, stating that '*undoing*' implies '*abandonment*' (2009: 117) and they do not consider accountability (that it makes no difference). In a similar tone, Brewis et al. (1997) imply that one cannot completely step outside the concepts of gender which society holds, although you can parody or play with them [through the example of gender non-conforming dressing]. However, Judith Butler (1990) further argues that the deconstruction of these cultural heteronormative norms is essential for challenging social inequalities. Butler further expands the debate where she explains that the regular compulsory

performance of cultural norms legitimises the gender binary thereby explaining the theory of performativity.

2.1.2. Theory of Performativity

The theory of gender as a doing is elaborated by some researchers, whereby they argue that doing gender is normative in the sense that gender is not just a norm but becomes a regulatory practice (for example Butler,1988; 1990; 1993; Brewis et al., 1997). The most notable feminist approaches of Butler in her influential texts, *Gender Trouble* (1990) and *Bodies that matter* (1993) received considerable recognition in the field of gender. Butler was notable in challenging the sex/gender distinctions thereby arguing that sex itself is not natural but rather culturally inscribed femininities or masculinities from their social existence. The unnatural notions of sexual category are also presented in the earlier works of Brewis et al. (1997) where they use the example of a clownfish changing its sex in its life journey. They further argue that the possession of particular genitals results in people being automatically assigned to the binary gender category. Therefore, binary constructions of gender are argued to be legitimised and reproduced through existing discourses.

Adopting a distinctive approach towards gender, Butler (1990) further developed the theory of performativity when she emphasised that '*Gender is an identity tenuously constituted in time, instituted in an exterior space through a stylised repetition of acts. The effect of gender is produced through the stylization of the body and hence must be understood as the mundane way in which bodily gestures, movements and styles of various kinds constitute an illusion of an abiding gendered self*' (1990: 140). This means that gender is constructed through everyday acts; however, she claims that these acts are performative iterations and necessitated by regular practices of gender consistency.

Unlike previous gender theories, Butler treats this performance as a compulsory reiteration of norms. In her words, '*the "performative" dimensions of construction are precisely the forced*

reiteration of norms' (Butler, 1993: 94). The iterability is thus a normalised and constrained repetition of norms, a necessary condition for the performativity, giving performativity an act-like status while hiding its practice of reiteration. This means that performativity involves repetition of gender norms where these constraints are not just representative of performativity but the condition of performativity.

Thus, the theory of performativity considers gender as an act of politically compulsory performativity which is culturally inscribed. Authors of gender punish those who do not believe or succumb to performing these gender norms since gender is not a fact, but the various acts of gender are required for the idea of gender (Butler, 1988). Butler (1990) argues that men and women are forced to do this gender '*masquerade*' or pretence which suggests gender ontology is brought down to a '*play of appearances*' (p. 63). Such performative acts of gender binary are reproduced and legitimised by the power structures which maintain the intelligibility of the sex through binary constructions. The binary notions of gender are extended in Butler and Pullen's (2006) theoretical analysis of gender identity where they show the multiplicities and fluidity of gender. As Butler argues, such an approach which deconstructs gender binaries helps to denaturalise them and thus is helpful in constructing multiple identities. However, Butler's *Gender trouble*, despite compelling us to rethink the very notions of gender, was criticised in its neglect of the body within which gender operates.

Performativity and 'the Body'

The body has been the centre of the argument of feminist theories from the early fights against women's oppression. While 'liberal feminists argued through mind/body dualism, radical feminists argued through the embodiment of humans as sexed beings and postmodern feminists argued through the materiality of the human body. Among radical feminists, radical libertarian feminists (for example Rubin, 1975; Millet, 1971; Firestone, 1970 as cited in Calas and Smirich

1999) included women's reproductive capacity at the centre of women's oppression. For example, Firestone (1970) renders women's oppression to her biological reproduction which is overlaid by the social institutions (like families), thus reinforcing male dominance. In contrast, radical cultural feminists emphasise that the factors related to '*femaleness*' (including the body) assist women in having different ways of knowing (Calas and Smirich, 1999). The embodiment was further expanded in Butler's work on *Bodies that Matter* (1993) where 'the body' is constructed as the medium where gender functions.

According to Butler, '*One is not simply a body, but in some very key sense, one does one's body and, indeed, one does one's body differently from one's contemporaries and from one's embodied predecessors and successors as well*' (1988: 521). This renders the body a historical and cultural status where one is required to '*do body*' according to the societal norms. A similar observation is made by Marxist feminist Iris Young in her influential text *Throwing Like a Girl* (1980) where she argues that gender-specific norms in society constrain women's bodily actions. Young treats the body as a '*lived experience*' and argues that women learn to walk, sit and discipline their bodies in the fear of invasion (rape) thus the body is objectified (Other). However, Butler treats these norms as compulsory acts reiterated through the body reproducing gender norms.

Despite performativity theory being considered by several researchers as an influential turn in the history of gender theory in showing the fluidity of gender categories, it is also criticised for underplaying genital differences and bodily functions. The women's bodily process of menstruation, pregnancy, lactation and menopause which are sometimes provided as explanations for women's oppression are not well considered in performativity theory (Bradley, 2013). Despite such shortcomings, performativity theory has provided a critical space to rethink the very notions of gender as binary and as a choice.

Moreover, the notions of performativity provide opportunities to understand gender inequalities in organisations. As Butler (2010, p. 147) notices '"the economy" … only becomes singular and monolithic by virtue of the convergence of certain kinds of processes and practices that produce the "effect" of the knowable and unified economy'. In this sense, Butler acknowledges the importance of context in shaping reality, thus providing management researchers the opportunity to understand organisations as knowable effects. The knowable effects, which may include gender, work and organisations, are governed by the performative regulatory frameworks of norms and power. Using the notion of performativity to examine gender inequalities thus offers the chance to understand gender through organisational practices and processes (Harding et al., 2017).

While some studies have examined the impact of gender performativity in an organisational context, it has seldom explained how the inequalities are shaped through gendered norms. It is argued that the dominant norms of organisations may result in shaping the behaviours and the interactions of the members (Jenkins and Finneman. 2018). From a Butlerian perspective, this may further suggest that those who fail to perform these organisational norms may be punished by being denied career opportunities. Thus, a Butlerian lens towards gender allows us to understand the inequalities in organisation.

The theory of performativity has particular relevance in this research which explores the impact of AS accreditation on the everyday experiences of women researchers. This thesis understands gender as performativity enacted and re-enacted through everyday interactions and how they shape the understanding of the actors as proposed by Butler (1990). The theory of performativity also offers further possibilities to understand gender subversion and resistance to the dominant cultural norms and male domination (Jenkins and Finneman, 2018). AS accreditation aims to address and challenges the gendered cultures of organisation (gendered cultures explained in Section 2.2.3. in detail).

In this sense, Athena Swan accreditation can be viewed as an intervention by challenging the dominant cultural norms in the organisations which may disadvantage women researchers in Science (Tzanakou and Pearce, 2019). Thus, the theory of performativity offers possibilities for understanding how the Athena Swan practices may have subverted the gender norms within the existing organisational power structures. Thus, in alliance with the aims of the current thesis, gender is understood as performativity to elucidate how AS accreditations towards the gendered organisational practices implemented in organisations have impacted the everyday lives of women researchers.

Given that this thesis focuses on gender issues in the organisational context, the next section will discuss a brief review of gender in the organisational literature. The above discussion shows that gender continues to be a contested topic, widely used in different contexts evolving through history. This is mainly due to the possibility of gender acting as a politically charged contested topic in terms of questioning social inequalities. However, the above debates highlight the requirement for further research to be conducted in the area of gender to understand the complexities associated with the concept. In particular, Organisation and Management Theory (OMT) scholars have urged the need to explore the conceptualisation of performativity theory in the organisational context (Gond et al., 2016).

In the following section, I will discuss the debates over how gender is manifested in organisational life and its implication for organisational actors.

2.2. Gender Perspective in Organisations

The gender perspective of organisation theory was adapted in the 1970s in an attempt to understand the career issues faced by women in organisations (Joshi et al., 2015). The early focus on gender issues was concerned with the differences between men and women, their attitudes and preferences in the workplace resulting in persistent inequality in the workspace. It was by the 1980s that the barriers women might face in their workspaces were identified in relation to the organisational

structure and culture which might cause inequalities to persist. In the context of HE, gender issues are discussed using the metaphor of the glass ceiling to explain the invisible barriers which women face during their career progression. Thus, a glass ceiling is considered as invisible, surprising and dismaying to the person hitting the ceiling since they did not see the barrier (Macfarlane and Burg, 2019). The research by Misra et al. (2011), with HEIs in the United States as a background, shows a more complex picture by arguing that the academic ceiling is not made of glass but ivory, indicating the stubborn nature of the structural barriers in HEIs for women. They also acknowledge the higher education culture to be gendered, favouring the hegemonic masculine values as a resulting factor contributing to the challenges women face within academia.

In general, the literature on gender inequalities at an organisational level in HEIs mainly discusses issues on a structural level, cultural level or a combination of both (Wilson et al., 2017). This section discusses the current debates on gender in organisational theory. First, I focus on the structural inequality perspective, with a particular focus on the literature in the UK HE context. This section discusses the gendered structural constraints women face in the recruitment and promotional processes in organisations. Next, I discuss the importance of evaluating the organisational culture literature. This includes meanings, definitions and different perspectives for the organisational culture. Finally, the gendered implications of the organisational culture towards women's work in academia is evaluated. The section concludes by presenting the existing gaps in the knowledge which are yet to be addressed.

2.2.1. Structural Inequality Perspective

The researchers focusing on the structural inequality perspective argue that gender is deeply embedded in the hierarchical power dynamics within societal institutions which may act as a barrier to women's career progression in organisations (Joshi et al., 2015; O'Connor, 2015; Stainback et al., 2016). The literature from this perspective mostly surfaced in the 1980s with many

studies being inspired by Kanter's (1977) ground-breaking study, '*Men and Women of the Corporation*' which examined gender dynamics through women managers' experiences in the workplace. Kanter (1977) explained structural barriers which determine employee behaviours to be an Opportunity, the structure of power to mobilise resources and distribution of members in the organisation or numbers which affect the organisational behaviour.

In particular, the structural perspective focuses on how gender is embedded in the organisational structures and hierarchical power relations (Nkomo and Rodriguez, 2019). In the context of UK HEIs, the researchers (for example, Howe-Walsh and Turnbull, 2016; Karatas¸-Özkan, 2015)mainly argue that structural inequality persists through the structure of recruitment, promotional process and the issues associated with the transparency within these processes. The recruitment and promotion panels which are dominated by men who had earlier access to the universities result in gendered structures in academia. Thus, the entry and career development in academia is shown to favour masculine discourse by imposing structural conditions which might disadvantage women.

In the UK academic context, the research on HEIs has recognised the meritocracy-based recruitment and promotion criteria in Science still focuses on the rate of publication and this is disadvantaging for women. For example, Howe-Walsh and Turnbull (2016) in their empirical research on women academics in Science, maintain that the promotion criteria in Science subject areas in UK academia includes obtaining grants and a high rate of publication in peer-reviewed journals. Teelkem and Deem (2013) recognised further performance measure structures in UK academia to be sustaining gender inequality in academia. They provide the example of the UK Research Excellence Framework (REF) in academia, which acts as an audit for quality of UK research publications, to be structurally disadvantaging women.

The REF is considered an integral part of UK academic institutions in achieving funding, and therefore is considered highly competitive (REF, 2021). However, in its claim to improve

equality and diversity, the REF shows its approach towards considering the differential circumstances of the HEI staff in relation to reducing the publication output for women on maternity. Though the REF indicates that women on maternity leave need to present one less output, the combined effect on quality as well as quantity of publications is found to be disadvantageous to pregnant and new mothers (Teelken and Deen, 2013; Van den Brink, & Benschop, 2012). Recently, Davies et al.'s (2019) case study research on UK HEIs argued that the promotional structure continues to be structured around research excellence and the researcher's identification with being research active. However, since the research active identity is audited by the number of publications produced by the academic, such a perception is found to burden women with caring responsibilities.

The researchers who criticise the meritocratic practices of promotion argue that the quality of the research and not the quantity should be considered when assessing academics with caring responsibilities (Pardhan, 2018). The REF is thus criticised for being gendered, not considering the differential needs of women in regard to childbearing, rearing and other family responsibilities (Howe-Walsh and Turnbull, 2016; Pardhan, 2018). Therefore, the academic career path which follows the masculine criteria of success and being research active with an unbroken career pattern is argued to disadvantage women.

Secondly, the literature criticises the institutional structure which demands long years of continuous service without a career break which might not be suitable for some women who might have other obligations (O'Connor, 2019). Wilson et al.'s (2017) empirical investigation on women in the UK STEMM subject areas mentioned the *long-term career penalty* which impacts women who take any career break or reduce their work hours since they are unable to maintain networking and their publication record during a career break. Therefore, such career disruption might negatively affect women's career prospects in academia. Also, the meritocratic structure in

academia does not consider women's experience in terms of childbearing and rearing as knowledge or experience.

Finally, the researchers from a structural inequality perspective argue that the contract structures restrict women's development in HEIs (Bhopal and Henderson, 2019). It is argued that women academics are more likely to be on fixed-term contracts or part-time contracts than male academics which, as Howe-Walsh and Turnbull's (2016) empirical investigation on the career progression of UK women academics in Science and Technology (ST) argues, might hamper their chances for career progression since it limits personal development and provides less time to explore career options. Evidence from this study suggests that women struggle to manage their careers during different career stages in UK universities [from recruitment to retirement] particularly with lower job security involving short-term contractual status.

In short, the structural criteria for recruitment, appraisal and promotion based on performance are implied to *stigmatise* and *paralyse* women in UK HEIs (Teelken and Deem, 2013). Therefore, the researchers from a gendered structure perspective recommend the existing masculine structures should be deconstructed to implement diversity practices within HEIs.

2.2.2. Person-Centred Perspective

Another strand of literature focuses on a person-centred perspective arguing that it is women's career choices, attitudes towards work and confidence which result in their underrepresentation in HEIs (Fletcher et al., 2007; Howe-Walsh and Turnbull, 2016). The researchers from the person-centred perspective justify women's lack of progression in terms of their lack of social and cultural capital. In the UK academic context, researchers from this perspective mainly argue that women have a lack of confidence and a preference for family roles rather than work. Some studies in the context of UK REF activities have suggested that women are less confident in their research abilities (for example Davies et al., 2016; Howe-Walsh and Turnbull, 2016). These studies generally argue that women's lack of confidence in their social capital as well as their research

abilities results in them not applying for promotions or other career development opportunities in UK academia.

Additionally, it is implied that the fear of failure might prevent women from seeking out career development opportunities in academia. An example is the recent autoethnographic account of Wilkinson (2020) as an early lecturer in a UK university where she describes her feelings of lack of confidence and insecurity. She further relates her feelings to that of imposter syndrome which is generally considered to refer to a person's feelings of intellectual fraud. However, the studies focusing on the micro level approach at many times might ignore the impact of the academic culture which may play a significant role in confidence and other personal issues women suffer. For instance, Wilkinson's study implies her issues around how to dress in the university having an impact on her confidence. This ignores the salience of university cultures towards gender performativity and its significance on impacting academic women's confidence. Additionally, in academia, women are problematised by showing their lack of publication records and social capital in relation to men (Burkinshaw et al., 2018). This further underplays the structural and cultural issues which hinder women's progress in academia.

While the gendered structures raise concern, as Davies et al. (2016) suggest, this logic is not sufficient since counting women in senior positions cannot solve the inherent disadvantage of women academics caused by the embedded practices within academia. Similarly, Morley (2011), collecting data from British council seminars internationally, notes that numeric targets in this regard can '*fail, or be meaningless, while femaleness continues to be socially constructed as second-class citizenship*' (p. 230). It is thus argued that the organisational policy structures are often embedded in the culture of the institution which makes it more difficult for women to navigate their careers. Hence, researchers argue that women's equal representation in senior roles cannot be simply achieved by breaking down masculine structures or by merely increasing

women's numbers in the organisation but by recognising the role of gender in the organisational culture.

The following section will discuss gender from an organisational perspective. It begins with the discussion on various perspectives of organisational culture literature and further explores the literature on gendered organisational culture with focus on studies in HEIs.

2.2.3. Organisational Culture Perspective

Organisational culture with its roots in anthropology is considered to be a useful concept in analysing organisational life (Serpa, 2016). The concept of organisational culture gained growing interest from the 1970s and 1980s and it peaked in the early 1990s in organisational research studies. As Alvesson (2012: 1) states, the reason for this rising interest is because '*the dimension of culture is central to all aspects of organisational life, even in those organisations where cultural aspects receive little explicit attention, how people think, feel value and act are guided by shared ideas, meaning and beliefs*'. Thus, the concept of culture has become a prominent framework to investigate a wide array of social phenomena by organisational scholars.

Organisational culture is a complicated concept since the concept of culture has no universally agreed definitions and studies differ in terms of its meanings and characteristics. However, some scholars of organisational culture (for example, Geertz, 1973; Mills, 1988; Schein, 1985) agree that there are certain characteristics which define the concept. These include a shared pattern of behaviour (including communication, interpersonal interactions and decision making) which are embedded through deeply held and largely unconscious value practices, assumptions and beliefs (Alvesson and Billing, 1997; Serpa, 2016). Most widely used definitions of culture are as follows:

Scholar	Definitions
	'Culture refers to the knowledge, members of a given group are thought to more or less share, knowledge of the sort that is said to

van Maanen (1988: 3)	inform, embed, shape, and account for the routine and not-so-routine activities of the members of the culture. A culture is expressed or constituted only through the actions and words of its members and must be interpreted by, not given to, a field worker… Culture is not itself visible, but is made visible only through its representation.'
Edgar Schein (1985: 6)	'A pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration and that have worked well enough to be considered valid and, therefore is to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.'
Strati (1992: 2)	'An organisational culture consists of symbols, beliefs and patterns of behaviour learned produced and created by the people who devote their energy and labour to the life of an organisation. It is expressed in the design of the organisation and of the work, in the artifacts and the services that the organisation produces, in the architecture of its premises, in the technologies that it employs, in its ceremonials of encounter and meeting, in the temporal structure of the organisational courses of actions, in the quality and conditions of its working life, in the ideologies of work, in the corporate philosophy, in the jargon, lifestyle and physical appearance of its organisational members.'

Table 1. Selected definitions of organisational culture (Strati, 1992; Hatch and Cunliffe, 2006)

The above definitions treat culture as a myriad of qualities characterised by a set of beliefs, values and assumptions shared by organisational members about their organisations. Though these definitions indicate a widespread agreement or sharing of beliefs, they do not acknowledge the influences and the resultant experiences of the culture among organisational members (Hatch and Cunliffe, 2006). Also, from its conceptualisation, to how we approach, learn and examine it in an

organisational context, it has been contested terrain in the organisational literature resulting in different approaches towards understanding organisational culture.

As mentioned above, while the organisational culture is treated as an integral part of organisational life, the scholars' approach culture differently. The classic analysis of the organisation literature by Smircich (1983) discusses organisational culture from two perspectives, functional and interpretive. The functionalist stream treats culture as a variable or *something an organisation has* maintaining culture as something which can be managed effortlessly. Interpretivist researchers take it as a root metaphor or '*something an organisation is*' and thus find it helpful in interpreting organisational realities (Odor, 2018; Serpa, 2016). The concept of organisational culture has developed mainly from these two streams of thought resulting in many debates which will be discussed below.

2.2.3.1 Functionalist

As mentioned earlier, researchers from the functionalist perspective approach mostly analyse the relationship between variables to understand, assess, measure and treat organisational functioning. From the functionalist perspective, most organisational culture scholars are concerned with organisational effectiveness and performance, managerial agendas and professional identities (Odor, 2018). The insights emerging from this approach are dominated by a limited set of meanings, symbols, values and beliefs that are presumed to be manageable and directly related to organisational goals. Some researchers identify this as 'corporate culture'. In this strand of literature, culture is regarded as the glue which holds the employees together in terms of effectiveness and efficiency where the management is advised to manage or manipulate the symbolic aspects of the organisation (Serpa, 2016). The audit aspect of the functionalist approach has gained much attention within management research which argues that the culture can be made strong in relation to corporate goals thereby ensuring organisational success.

Mainly deriving from Schein's (1985) definition, the functionalists argue that organisational culture can be understood through the minds of the organisational members. Schein (1992) presents organisational culture as layers comprising a deep level of unconscious basic assumptions manifested in shared values and organisational artefacts. In this sense, Schein (2010) proposes three fundamental levels at which culture can be analysed. These levels range from the visible, tangible and overt manifestations to the deeply embedded, unconscious and basic assumptions, which are described as the essence of culture. This most cited model describes the deepest level of 'basic assumptions' which constitutes culture whilst values, beliefs, behaviours and creations are merely manifestations of such assumptions. While the basic level constitutes basic assumptions, the next level constitutes espoused beliefs and values and the artefacts from the surface layer of the culture.

Edgar Schein (1992) offers a thorough examination of organisational culture with its theoretical roots. Schein identifies three levels of culture, with the first and the outermost layer being artefacts. For example, the dress code, the office layout, common language, jargon, technology used, and rituals and ceremonies could indicate the organisational culture (Reiman and Oedewald, 2002; Ramachandran et al., 2011). Schein further maintains that though artefacts are easy to recognise, they are difficult to interpret since they represent the most superficial cultural phenomenon. For example, behaviour which is a cultural artefact could be influenced by other factors; hence it is only a reflection of the organisational culture. Though difficult to interpret, the cultural artefacts [like sick leave, accident levels etc.] could be used to understand the underlying characteristics of the culture (Reiman and Oedewald, 2002). Additionally, to understand the meaning of the artefacts, the second layer, which is the values, needs to be examined providing a link between different layers stressing the unconscious aspect of the culture.

However, since this view gives less importance to observables like behaviour, symbols, or artefacts, organisational researchers in their studies of culture commonly centre their definitions

on cognitions, which are variously labelled as values, shared meanings, mental schemas, patterns of interpretations, basic assumptions and knowledge systems (Hofstede, 1980; Schein, 1992). As Schein (1984) argues, the emphasis on cognitive functional facts gives the appearance that culture is explicit, that it is '*highly visible and feelable*' (p. 24). Hence this perspective is criticised as observational and clinical despite it being widely adopted in the literature. Moreover, treating organisational culture as a variable which can be manipulated to manage the behaviour of the employees does not consider the complexity of the culture but treats it as a rational instrument.

In an earlier study, Ouchi and Wilkins (1985: 462) observe, '*The contemporary organisational culture scholars often take the organisation not as a natural solution to deep and universal forces but rather as a rational instrument designed by top management to shape the behaviour of the employees in purposive ways*.'

As the above text shows, the functionalist approaches treat organisational culture as a rational instrument thus undermining the wider organisational context which might have influenced the culture. Therefore, the main weakness of a functionalist view is that it reduces culture to a tool to ensure organisational effectiveness reducing the richness of culture and concentrating on the limited aspects of the complex phenomenon, ignoring the aspects of culture which are not instrumentally relevant (Alvesson, 2012). Thus, the functionalist perspective is considered to oversimplify the complex aspects of organisational life which Young (1989) criticises as a '*flat single-faceted approach to organisational culture which assumes relationships between organisational members expressed only through a single set of values and attitudes, which unite all parties around common objectives*' (p. 189). Such a utilitarian perspective is further criticised for treating organisational culture as unitary and homogenous without considering the personal agency of the employees, any change in the environmental factors and the micro-political process within organisations, especially in complex institutions like universities (Sepra, 2016).

Furthermore, treating organisations as unitary having a single culture where '*all members of an organisation face roughly the same problems, everyone communicates with almost everyone else and each member adopts a common set of understandings for enacting proper and consensually -approved behaviour*' (Alvesson, 2002: 37) is further criticised for ignoring the nature of organisations in the changing era. For example, in the UK academic context, the functionalist approach towards organisational culture is criticised in the light of globalisation where the members who come from a wider societal context might not adhere to the values and attitudes of the organisation (Heidrich and Chandler, 2015). Moreover, studies exemplify that the different disciplines: their size, pursuit of knowledge production, diversity and the nature of competition can result in different values and attitudes across the university.

Such an approach is a rarity and problematic in academia since it underplays cultural diversity and the different group outlooks on reality especially in relation to knowledge production processes across different disciplines. Also, the homogenous or the unitarist approach towards the culture mostly utilises quantitative tools to explore the organisational culture. These drawbacks of the functionalist approach towards organisational culture are argued to be addressed by interpretivists who consider organisational culture as more complex, treating it as more organic, growing and emerging within the organisation. Interpretivists further emphasise the creativity of organisational members as culture makers sometimes even resisting the dominant culture (Brewis and Linstead, 2009). I will discuss this further in the section below.

2.2.3.2. Interpretive Perspective

Researchers from the interpretivist stream understand organisational culture as something an organisation is, giving importance to the symbols, meanings and the organisational members (Alvesson and Billing, 2013; Serpa, 2016). Developed by anthropologists such as Hallowell (1955) and Geertz (1973), the researchers from this stream do not search for specificity but attempt to

'know' the meanings of the symbols. In other words, instead of searching for a precise definition, an interpretivist aims to bring the researcher '*in touch with the lives of the participants, and in some extended sense of the terms to converse with them*' (Geertz 1973: 24). Thus, the symbolic phenomena focus on how culture is enacted real through behaviour, language, myths and artefacts which Gagliardi argues to '*enable us to take aim directly at the heart of culture*' (1996: 568). Adapting from Strati (1992: 578), the interpretivist view towards organisational culture is summed up by Gherardi (1995) as follows:

> *An organisational culture consists of symbols, beliefs and patterns of behaviour learned produced and created by the people who devote their energy and labour to the life of an organisation. It is expressed in the design of the organisation and of the work, in the artifacts and the services that the organisation produces, in the architecture of its premises, in the technologies that it employs, in its ceremonials of encounter and meeting, in the temporal structure of the organisational courses of actions, in the quality and conditions of its working life, in the ideologies of work, in the corporate philosophy, in the jargon, lifestyle and physical appearance of its organisational members.*

The above approach towards culture views it as a series of meaning creation and recreation through everyday interactions and gives importance to the material and non-material aspects of everyday organisational life. The significance of the interpretivist approach is that the focus is given not just to the observable interactions like ceremonial greetings and the physical aesthetics but also the embedded inequalities like gender issues in organisations (Gherardi, 1995). In contrast to the functionalist approach, which undermines the power structures resulting in the inequalities within organisations, the interpretivist approach acknowledges the interactive element which might result in gender inequalities within organisations.

Therefore, the ongoing and complex element of interaction and the meaning derived from such interactions is considered to be helpful in helping the researcher investigate the meaning making process of the organisational members especially in complex organisations like HEIs.

Subcultures in HEI

The interpretivist perspective further allows the researcher to investigate the complexities of different groups depending on the organisational roles, locations, hierarchies and disciplines as viewed in HE (Chandler et al., 2017; Heidrich and Chandler, 2015). For example, earlier works of van Mannen and Barley (1985) relate the formation of the subcultures to the heterogeneity of complex organisations which causes decentralisation of power and hierarchy, mergers and acquisition, structural positioning of different groups limiting common interactive patterns across groups as well as the technological innovations in organisations which result in little interaction across groups.

Furthermore, the continuous interactions within these subgroups are said to result in further subcultural formation which might be based on common interests and ideologies. Similarly, contra cultural movement is also considered to develop subcultural groups where the behaviours not accepted by the dominant organisational values are approved within these subgroups. Therefore, generally, subcultures can be understood in terms of groups within organisations with a collective understanding and accepted behavioural norms and patterns among the group members.

The UK HEIs are considered as subcultures by some researchers who interpret them as sites of conflicting managerial and professional ideologies in the context of marker orientation resulting in pluralistic cultures (Winter, 2009). More recently, Adam et al.'s (2017) examination of UK university culture and sustainability has argued that there exists a dominant 'academic culture', characterised by high levels of individual autonomy in teaching and research. Through a

sustainability approach, they recognise that multiple sub-cultures can be anticipated to co-exist within an HEI, each potentially holding different attitudes and orientations.

The subcultural formation in higher education was discussed from the early seventies when researchers recognised the complexities of academic culture (for example studies of Clark, 1970; Kuh & Whitt, 1988; Tierney, 1988; van Maanen & Barley, 1985). The subcultures in academic institutions are mostly discussed in relation to the academic profession, disciplinary distinctions, student focus and geographical location (Gaus et al., 2019). Clark's (1970) notable study in relation to the changing nature of HEIs in wider society shows the clustering of faculties in relation to their specialised knowledge, thereby separated structurally, thus resulting in academic staff positioning and identifying themselves within their areas. This can further result in conflicting values and associations across the academic disciplines which results in different subcultural characteristics across the HEI.

Another three-dimensional classification of academic disciplines was offered by Biglan (1973) who identified the paradigm differences in terms of the scientific content and method as hard/soft; in relation to the application of subject matter as pure/applied and in terms of the focus of the study object as life/non-life. This was further extended in Becher's (1994) macro, micro and meso level analysis of academic activity in UK HE which argues that each department or discipline functions as a subsystem, and together these make up the system as a whole termed as the 'disciplinary culture' embedded in the departments. Becher (1994) divided the disciplinary or departmental subcultures into pure sciences, humanities, technologies and social sciences with each holding different characteristics.

Disciplinary grouping	Nature of knowledge	Nature of disciplinary culture
Pure sciences (e.g. physics, biology, chemistry): 'hard-pure'	Cumulative; atomistic (crystalline/ tree-like); concerned with universals, quantities, simplification; resulting in discovery/explanation	Competitive, gregarious; politically well organised; high publication rate; task-oriented

Humanities (e.g. history) and pure social sciences (e.g. anthropology): soft-pure	Reiterative; holistic (organic/river-like); concerned with particulars, qualities, complication; resulting in understanding/ interpretation	Individualistic, pluralistic; loosely structured; low publication rate; person oriented
Technologies (e.g. mechanical engineering): 'hard-applied'	Purposive; pragmatic (know-how via hard knowledge); concerned with mastery of physical environment; resulting in products/techniques	Entrepreneurial, cosmopolitan; dominated by professional values; patents substitutable for publications; role oriented
Applied social sciences (e.g. education): 'soft-applied'	Functional; utilitarian (know-how via soft knowledge); concerned with the enhancement of [semi-] professional practice; resulting in protocols/procedures	Outward-looking; uncertain in status; dominated by intellectual fashions; publication rates reduced by consultancies; power-oriented

Table 2. Disciplinary subcultures adapted from Becher (1994)

According to Becher (1994) and more recently, Rotidi et al. (2017) each discipline or department in a university espouses a distinctive culture in its teaching, learning and research. Becher (1994) and Rotidi et al. (2017) base their arguments on the four-typology intellectual cluster framework of Biglan (1973) which understands culture through disciplinary units expressing differential intellectual/methodological streams. Though limited, the mainstream of academic studies on subcultures has mainly focused on understanding the culture from the disciplinary perspectives segregating them on the basis of knowledge frameworks and paradigms (Gaus et al., 2019). However, the underlying cognitive dimensions of the division of academic cultures in terms of discipline are oversimplified and undermine the experiences of the human subjects. Therefore, Toma (1997) provided an alternative paradigm for studying academic culture through the subjective experiences of academics. Toma's in-depth investigation on the perception of the law faculty on their disciplinary nature and knowledge found the existence of paradigm distinctions within each discipline. Toma argued that the paradigm distinctions offered by Biglin were incomplete and found paradigm distinctions within each discipline impacting their work and

their methodological choice. In their theory grounded in the data collected from twenty-two academics from three institutions within the discipline of law, they concluded that subcultures can be more complex than positioned by previous researchers. Their findings indicated that institutional cultures within the discipline can be distinct despite focusing on the same paradigm knowledge construction.

While such an approach at an exploratory level overcomes the objective criteria of enquiry showing the complexity of academic subcultures, there are few studies which explore the subcultures from an interpretive perspective understanding it through the subjective experiences of the academics (Gaus et al., 2019). The few exceptions in the last decade have mostly concentrated on the US academic context (Gaus et al., 2019). For example, in the context of four different HEIs in the United States, Kezar (2013) examined academics' perception in relation to their work disciplines and identified four different types of subcultures. These included a destructive culture which was profound in three departments where the faculty experienced not being valued in terms of their non-tenure contractual status. Second was the neutral culture which most of the departments were categorised as having, which reported the non-tenure track faculties' experiences of being ignored and invisible. Thirdly, an inclusive culture was found to be mutually respectful and supportive resulting in better experiences for the members. Finally, the learning culture, in addition to being inclusive, showed greater commitment from the academics.

The study also indicates that departmental cultures could be influenced by the faculty within these departments and the histories of these departments within the institution, suggesting that departmental cultures can be rigid. The study suggests gendered dimension within these subcultures maintaining that socially constructed inequalities can influence HEIs. Moreover, the findings showed the significant role played by departmental leaders in shaping the subcultural norms within HE which further shows the importance of the role of power structures in impacting

the subcultures. Therefore, the study recommends further investigation into HEIs with a research orientation since it might have more subcultures which should be examined.

While there appear to be studies on subcultures, the literature highlights the gaps where the gendered aspects within these subcultures are largely left unexplored. This has significance since the pure sciences within HE have been identified as being traditionally dominated by men, historically excluding women through discursive distinctions of hard/soft, the former being interpreted as masculine hence unsuitable for women (Knights and Richards, 2003; Howe-Walsh and Turnbull, 2016). Furthermore, the Science discipline is considered to result in 'chilly' (Sandler, 1986) experiences for women who are excluded and Othered in the academic sciences. Given the current thesis's aim to explore the impact of the AS on gendered issues in the context of the disciplinary area of Science, the next section will examine the literature on gendered aspects of academic labour with particular reference to the Science disciplinary areas.

The following discussion is mainly based on the ideal worker norm presented by Acker's (1990) text, placing organisations in the context of gender, and focuses on the gendered interaction processes within the HE context. It addresses the gendered labour and the embodied status of women in academic culture especially in the Science subject areas. Finally, the discussion will conclude by signifying the gap in the literature.

2.4. Gendered HE cultures

The earlier studies in management literature on organisational culture from the 1970s and 1980s adopted a gender-neutral approach which referred to organisations as genderless, thereby considering the workers as disembodied (Gherardi, 1995). In the context of academia, the meritocratic practices of recruitment, retention and promotion were shown to justify the gender-neutral academic culture. Such an approach is criticised as it denies the socio-cultural performativity associated with the gender of its workers thereby negotiating gender issues through

universal meritocratic practices. Moreover, a gender-neutral approach to organisational culture shifts the focus to women as the problem rather than the cultural practices within the organisations (O'Connor, 2015; 2019; Thébaud and Charles, 2018). Barnard et al.'s (2010) review of literature criticises this as a naive approach which rather shifts away from the gendered cultural issues of the SET maintaining equality as only a women's issue. Therefore, the studies in academia, especially in SET, are recommended to focus on the gendered aspect of organisational culture.

The studies on academia recognising the issues with a gender-neutral approach have mainly used Acker's (1990; 1992; 1996) theory of gendered organisations to understand organisational culture as embedded in the male norms of working practices in the organisations (Lewis, 2010: 357). Therefore, researchers from a gendered perspective view organisational culture as gendered, reproducing and maintaining culturally produced masculine and feminine values, ideas, and meanings through interactions (Alvesson & Billing, 2009). Acker formulated the idea of the ideal worker in organisations as culturally masculine gendered, in other words, an 'ideal worker' is a man whose sexuality and minimal responsibility in the childbearing and rearing domain makes him ideal for an organisation. Acker emphasised '*A real worker is a male worker whose life centres on his full-time life-long job while his wife or another woman takes care of his personal needs and his children*' (1990: 149). According to Acker, the gendered culture in organisations occurs through different interacting processes: (a) the construction of divisions along the lines of gender; (b) symbols and cultural images; (c) informal social interactions; and (d) organisational narratives.

2.4.1 Academic Labouring

According to Acker (1990), the gendered division of labour is the actual duties that are culturally expected of employees in relation to the cultural gender performativity in organisations. From this perspective, some authors argue that organisational jobs are divided according to gender binaries associated with the symbolic cultural norms in wider society. In the context of academia,

the literature on the division of labour focuses on two perspectives, firstly, the division of academic work within the academic institution where there is unequal division of academic labour expected of men and women. The other strand of literature shows the disciplinary job segregation across STEM and non-STEM where STEM disciplines are associated with masculinity therefore considered suitable for men, while women are considered more suitable for soft disciplines like applied sciences and humanities.

In the context of the gendered division of labour within academic institutions, the earlier work of Acker and Dillabough (2007), relying on Bourdieu's (2001) theoretical framework, argues that the symbolic societal norms which divide men's and women's work into the public/private domain are further reflected in the maintenance of institutional work categories (Bourdieu, 2001 cited in Acker and Dillabough, 2007). These cultural norms within academic institutions are considered to legitimise some labour as more suitable for women and some for men. They use the empirical evidence collected in the Canadian HE context to show the women's work where they are treated as *handmaidens and helpers* in the institution.

Recent empirical evidence from studies in academia support this argument of division of labour in the academic context where it can be found that the service roles expected of women include teaching, supervisory and administrative services while men are expected to perform research work in relation to the cultural performativity of gender (Guarino and Borden, 2017; Heijstra, 2015; 2017; 2019; Kantola, 2008; Lester, 2008). The unequal distribution of the caring and administrative roles in academia is investigated in an Icelandic context by Heijstra et al. (2017) in their qualitative study where they develop Bird et al.'s (2014) institutional housekeeping in the academic context, showing the unequal distribution of labour disadvantaging academic women. They coin the term '*academic housework*' to illustrate the little recognised and rewarded service roles within academia which reflect the embedded cultural manifestations of gender in the academic culture. Similarly, in the context of UK academia, studies have argued that women

academics' requirement to perform caring and nurturing work takes up time which otherwise they could utilise for research-related activities (Fagan and Teasdale, 2020; Macfarlane and Burg, 2018). Recent studies show that the division of labour is stronger in STEM areas where female representation is low which results in women often being required to become culturally performative in doing the academic caring roles. For instance, in the comparative analysis on women academics from STEM and non-STEM disciplines in Macfarlane and Burg's (2018) autobiographical account of UK professors across academic disciplines, women from STEM disciplines expressed stronger beliefs in gender performativity within the organisation.

While women professors in general expressed academic service roles in terms of committee membership, administrative work and mentoring as their responsibilities, those from STEM showed an added sense of responsibility to commit to these service roles. This was despite the evidence showing their awareness of the disparity in the allocation of academic duties which one academic explained as pastoral care and another as having academic housekeeping jobs *dumped* upon them. The men were described as generally opting out of these duties despite the formal policies and job specifications requiring them to perform these duties. The study highlighted the added burden on women academic professors in STEM where they were expected to perform such duties in comparison to non-STEM academic women.

The gendered division of labour becomes problematic in the light of the studies showing the meritocratic practices in academia based on research productivity, funding and publications undervaluing the academic service roles (Herman and Hilliam, 2018; Van Den Brink and Benschop, 2012; White and Burkinshaw, 2019). Recently, Burkinshaw et al.'s (2018) empirical study examining the gendered regimes in UK HEIs argued that academic excellence based on publications output and competitive funding practices itself is gendered and built around the masculine model of success. Therefore, research productivity constructed around the masculine discourse of excellence itself results in masculine cultural norms of competitiveness and

instrumentality becoming embedded in the academic institutional cultures. Teelken and Deem (2013) consider these masculine discourses to be stigmatising for women in the context of their study on women academics from the UK, Netherlands and Sweden. With the backdrop of REF structures, they identified the academic culture in UK universities as being embedded with masculine norms of performances resulting in hegemonic discourses being legitimised as gender neutral. They added that this further resulted in the masculine values of assertiveness and individualism associated with research activities being valued in the academic culture.

As Burkinshaw et al. (2018) show, the merit-based academic excellence associated with masculine values of objective and rational ways embedded in the academic culture undermines the collegial, collaborative caring responsibilities associated with academic housework, further disadvantaging women academics. It is in this context that the studies examining gendered academic labour argue that women spending much time in the under-valued academic housework causes them to have less time to spend on the much-valued research-related activities. Therefore, the literature shows the cumulative effect of an academic culture embedded with masculine norms and women's added requirement to be performative through academic housework can result in a double bind for women.

Secondly, some researchers argue that the dualistic division of academic disciplines into hard/soft in relation to the job characteristics associated with the masculine knowledge production style results in further disadvantaging the position for women academics (Thébaud and Charles, 2018). For instance, an extensive literature review on women's underrepresentation in Science subject areas by Avolio et al. (2020) showed that some studies attributed the association of Science as a masculine field, assumed to be technically inclined, rational and objective, as having resulted in STEM disciplines being considered a male pursuit. Moreover, Science and Technology have historically been related to masculinity more than the social sciences, hence hegemonic masculine behaviours are argued to be normalised in the Science discipline areas (Bleijenbergh, 2013).

However, the literature on STEM academic culture shows there are few studies reflecting women academic researchers' voices especially in their early career stages.

2.4.2. *Women's Absence from Academic 'Discourses'*

The second process of social practices by which organisations are gendered is through the construction of symbols and images which explain, express, reinforce and legitimise gendered behavioural practices in organisations (Acker, 1990). The symbol is defined by symbolic-interpretive researchers as '*anything that represents a conscious or an unconscious association with some wider, usually more abstract, concept or meaning*' (Hatch, 1993: 669). For Gioia (1986), organisational symbols include the corporate logo, slogans, stories, actions and nonactions, visual images, and metaphors. Additionally, Eisenberg and Riley (1988) included organisation charts, corporate architecture, rites, and rituals. For Lester (2008), the symbolic representations reinforce gender performativity in the organisations; for example, the style of dress, use of language, and expression of emotions reinforces gender performativity in academia.

An example provided by Gherardi's (1995) earlier study on organisational symbolism, gender and organisational cultures shows the pervasively masculine images in academia comparing women as outsiders and travellers in the male world of academia. Using her autobiographical reflections as a female academic, she demonstrates women's marginal position is signified as the 'Other' in academia. The literature on women's absence from the symbolic mainly focuses on two aspects: firstly, women's absence from knowledge production and discourse and secondly, women's misrepresentation as the embodied Other.

Deriving inspiration from Gherardi's (1995) research, Fotaki's (2013) theoretical and empirical study shows women's symbolic absence from knowledge production in the academic context. Using the empirical evidence from nine business schools in the UK, Fotaki extends Irigaray's (1985) conceptualisation of non-symbolised and misrepresented women in the context

of academia. It is argued the mind/body duality wherein women are represented by the body has further resulted in the exile of the body from the knowledge production process in academia. Fotaki further maintains that women's abject position in academia is related to her symbolic absence in language and male authored discourses representing women as the 'embodied Other'.

According to Fotaki (2013: 1267):

> *Since female university lecturers and professors are not 'only' women but also academics, they will be inscribed with the discourses of (masculine) academia and from that subject position will look at themselves as 'not fitting in' and/or 'imposters'.*

Using the poststructuralist arguments of Irigaray (1985), Fotaki maintains:

(i)   woman is absent from socio-symbolic space as she is not defined in her own right but in relation to man;

(ii)   the history of Western thought is articulated in terms of a male discourse in which woman figures as the irredeemable 'Other'.

Moreover, the symbolic strangeness of the female body and its reproductive functions in the academic institutions are argued to become abject so as to maintain the symbolic order of cultural performativity in academia. Though the study refers to the reproductive functions of the female body as a factor for 'Othering' women in academia, the study hardly indulges the narratives of these reproductive functions. It is mainly Gatrell (2019) who has elaborated the significance of maternal bodies and reproductive functions as unideal and taboo in organisations. Gatrell derives theoretical roots from Shildrick's (1997) theoretical framework of leaky bodies and Kristeva's (1982) theory on abject maternal bodies to emphasise maternal bodies, with their propensity to menstruate, reproduce and undergo menopause, and how they are thus considered to be misfits in the masculine symbolic order of organisations. Women's bodies are further argued to signify women's role as mothers in the private domain which crosses boundaries when occupying the public domain of organisations.

This strand of literature on women's embodied status centres its discussion around maternal bodies particularly referring to the stages of pregnancy and new motherhood which are considered to be unideal, Other and taboo in organisations (Gatrell, 2019; Pullen et al., 2017). The metaphor of leakage is used to show the propensity of the female body to produce fluids, and change shape which threatens the masculine domain of organisations. This further highlights the fear and disgust of employers towards the leaky maternal body with its propensity to leak and produce fluids.

Though mostly a neglected area in academic workplaces, the concept of the maternal body referring to how women manage their maternal bodies within the workplace is considered to be an important area of investigation (Ollilainen, 2019). In an attempt to contribute to this gap, Ollilainen's recent study, on academic professors from the US, investigated the ideal academic concept from an embodiment perspective. This study extended women academics' misrepresentation in relation to the mind body duality casting women, especially pregnant women, as the embodied Other in academia. The empirical evidence from the study suggested the ideal academic constructed in terms of the able-bodied male who can control their bodily functions. However, the study mostly derives evidence only during the period of pregnancy while the other aspects of women's maternal bodies are neglected in this research.

In the context of UK universities, a recent autobiographical account by Wilkinson (2020) shows that the embodied experience is extended to women at all stages of life. For instance, she reflects on her experiences of trying to present her body within the masculine domain of academic discourse. The study further shows that the academic symbolic which is heavily masculinised and lacks alternative symbols that women could relate to, results in women feeling as though they don't belong in the masculinised culture and feeling like imposters. 'Imposter phenomenon' (imposer syndrome) is explained as '*an unconscious self-limiting feeling of being inadequate, unqualified and fraudulent despite evidence to the contrary*' (Pardhan, 2018: 360). This leads to doubts about one's own abilities and the sense of being in the role 'fraudulently' and the fear of

being found out sooner or later, leading to low esteem. Therefore, though limited, the studies argue that the women are cast as the embodied Other in the masculine symbolic of academia.

The significance of women's symbolic absence from knowledge production is further argued to result in women's exclusion from academic networks and conferences which further disadvantages their career advancement. This will be discussed next.

2.4.3. Exclusion from Academic and Social Networks and Conferences

In academia, as Fotaki (2013) observes, participating in the formal and informal networks is important for women's career progression where knowledge is shared and communicated, for career-enhancing opportunities including increasing social capital, inclusion on research projects and publications (Howe-Walsh and Turnbull, 2016) and moreover, it is essential to survive in academia (Mavin and Bryan, 2002; Fotaki, 2013). Fotaki (2013) addresses the symbolic misrepresentation or nonrepresentation in the theorising and practice of women from the knowledge production process, masculine theorising, language and practice which further results in women's exclusion from networking and conferences.

For example, the empirical evidence from Fotaki's (2013) study shows how a woman was silenced in a conference by a senior male professor. The aggression and intimidation towards the female academic were justified by the professor as '*he was not used to women doing theory*' which Fotaki maintains to be the result of the masculine hegemonic discourse in academia where the unwanted female body is rejected. Knight's (2006) autobiographical reflections on attending conferences refers to such hegemonic displays in academic conferences as the '*gladiatorial character*' and '*cock fighting mentality*' (Knights, 2006: 712) showing hegemonic masculinities at play in these conferences which undermine other forms of subordinate masculinities.

An earlier auto ethnographical analysis of the critical management conferences in the UK by Bell and King (2010) adds that there is a conscious effort from academics in these conferences to ignore the subordinate position of women in these conferences. Their reflections show the potential

silencing effects associated with academic cultural practices. They use the metaphor of the *elephant in the room* to show the efforts maintained in academic conferences to show the embodied practices in these conferences where the female body is ignored.

The metaphor is used to indicate the conscious effort undertaken by academics to avoid the issue of women's embodied status and therefore the resultant exclusion and silencing which Bell and King address as the conspiracy which develops and reinforces masculine values in academic culture. They maintain Critical Management Studies (CMS) as a culture, characterised by certain distinctive and shared practices in academia, whereby women's bodies as a medium to enter such conferences are silenced and excluded. This study identified how fitting into and enduring the masculine cultural practices in the CMS includes '*the ability to withstand discomfort or suffering caused by hunger, fatigue or alcohol [which] constitutes a key attribute in the training of the proficient CMS academic*' (p. 435). It is further argued that women are required to demonstrate their academic membership by showing that they are able to endure such practices. Furthermore, Bell and King insist that failure to demonstrate such practices can result in women missing out on group projects and collaborative prospects. Though the study offers insights into management conferences, the evidence is scarce to show the effects of such practices in the lives of women scientists. This is especially significant in the light of studies in the Science disciplines showing contradictory results in terms of the perceptions of academic networks on the career development of women scientists.

In the context of STEM disciplinary areas, the significance of the daily interactive patterns and their relevance to accessing a social and professional network is further illustrated in Haas et al.'s (2016) study on fifteen women scientists in a European university. The life history of fifteen women researchers from diverse disciplines revealed that social and professional networking was paramount for their career development since this secured funding and peer support for publications. The women were found to be showing the sameness strategy of coping with the

masculine organisational norms to be accepted within social networking. Therefore, it would show that women, despite being in the minority in Science disciplines, show greater endurance for networking practices which Bell and King (2010) showed to be difficult for women. The study also shows the different strategy adopted by women scientists, who acknowledge their differences, resisting the dominant practices adding to their struggle for equality. However, the study further argues that both sameness and difference strategy did not assist in them breaking the masculine networking pattern of behaviours.

However, as the previous studies discussed in this section show, the gendered interactive patterns within the Science disciplines are rarely discussed in the UK context.

Recently, two studies have highlighted gendered culture in relation to academic Science disciplines in the UK, both of which focused on Science disciplines in general and through the experiences of the senior women academics. Firstly, highlighting the importance of the networking activities in academia, Chapple and Ziebland's (2018) investigation among senior academic women in Science shows how women might be consciously excluded from social networking. The study also reported self-exclusion which was shown to be a result of the masculine culture of networking in academia where men mostly met outside working hours for sports-related activities which women might not participate in. They drew empirical evidence from the interview with 39 senior women scientists across a range of Science disciplines and reported that women scientists showed greater awareness of the importance of social networking in the UK Science disciplines.

 Interestingly, the interviewees, mostly in senior academic roles, did not think that the masculine networking practices might have affected their career development. Only a few women recognised women's exclusion from these networking events and recognised how these gendered social networks might have affected the career development of women in similar positions. The study further added that the exclusion from networks become visible mainly when women reach senior positions in Science where they are underrepresented.

The study places greater emphasis on self-exclusionary practices due to the masculine socialising discourses and supports with Fotaki's (2013) evidence suggesting women's awkwardness in these networks where men talk among themselves over a drink. Therefore, the symbolic exclusion of women from the academic discourse is extended to the social networking spaces where women feel unwelcome, intimidated and hurt at times.

Secondly, Howe-Walsh and Turnbull's (2016) examination of barriers women leaders face in Science and Technological disciplines shows the influence of masculine academic practices in the excluded position of women from social networks. They indicate that women might be uninformed on the social networks available for them, and, point out women's reluctance to ask for guidance regarding promotional advice in these male-dominated networks. Contrary to the claims of Chapple and Ziebland (2018), the women showed greater awareness of their exclusion from academic networks, publication and collaborative projects which they recognised to be detrimental for their career advancement. However, one of the noted similarities in the above discussed studies is that they have mostly adopted a unitary view of the culture and largely neglected the significance of the differences in women's experiences in relation to their daily working lives in the department culture.

2.4.4. Organisational Narratives of the Ideal Academic

The performance-based culture in academia is further argued to have resulted in the legitimation of the ideal worker notion in academia which is constructed around the masculine norms of the competitive, assertive and independent worker (Misra et al., 2017; Thébaud and Charles, 2018). In particular, the masculine field of Science disciplines historically being dominated by men is argued to have set organisational behavioural norms which suit male workers. The ideal scientist norms in academia are mainly constituted around the always available worker who can prioritise work over other responsibilities. In the context of HEIs in the Netherlands, Bleijenbergh et al.

(2013) illustrated how the image of the ideal worker, especially in Science disciplines, is constructed around the male image, as someone who has no outside commitments or caring responsibilities.

Therefore, the underlying concept of the ideal worker in academia is argued to be embedded with masculine characteristics associated with academic success. Similar outcomes are shown in studies on ideal worker notions in Science disciplines in US academia where Fox et al. (2011) concluded that the scientific work entails intensified goal-oriented behaviour. A recent cross-national literature review on Science disciplines by Fox et al. (2017) further argues that the masculinity connected to Science disciplines is a factor in the ideal image of typical scientists being constructed in relation to the male scientist disadvantaging women and those who are unable to perform masculine behavioural norms.

Drawing empirical evidence from two UK universities, Sang et al. (2015) build on Acker's 'ideal worker' concept demonstrating the ideal academic heroes in UK universities. The study investigating UK academic culture among construction-related researchers and research-intensive university academics illustrates the necessary conditions for an 'ideal academic'. They show the *culture of red tape* as the cultural norm in the SET discipline resulting from performance-based evaluative criteria. The ideal academic is further constituted in relation to complete dedication and commitment by demonstrating long working hours, participating in formal and informal networks, a constant ability to travel internationally and become research productive.

These cultural norms suggest that the ideal academic is similar to the ideal worker image constructed by Acker (1990) who argued that organisations assume workers are 'disembodied', freed from domestic responsibilities and other aspects of life, and demonstrate this by working long hours and showing total commitment to the job. The heroic worker image is reinforced by the competitive publication demands of promotional practices in academia illustrated as 'greedy work', influenced by the image of the successful worker. Sang et al. further argue that complying

with the ideal academic image is necessary to secure rewards in the form of promotion and salary increases (Howe-Walsh and Turnbull, 2016; Sang et al., 2015). The penalties recognised by Sang et al. (2015) include a heavy workload in relation to service roles while maintaining research profile results and is a heavy burden for women academics.

Howe-Walsh and Turnbull (2016) recognises the consequences of the ideal worker culture in Science disciplines to include exclusion from research collaborations and publications. Also, it was found that academics who have familial and caring responsibilities, particularly women, were 'put off' by this working culture reporting high levels of stress for them (for example, Barnard et al., 2010; Deiana, 2013; Doherty and Manfredi, 2006; Sang et al., 2015). Women with child-care responsibilities were found to be more challenged, suggesting they were required to manage the child-care and domestic responsibilities along with maintaining the appearance of the ideal academic.

While the above studies demonstrate the ideal academic norm in relation to working practices of long working hours, being fully committed to the paid work and having no outside obligations, studies in the Science disciplines have rarely focused on voicing the in-depth experiences of women academics through their everyday working lives. In particular, the majority of these studies have used the unitary approach to academic subcultures with little relevance to the differences within the disciplinary work practices. However, Bleijenbergh's (2013) research in the Dutch academic context argues for the fluidity of the cultural construct of the ideal academic and contests the fixed notion attached to the concept. This study, using an inductive approach, argues that the construct of the ideal academic which renders women as the 'Other' is fluid and changing with the context. In their interview with six male academics, they illustrate the changing construct of ideal academic norms across Dutch Science and Dutch Arts universities and show that it's the Otherness associated with the cultural creation of women in an organisation which is more problematic.

Though they build their research on the success case studies of the male deans in the two universities, it shows the potential for the research to be guided to investigate the ideal academic norm within the disciplines to examine if the ideal academic norm remains culturally relevant in today's context. They also share an optimistic view that the fluidity in the construction of the ideal academic identity in academic culture shows that the deconstruction of gender dualities is an accomplishable target in academia. Moreover, they argue that the variety of Otherness further offers the scope for challenging gender binaries which may result in a more inclusive organisational culture. While the argument represents hope for the gender equality initiatives which focus on challenging the cultural norm of the ideal academic, recent studies within UK academia investigating the impact of gender equality initiatives shows a more complex picture which will be discussed next.

In the above discussion, I have presented the studies conducted on academia which argue the creation of the ideal worker through a gendered interaction process. The literature shows further clarification of women's disadvantage in STEM subject areas providing the disciplinary characteristics in relation to masculinities in explaining women's underappreciation in Science. However, the performative dimensions of the ideal worker are yet to be explored especially for the early- and mid-career researchers in Science disciplines. The above discussion shows the gap in the literature given that the majority of these studies focus on the leader's perspective and neglect the women researchers who are segregated at the lower level of the spectrum especially the early- and mid-career academics. Thus, it becomes imperative to examine their everyday working life and document their voice in the literature to address this gap in the knowledge.

In the next section, I will present the gender equality initiatives in the UK HE context with a focus on the Athena Swan charter.

2.5. The Impact of Athena Swan Initiatives in UK Academia

The previous section discussed the literature on the manifestation of gender in HEIs and its impact on women's careers. The following discussion will evaluate the literature on recent Athena Swan impact studies conducted in UK academia especially in the past five years. From an interpretive perspective, I will focus on qualitative studies conducted to examine the impact of the Athena Swan initiatives. This review aims to inform the reader on the current understanding of the impact of the Athena Swan initiative in Science.

2.5.1. The Athena Swan Gender Equality Initiatives

The literature on the impact of the Athena Swan charter gender equality initiatives in UK HEIs has mainly focused on examining the impact quantitatively and there are few studies which examine how the Athena Swan actions have translated into the lived experiences of academics (Laver, 2018). The few qualitive focused studies which attempted to understand the impact of Athena Swan charter participation on improving women's academic careers show mixed outcomes. The discussions indicate that there have been disagreements among researchers on the impact of Athena Swan on the experiences of women academics.

Some researchers argue that Athena Swan accredited institutions have shown positive structural and cultural improvements towards gender equality while others argue that the evidence is not sufficient to establish the improvements related to AS accreditation. A third set of researchers argues that AS itself reproduces a gendered division of labour in the accredited institutions, further disadvantaging women engaged in the Athena Swan process. This will be discussed now.

The qualitative studies reporting positive outcomes of Athena Swan have mainly reported that there is a measurable impact on women's advancement in the Athena Swan accredited universities or departments. For instance, in relation to the impacts of Athena Swan accreditation on academia, studies by Barnard (2017), Caffrey et al. (2016), Ovseiko et al. (2017) and Tsouroufli (2019) argue that the departments or the institutions accredited with the Athena Swan charter, with its attempt

to implement policies and practices in relation to the AS principles towards equality and diversity, have resulted in addressing the structural and cultural issues for women. Ovseiko et al. (2017) used mixed methods to examine the impact of the AS initiatives in medical Science departments in Oxford University and recognised greater recognition towards women's caring responsibilities in the domestic sphere, improved visibility towards women's challenges in the organisational setting and better mentoring facilities.

 Moreover, it is claimed that in the effort to implement the AS principles in institutional practices, there were increased efforts to challenge the gendered culture. However, the authors themselves admit that the study is limited since it examines the perceptions of the participants rather than their real-life experiences. Another evaluation of Athena Swan's impact by Barnard (2017) adds to the discussion by examining the impact of Athena Swan on the gold-awarded departments which are assumed to be *champions* in addressing gender inequality issues. The study collects evidence from Athena Swan gold-awarded departments using the award application documents and five interviews with senior women engaged with the Athena Swan departmental process. This study portrays Athena Swan initiatives as extremely influential in addressing the gender equality issues in these institutions.

Furthermore, Athena Swan is claimed to be an *overriding success* which has promoted the engagement of the patrons in improving their commitment towards gender equality initiatives. Another key finding highlighted in this study is that gold-awarded departments had an increased focus on and engagement with the early-career researchers or the postdocs in these departments. Through the analysis of the award document, it is claimed that the ECRs are given added focus and priority in terms of career development. According to Barnard, the ECRs are supported through better mentoring opportunities, inclusion in the committees, social gatherings and provided with better socialisation opportunities as well as general support.

The study further claims that the Athena Swan accreditation has provided a voice for the academic staff in terms of improving their visibility and opportunities to raise concern. Although the study sheds optimistic light on gender equality initiatives in the AS gold-awarded departments, its main limitation is that despite the study claiming positive impact, this is not presented through the experiences of the academics. As Barnard agrees, there needs to be better qualitative evaluation to understand how these policies and practices documented in the Athena Swan gold application can better reflect the experiences of women academics.

Another key improvement recognised by the researchers arguing for the positive impact brought forth by the Athena Swan charter is increased awareness among the academics in relation to the gender equality issues and the Athena Swan policies implemented in the department to tackle gender equality issues (Caffrey, 2016; Ovseiko et al., 2017; Tzanakou and Pearce, 2019). Barnard (2017) demonstrates the attempts of the AS gold-awarded departments to raise awareness among the postdocs using the gold application documents as evidence. While Barnard's study was limited by lack of empirical evidence, Ovseiko's (2019) interdisciplinary analysis of the organisational culture across UK medical science and social science disciplines draws conclusions from the open-ended comments section in their study and claims that the AS accreditation has raised awareness of the women academics on gender equality issues. However, as they admit in the paper, their research was based on the perceptions of the respondents and does not provide empirical evidence to support these claims.

It is in the light of the lack of evidence that some researchers raise doubts regarding the impact of the Athena Swan's gender equality initiatives across UK academia. O'Connor's (2019) evaluation of gender equality initiatives using global scholarship criticises these interventions for mostly focusing on an individual level. They use the example of mentoring schemes related to these initiatives as a strategy used to fix the women rather than undertaking meaningful engagement with the gendered practices within the organisations. It is further maintained that though the

individual level focus should not be undermined, the lack of focus on the distribution of power and resources within HEIs being untacked by the Athena Swan interventions is a factor for continuing inequalities in the universities.

Recently, Tzanakou and Pearce (2019) drew evidence from thirteen interviews and four focus group discussions among women academics who had participated in the Athena Swan Self-Assessment Team (SAT) in four universities. Together with their own reflections being SAT members for AS, the authors claim that the implementation of the Athena Swan in departments itself implicates an unequal workload for women who participate in the SAT. They found a heavy workload placed on women who are part of the Athena Swan SAT team especially in the STEM context where women represent the minority. As the minority they described being pressured to participate in the committee since it was considered women's work which should be done by women.

Additionally, the SAT committee's work in terms of emotional involvement was not acknowledged or valued but the involved women reported being penalised if the department did not get the award. Therefore, the Athena Swan process in universities itself is considered to be exploitive work reproducing a gendered division of labour. However, on an optimistic note, Tzanakou and Pearce (2019) conclude that being part of an Athena Swan process itself can raise gender awareness of the institutional members. Therefore, the SAT committee membership was found to be helpful in challenging gender issues in the departments and making use of the Athena Swan departmental actions available to them.

Another criticism noted in relation to the Athena Swan implementation process is that some studies argue that the institutions might approach it as a box-ticking exercise to secure an award incentive rather than making genuine efforts towards gender equality (O'Connor, 2019). This is considered to be concerning especially in the light of the continuing absence of women in senior positions in STEM disciplines. A cross-national study by Ovseiko (2017b) on 37 senior women scientists from

the UK, Ireland and Australia, who participated in the AS SAT process, revealed their concerns about the approaching application process as a box-ticking exercise. This is considered to be an unintended consequence of the financial incentives to be being tied to the AS awards.

However, the evidence collected at a cross-national level is considered limited in terms of reaching sufficient conclusions; hence, Ovseiko further recommends empirical investigation at an institutional level to contribute towards this discussion. Similar observations were made by senior academics involved in the SAT in an academic medical university in Caffrey et al.'s (2016) research which claims to be the first study to investigate how the Athena swan interacts within its context. Despite the overwhelmingly positive responses in relation to the Athena Swan implementation in medical schools, the study cautioned against the wider institutional practices that can have a potentially negative impact on women's career development. However, similar to other studies qualitatively understanding the impact of the Athena Swan accreditation, they highlighted the importance of more research being conducted to identify the context specific constraints of the Athena Swan charter in UK HEIs.

2.6. Chapter Summary

From the Straussian perspective towards literature review, the current chapter has focused on presenting the broad range of literature examining gendered implications of organisations. The aim was to present the context of the current research in line with the recent developments in the areas of gender, organisational theory and the current debate on the impact of the Athena Swan gender equality initiatives in UK academia. In short, the continuing debates on the impact of the Athena Swan gender equality initiatives are yet to produce evidence to show that the positive organisational outcomes claimed in these studies are a consequence of the Athena Swan accreditation. This has further significance in the light of studies further claiming that Athena Swan results in gendered labour for women academics. Also, the literature shows limited

evidence on how the Athena Swan action plans of the departments are transformed into the everyday experiences of the departmental members especially those who are not involved in the AS application process. This thesis addresses the gap by reporting the lived experiences of early- and mid-career researchers in an AS gold-awarded department. The following chapter will present the detailed qualitative procedures adopted in the current study.

Chapter 3. Research Methodology

Introduction

The aim of this study was to explore the implications of the Athena Swan on the lived experiences of early- and mid-career women academics in an AS gold-awarded department. In line with the aim of this study, the following research question was formulated:

1. What is the impact of Athena Swan accreditation on the lived experiences of women academics working in a AS gold-awarded department?

Further questions emerged during the data collection and analysis process including:

2. How do early- and mid-career academics understand their workplace in relation to their mini cultures in an Athena Swan gold-awarded department?

3. What are the implications of the mini subcultural practices on women's experiences in an Athena Swan accredited department?

4. What are the impacts of Athena Swan departmental initiatives on the experiences of women in these subcultural spaces?

This chapter aims to describe the methodological approach and research design adopted to investigate and analyse the lived experiences of female academics. Also, the discussion will provide the background and justification for using grounded theory to gain further understanding of the women's experiences in the case study framework. The discussion further focuses on how I undertook the study, data collection methods and different stages of analysis.

3.1. Qualitative Methodology

Qualitative research is mostly an umbrella term including several methods and research types that scholars have struggled to form a single definition for. Most often a dichotomous approach is adopted when researchers attempt to define qualitative methodology by positioning it as opposite from quantitative methodology (Flick, 2018). The differences arise from both conducting research

and generating knowledge; where quantitative researchers focus on investigating issues by observing and measuring them, qualitative researchers focus on understanding the meaning that these events hold for individuals. As Denzin and Lincoln (2011: 3) assert '*Qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them*'. This suits the aim of the current study in its intention to investigate the impact of Athena Swan accreditation on the lived experiences of women academics through their everyday working experiences in the case study department.

As Denzin and Lincoln show, the qualitative researcher is positioned in the philosophical grounds of interpretivist epistemology which understands the phenomenon through the experiences of individuals from a subjective perspective (Denzin and Lincoln, 2011; Scotland, 2012). The interpretive paradigm insists that the social world is nothing more than a subjective construction of individuals and it is the individuals who create and preserve a social world through interactions of daily life and use of common language, thus causing the social world to undergo a continuous process of change (Burrell and Morgan, 2017). In this sense, the qualitative inquiry focuses on conducting research in its naturalistic setting and interpreting the meanings people bring to these research contexts.

On the other hand, the positivist notion assumes reality to be objective, and conducts the investigation by maintaining distance and being uninvolved with it. Therefore, positivist researchers mainly use quantitative tools like questionnaires or natural experiments to investigate the research question. However, the positivist notion of reality is rejected in qualitative research wherein it is argued that reality is subjective, multiple and socially constructed by individuals (Krauss, 2005). The subjective position implicitly puts the researcher within the research process, emphasising the value-laden approach towards qualitative inquiry (Denzin and Lincoln, 2011: 7). This requires the researcher to analytically observe their position in the research process which is often termed as reflexivity (Dowling, 2006). In other words, reflexivity is the '*recognition that all*

knowledge is affected by the social conditions under which it is produced and that it is grounded in both the social location and the social biography of the observer and the observed' (Mann & Kelley, 1997: 392).

 Therefore, reflexivity is considered a vital aspect of qualitative research, though difficult; it is argued that it is an essential process to examine the emotional reactions and credible interpretations of participants' experiences while confirming/refuting current knowledge and developing new ideas. What is researched, and how it is researched, is undoubtedly influenced by a researcher's personal stories and experiences. As such, it is essential that the researcher's beliefs, experiences and skills are made explicit, not with the intention of uncovering bias, but instead, to be used as a resource to guide data gathering and interpretation (Bryant and Charmaz, 2007).

The subjective approach to qualitative research is found to be useful in understanding '*human behaviour, emotion, attitudes and experiences*' (Mohajan, 2018: 2) in relation to social issues demonstrating how it is ideal for studying social issues like gender issues in organisational cultures. This benefits the qualitative researcher by enabling the context of the study to be closely learned and the '*social actors*'' knowledge of the organisational context and the shared meanings they derive from these contexts to be understood. As Gephart (2017: 4) asserts, qualitative research benefits the researcher in helping him/her to understand '*members' tacit knowledge, shared meanings and the informal norms everyday actors use to act in the world*'. Therefore, qualitative research is found to be ideal for providing insight into the participants' inner experiences and discovering the meaning-making process through and from cultures rather than testing hypotheses. This makes a qualitative methodology suitable for understanding social issues including gender inequalities by examining the organisational practices and their impact on the experiences of women in this study.

Also, the methodological approach must be dictated by the research question for the study (Corbin and Strauss, 2014). The aim of this study, which is to examine the impact of Athena Swan

accreditation on the lived experiences of academics, aligns with the qualitative subjective approach which interprets daily life experiences and examines the meaning created by individuals in their naturalistic work settings.

Additionally, as Corbin and Strauss (2014) suggest, the researcher's philosophical view should also be considered while choosing the appropriate methodology. The fluid and evolving nature of qualitative research has attracted my interest in that it provides me with the opportunity to enter the participants' worlds from their perspectives, thereby contributing to knowledge. As explained previously, a qualitative research strategy best suits the current study to answer the research question. Moreover, as Bluhm et al.'s (2011) review of the qualitative methodology shows, one of the defining characteristics of qualitative methodology is that it gives voice to the participants, therefore is found to be the best suited methodology for the current study. Therefore, the exploratory nature of the research aims, the emphasis on investigating the lived experiences of women in their workplaces and the researcher's philosophical position suggest the qualitative inquiry to be the most suitable approach in this research.

Type of Qualitative Research Strategy

Research strategy generally means the methodological choice and the methods employed by the researcher to gather data (Crotty, 2003). As mentioned above, qualitative researchers emphasise reality as socially constructed and interpretive research strategies are employed to study the phenomenon. Literature has mainly identified narrative, ethnography, action research, phenomenology, historical research, content analysis and grounded theory as qualitative strategies to capture participant experiences (Denzin and Ryan, 2011; Mohajan, 2018). Crotty (2003) cautions qualitative researchers to consider the strategy which best addresses the aim of the research study; therefore, choosing the research strategy can pose a challenge to researchers.

In this research, I have adopted the Straussian grounded theory approach using a single department to examine the experiences of women academics in an Athena Swan accredited department. While a number of qualitative strategies were available, I found grounded theory to be appropriate to address the aim of the research which is to examine the impact of Athena Swan on the lived experiences of women academics. Phenomenology and ethnography were considered in the initial phases of the research before reaching the grounded theory approach. While a phenomenological approach could have complimented the study with its subjective underpinnings, a grounded theory approach was found to be suitable for the current study in capturing the lived experiences of the women in this study, though the phenomenological approach focuses on the common features of the experiences of participants, offering limited flexibility in examining the socio-cultural issues under investigation (Starks, 2007). Thus, while phenomenology is maintained to be helpful in describing the participants' experiences, it is criticised for not moving beyond to understand it; therefore, it would not have captured the socio-cultural nature of the gender issues which women might face within the organisational context.

On the other hand, grounded theory helps the researcher to penetrate the issues under investigation, familiarising the researcher with the phenomenon under investigation through the different stages of theory building, thereby further helping to understand the underlying problems which might need attention (Goulding, 2002). Ethnography is also considered to be an approach which offers insight into the participants' life experiences through first-hand interactions within the research settings and among participants. However, the involvement and participatory nature of the ethnographic approach proved impractical since there was restricted access to the research site (Goulding, 2005).

Moreover, grounded theory was found to be the most appropriate approach for the following reasons:

1. The grounded theory approach is acclaimed to provide a systematic way to address the issues of voice and materiality of power in complex social issues including gender in organisational contexts. Also, it offers flexibility and unrestricted opportunities for the researcher rather than being restricted by the deductive approach (Bryant and Charmaz, 2007).

2. Strauss and Corbin (1987) argue that the self-conscious approach throughout the inductive process in developing theory can help the researcher in recognising researcher bias. They urge the researcher to recognise that professional and personal experiences might influence the research process. Therefore, grounded theory approach is also considered to bring trustworthiness to the research given that '*reflecting on one's own perspectivity and positionality helps decentring and fosters being as open as possible in order to recognize and acknowledge otherness*' (Bryant and Charmaz, 2019: 20).

3. The research question in this study aims to explore the experiences of women in an AS accredited department; hence, a grounded theory strategy can focus the researcher's attention on women's experiences which will be highly valued. This helps this study to ground the theory on the '*voices, experiences and actions of those studied*' (Goulding, 2002: 104), thereby providing a new perspective on women academics' experiences.

4. While there exist numerous theories which strive to explain women's experiences in an organisational context, grounded theory is found to be a systematic approach in building clear explanations towards social and cultural issues (Charmaz, 2014). Therefore, considering the scope of the grounded theory approach to investigate and involve itself in social and cultural issues like gender (Bryant and Charmaz, 2005; Denzin and Lincoln, 2011), a grounded theory approach was found most suitable to conduct this research.

3.2. Grounded-theory Research

Barney Glaser and Anselm Strauss proposed grounded theory (GT) as a methodological approach and research practice in 1967 following their studies in healthcare institutions. The discovery of grounded theory (1967) was described during the time research mainly focused on deriving knowledge from pre-existing theories. While conducting their study, *Awareness of Dying* (1965) they looked at the sociological research scenario where much of the focus was given to verifying existing theories. This had halted a generation of theory in sociological research from empirical data in some research areas (Bryant and Charmaz; Kenny and Faurie, 2014).

Glaser and Strauss (1967) criticised the overemphasis given to generating theories from prior assumptions and they proposed an alternative systematic and rigorous methodology to generate theory which is grounded in research. They argued that the discovery of theory from systematically collected and organised data should be considered to be as relevant as obtaining and verifying facts (1967: 1). Therefore, GT theory proposed a '*systematic, inductive, and comparative approach for conducting inquiry for the purpose of constructing theory*' (Charmaz, 2006: 1). The proposed methodology was argued to provide a detailed and systematic approach towards the discovery of theory through collecting and generating theory closely linked to data. The research process in GT involves simultaneous data collection and analysis, constant comparative analysis during each stage of data collection where sampling is not aimed at representing the population but concepts, and finally a literature review is conducted after independent analysis (Fendt and Sechs, 2008). The theory is developed throughout the systematic research process through rigorous engagement between the data collection and analysis.

Classic vs Straussian Grounded Theory

While GT provided qualitative researchers with a framework which provided systematic guidelines to develop theory from empirical data, there appears to be a different grounded theory

school of thought among the researchers. This emerged from the debates between Glaser and Strauss who reached a conjunction upon the publication of Strauss and Corbin's book in the early 1990s. The debate between Classic GT (early GT) and Straussian GT centred around the analytical framework which Strauss formulated to deduce theory from data. The analytic framework was criticised as rigid and considered an unintended consequence of GT. However, Strauss and Corbin (1998) maintained that the rigidity was never the intent but that they had aimed to provide a perspective for systematically collecting and analysing the data.

According to Strauss and Corbin (1998: 128) '*In actuality, the paradigm is nothing more than a perspective taken toward data, another analytic stance that helps to systematically gather and order data in such a way that structure and process are integrated*'.

For novice researchers in GT, such an analytical framework is argued to be helpful in finding linkage and provide validity to the research in addition to assisting the dynamic flow of the theory (Heath and Cowley, 2004). Another difference between the classic and Straussian approaches is the use of literature prior to data collection and analysis. Classic grounded theorists focus on reading the literature only when the theory is sufficiently developed (Evans, 2013; Heath and Cowley, 2004). They argue for beginning the data collection with a general wonder, often termed as an '*empty head*', and that those researchers who cannot delay the literature review should select an alternative methodology.

 Furthermore, an early literature review is argued to prejudice and mislead the direction of the research in addition to leading to the selection of literature irrelevant to the study (Evans, 2013). Glaser feared that such an early literature review might result in forced theory due to the researcher's bias from reading the literature rather than the natural emergence of theory. Therefore, researchers are advised to keep an empty mind rather than preconceptions which might force the theory. McGhee et al. (2007) sum up the reasons for avoiding an initial literature review as follow:

- To prevent the researcher from being *contaminated or constrained* by prior assumptions

- To prevent the research focus being on literature rather than theory emerging from data

- To prevent researcher's bias and prevent them losing sight of the emerging theory

However, more compulsive arguments are presented for an initial literature review by Straussian GT followers, where it is maintained that it is important to keep an open mind rather than empty head as advocated by Glaser (McGhee et al., 2007). Glaser's advocacy for keeping an empty mind is considered a myth by Straussian sympathisers who consider a blank state of mind or *tabula rasa* is not plausible while entering the research field (Urquhart, 2012). GT researchers claim that they do not start with a theory or do not test the theory but rather keep an open mind. Corbin and Strauss (2014) assert that a prior literature review can stimulate the research by directing the researcher to underexplored areas or topics. This also includes shedding light on an old problem through a new approach which might not have been considered earlier.

Also, a prior literature review, though basic, is considered to provide the researcher with fresh perspectives when entering the research field. Furthermore, they advocate that the prior literature review can further arouse curiosity about the subject leading to further exploration of the problem. In short, a prior literature review is found to be ideal for novice researchers (McGhee et al., 2007: 336) since it:

- Stimulates theoretical sensitivity

- Provides a secondary source of data

- Stimulates questions

- Directs theoretical sampling

- Provides supplementary validity

Further reasons for doctoral researchers to conduct a prior literature review is provided by Urquhart (2012) who considers that such an approach familiarises the novice researcher with the field. Also, the research committee requirements to present a literature review prior to sending the

doctoral researcher out for field work also needs to be considered. The unpredictability of going into the research field with an empty mind can be stressful for the doctoral researcher who is mostly limited by time and funding constraints. Therefore, the Straussian recommendation to conduct a prior literature review is considered a '*safety net*' for doctoral researchers. Therefore, I find such an open approach available in Straussian GT suitable for examining the implications of AS accreditation on the experiences of women in a gold-awarded department in this study.

3.3. Research Methods

While grounded theory is the research strategy adopted in this thesis, I have used a single case study to collect data. Case study as a research method is considered a vigorous approach for collecting in-depth data allowing exploration of organisational issues (Eisenhardt, 1989; Zainal, 2007). Yin (1984) explains how case studies can be useful in answering how or why research questions examining a phenomenon in an organisational context. Similarly, Strauss (1987: 221) asserts an inductive approach using a case study to be a '*readable and lively vehicle*' bringing the imagery into context. In the current study, which aims to examine the impact of Athena Swan accreditation on the lived experiences of women researchers in the context of UK HEIs, a case study department which holds an Athena Swan gold award is selected to conduct the study. Eisenhardt (1989), who specifically used case study to develop theory in her work, recognises the following strengths in combining case studies with GT:

1. Theory building from case studies can produce novel theories, most often due to the creative insights arising from the multiple data collection methods in case study. In the current study, semi-structured interviews are used in combination with memos of participant observations during the interviews, field notes and Athena Swan departmental application documents as data collection methods. Such rigorous comparison of evidence across the multiple data is argued to assist in avoiding researcher bias.

2. Since the data and theory are closely linked, the resultant theory can be expanded in further studies. As Eisenhardt suggests '*measurable constructs are likely because they have already been measured during the theory-building process*' (1989: 547).

3. Finally, the theory being linked closely to the evidence and the researcher's intimate role in the research process itself offer empirical validity to the emerging theory. The researcher answers to the data from the beginning, leading to closeness and an intimate sense resulting in theory which closely links to reality (Eisenhardt, 1989: 548).

Additionally, the naturalistic data collection methods offered by case study complementing GT are considered to develop substantial theories in organisational contexts. The strength of the empirical grounding of the case study is considered to offer quality to the research rather than the research process itself (Eisenhardt and Graebner, 2007; Locke, 2001).

While Eisenhardt (1989) advises that combining case study with GT offers a fresh perspective and new insights to the researcher, it is not without fault. Building theories from rich empirical data can result in emergent theory being overly complex and the researcher is cautioned to avoid trying to capture everything and maintain simplicity. Case studies can also result in the emergent theory being narrow or context-specific failing to allow for generalisations of the theory. However, the opportunity to develop theory using case study has resulted in this study adopting a Straussian strategy using a single case study to conduct the research.

3.3.1. Case Selection

Selection of cases is considered an important aspect while constructing theory from data in GT, since it defines the limit of the generalisability of the theory (Eisenhardt, 1989). While multiple case studies are advised for cross-referencing samplings between cases, the time and funding limitations of the study were considered when choosing a single case organisation. In accordance with the aim of this research, an Athena Swan accredited department which had been associated

with Athena Swan for a long time was selected since it was believed to provide better information on the topic under study (Glaser, 1978). Secondly, gaining research access to multiple organisations was not considered feasible due to the time limitations (Massis and Kotlar, 2014). Thus, the accessibility to the organisation was also considered in deciding to choose a single case study organisation.

Also, a single case study is considered to provide the researcher with greater focus and therefore provide better quality to the emerging theory. Moreover, the single case study is argued to construct a more in-depth and careful analysis resulting in theoretical clarity (Gustafsson, 2017). The current case study organisation was chosen for the scope it provides for answering the research question in multiple dimensions. I have given the pseudonym of UA for the department to maintain the anonymity. Firstly, the UA department was a research-intensive department located within a large Science department which gave the scope to capture a wide range of experiences of women at different academic career stages and gave me a wider perspective while analysing the data.

Secondly, it was easier to get access to the department since my supervisors were aware of the departmental members who were experienced with Athena Swan accreditation in the case study department. Therefore, they had contacts with the gate keepers within the department and with the assistance of my supervisors, I was able to meet them and access for the data collection was agreed. Therefore, within the context of the limited timeframe associated with the data collection, the UA department was found feasible. Finally, Eisenhardt (1989) further mentions the practical application while selecting a case study approach, advising the researcher to select polar cases or extreme cases due to the limited number of cases available for theoretical sampling. The case study department held an AS gold award, thereby representing the criteria of excellence for promoting gender equality as cited on the AS website. Therefore, the UA provided the opportunity to explore the impact of Athena Swan from a perspective which has been seldom explored in previous research.

Recruiting Participants

In the initial phase of data collection, participants were selected whom I believed could contribute good information to the study (Glaser, 1978) which in this case were women academics. In order to capture a range of perspectives, academic women from early-career academics to senior academics were contacted for interviews. It should be noted that while women from different ethnic and religious background, sexuality and class may have been involved in this research, it was beyond the scope of this research to examine how the intersection of these social identities (Sang, 2018) may have impacted their experiences.

The prospective participants were contacted through email via the UA department outlining the focus of the research and informing them about the opportunity to participate in it. The email included the researcher's email address and prompted the potential participants to contact me directly if they were interested in taking part.

As Corbin and Strauss (2014) mention, grounded theorists, at this stage, cannot know where the sampling will lead since the concepts have not yet emerged. It is during the data collection phase that grounded theorists recognise the sample group to collect data for the theoretical sampling. According to the departmental documents, more than 65 women academics from early-career stages to professorial stages were working in the department. Due to the research-intensive focus of the department, less than seven women were on teaching and scholarship contracts and the rest on research and scholarship contracts. Among the women on research contracts, over 12 women held Principal Investigator (PI) positions and more than 45 women were on postdoc positions.

Therefore, around 69 women academics from early-career stages to senior positions were purposively selected for the study and were sent invitations to participate. A total of 33 women responded to the invitation [one interview was discarded since there were issues with language and clarity during the interview and transcription]. However, it was mostly early- and mid-career

researchers who came forward expressing their interest to participate in the study which changed the focus of the study. As shown in the literature review, the voices of women academics especially in early-career roles to mid-level careers are hardly reported in the literature which examine the impact of Athena Swan accredited departments. Therefore, with regard to their overwhelming response, and to address the research gap, it was decided that this thesis will report their experiences in relation to their membership as academics in the Athena Swan gold-awarded department.

In the initial phase of the research, I was contacted by seven women on research contracts, their details and departmental position are given below.

Departmental position	Number
Lecturer	1
Senior postdoctoral researcher	1
Postdoctoral researcher	5

Table 3. Distribution of pilot interviews

These seven initial interviews were treated as pilot interviews to provide a better focus for the research in the initial stages of the data collection. As Nunes et al. (2010) argue, the pilot study in grounded theory is significant for novice researchers since it assists the researcher to better understand the context of the study in the earlier phases of the data collection (Nunes et al., 2010). The pilot study is also considered to validate the research question and it confirmed the research gap in the later stages of the study. Furthermore, the pilot study is reported to build awareness of potential bias and identifies the validity of the interview questions. In their work, Glaser and Strauss (2017) illustrated the importance of initial samples in generating conceptual categories which more cases can confirm (p. 30). In addition to building my confidence in my interview skills and validating my research questions, the pilot interviews were informative in guiding me towards the emergent concepts in the study. The theoretical sampling process of the study is detailed in

Section 3.5. Before moving on to the theoretical sampling, I will discuss the data collection tools used in this thesis next.

3.4. Data Collection Tools

Grounded theorists usually use multiple techniques including interviews, observations, documents, drawings and other sources to collect data relevant to the studied phenomenon (Eisenhardt, 1989; Corbin and Strauss, 2014). Glaser and Strauss (1967: 65), in their original book, refer to it as '*slices of data*' since these provide perspectives for the researcher to obtain conceptual categories. Moreover, multiple data collection methods for GT are argued to provide appropriate depth and detail to the study as well as helping to avoid researcher's bias.

Corbin and Strauss (2014) suggest that these techniques can be used in combination or complementing each other depending on the research question. Therefore, the main data collection technique, semi-structured interviews, was combined with memos of participant observation during interviews, field notes and documentary analysis for the purposes of verifying the information. In addition to providing clarity to the findings, this brings quality to the theory which is subsequently generated following the data analysis.

While focus groups are considered to result in in-depth and insightful data and to be helpful in understanding cultural norms, meanings and the process, this was avoided considering the practical implications. The focus group would require asking participants to give a certain amount of time from their otherwise busy schedule in addition to asking them to participate in a one-to-one interview lasting an hour long. Moreover, considering the time line for submission for the thesis, finding time to conduct a focus group and subsequent analysis was considered difficult in the timeframe.

3.4.1. Semi-structured Interviews

Corbin and Strauss (2014) claim that interviews are the most desirable means of data collection to illustrate findings and support inductive theory. They are also considered to be an important source of information to explore the subjective experiences of participants through the meanings they ascribe to their daily lives (Hesse-Bieber, 2007; Yin, 2003). Qualitative research interviews are designed to encourage interviewees to share their rich experiences of a phenomenon. Therefore, with the aim of the current study to capture the lived experiences of the participants, qualitative interviews were considered an appropriate method enabling the researcher to capture rich data which could contribute to emerging theory based on the meaning held from these lived experiences by the interviewees (DiCicco-Bloom and Crabtree, 2006).

There are various types of qualitative interviews which can vary according to the research purpose and question, classified into structured, unstructured and semi-structured. Structured interviews mostly consist of questionnaires with predetermined questions allowing little flexibility and few follow-up questions. Therefore, qualitative interviewers who focus on examining descriptive or exploratory questions like 'how' and 'why', engaging in in-depth experiences, are advised to consider unstructured or semi-structured interviews (DiCicco-Bloom and Crabtree, 2006; Gill et al., 2008).

Unstructured interviews, further, are found to be the other extreme, where the researcher has little or no control during the interview. However, DiCicco-Bloom and Crabtree (2006) argue that no interview can be truly unstructured; rather, it is loosely structured and guided by conversations. The nature of unstructured interviews to not have predetermined questions is further argued to provide dense experiences for inductive theory development (Corbin and Strauss, 2014; Strauss and Morse, 2003).

In the initial seven pilot interviews, I followed a loosely structured interview schedule so that the interviewee could guide me towards the emerging themes. Grounded theorists are encouraged to follow such an interview guide so as to allow breadth and depth in the emerging data (Taylor,

2005). The interview questions focused were general and very broad, focusing on understanding what happens in the daily lives of the women, which gave me some control over the course of the interview (Hesse-Bieber, 2007). As shown in Appendix 3, the questions were thematically arranged to understand the experiences of the women academics in their daily working lives. Therefore, the introductory questions included enquiry related to their familial status, their work experiences as well as their length of stay in their department. It was more like a conversation where I tried to maintain rapport and focused on getting the participant engaged in the discussion. Further questions were thematically arranged so as to identify what was considered to be significant for the daily working lives of the women academics in relation to their lived experiences in an Athena Swan accredited department.

In the pilot interviews, the participants led the interviews, and their analysis resulted in the identification of specific areas for enquiry. The identification of these research areas led to more specific research questions focusing on the themes identified from the pilot interviews. Therefore, the interview guide for the later interviews contained prompts and questions which resembled a semi-structured interview schedule (Appendix 6).

Semi-structured interviews include several key questions helping the researcher to explore the phenomenon under investigation; this also allows the interviewer or interviewee to deviate to another area of interest relevant to the phenomenon in more detail. Thus, semi-structured interviews could allow the participants to freely express their thoughts about any specific issue relating to the study, helping them to give rich evidence (Gill et al., 2008; Kallio, 2016). Though criticised for its time-consuming nature, as a method which assists in collecting rich evidence, semi-structured interviews were found to be a useful data collection tool during the second phase of data collection.

Interview Guide

The interview was conducted in a pre-booked room within the department. Prior to the interviews, I introduced myself, the aims of the research study, aims of the interview questions and the interview process. The participants also signed the consent form before beginning the interviews. With the permission of the interviewee, the interview was recorded using a mini recorder.

As shown previously, the pilot interview questions were very general, focusing on the daily lives of the participants in terms of departmental life. The themes were arranged in order of personal information relevant to the organisational life, experiences in relation to daily working life and experiences and awareness of the Athena Swan departmental activities.

This helped me understand the relevant information in answering the research question. For instance, the open coding of the initial interviews helped in the emergence of the core category of the mini labs (explained in detail in the analysis section). It was learnt that women understood their departmental lives in relation to the spaces which they occupy in the department. The meanings women derived from these mini labs were understood to be important in terms of them determining their experiences in the AS accredited department.

Therefore, the emergent concepts further guided me to revise the interview schedule and further questions were included according to the theme of the mini cultures.

The second phase of interview was conducted using a semi-structured interview guide which allows the researcher to carry a list of questions specific to the research area, with the researcher having more control over the course of the interview (Hesse-Bieber, 2007). An interview guide containing a list of topics, and themes reflecting the research questions was carried with me to make sure that the researcher did not miss out on capturing the necessary information. The semi-structured interview guides were therefore noted for their flexibility, which makes them effective for an inductive approach to theory construction. The flexibility of semi-structured interviews further enabled me to vary the order of my questioning to suit the participants, and to follow any new leads (elaboration of information) emerging from these interviews (DiCicco-Bloom and

Crabtree, 2006). The researcher can guide the interviewee through a number of themes and topics, probing the interviewee to capture in-depth knowledge of the phenomenon.

Thus, I allowed the interviewees to lead the interviews, only interfering when the focus was shifted to unrelated topics. The interview guide further focused on covering the topics/themes which emerged from the pilot interviews rather than strictly following the course of questions. The questions covered the themes of mini culture, the nature of the mini culture and impact of the mini culture on the participants' experiences.

Hesse-Bieber (2007) considers probing to be an essential tool for interviews and urges qualitative interviewers to probe the interviewees with questions and neutral actions in order to get more information. The probing can be verbal or non-verbal which includes nodding or a simple sigh, showing the interviewer's engagement during the interview. During the course of the interview, I also used some probes to lead each interviewee towards the specific themes in question or a specific issue. Furthermore, I used probing to understand the participants' feelings, clarify questions, sometimes to encourage the participants to keep talking or to express interest in the interviewee's perspective. For example, when participants described their labs to be *happy*, I asked them 'Can you tell me how the lab is happy?' and sometimes, 'Can you tell me more about your lab?' At other times, I remained silent, gesturing with a nod or smile, encouraging the participant to continue (Hesse-Bieber, 2007).

Recording and Transcribing Interviews

Qualitative researchers are often advised to carry a notepad and tape recorder along with the interview schedule while conducting interviews (Bryant and Charmaz, 2007). The participants were informed in the information sheet prior to interview that the interviews were to be audio recorded. At the beginning of the interviews, the participants were again informed that the interviews were being recorded. None of the participants objected to the interviews being recorded.

Additionally, a notebook was carried to record notes during the interview. These notes were added along with the data transcriptions for further analysis.

As soon as the interviews finished, my interview notes and the emerging concepts were recorded in a reflexive journal. It is well recorded that the transcription of interviews for more than an hour can be painstakingly time consuming (Matheson, 2007). Therefore, I found Google doc voice typing to be helpful in assisting me with the voice typing. However, to assure the quality, I was required to attentively listen and correct the mistakes in the transcription. Moreover, the rereading of and listening to the audio recordings was helpful in familiarising myself with the data. These transcribed interviews were then copied to an MS Word file for further analysis.

3.4.2. Memos and Field Notes

During the interviews, I observed verbal and non-verbal cues including changes in tone of voice, hand/facial gestures, eye contact, and sometimes occasional silence. These were recorded in the field notes which I carried during the interviews and informed me during the data analysis stage (Hesse-Bieber, 2007). Most of the interviews were carried out in the department, either in a pre-booked room near the participant's workspace or in the participant's office, provided it was empty. During some interviews, I noted some participants from certain other labs seemed anxious while women from certain labs showed more confidence. Such observations were entered into the memos and led to further questions regarding the nature of the corridor interactions and behaviour leading to data categories for corridor/lab workspaces. These memos of the field notes, together with the interview transcripts, provided a useful analysis of the meanings of these lab/corridor spaces for women in the department (Yin, 2003). Thus, the participant observation during interviews was recorded in memos and was used to clarify and witness the emerging categories and themes within the data.

As mentioned earlier, the main data collection technique used was semi-structured interview through which rich data emerged for analysis. It was decided that the field notes collected during the interviews and the documentary sources could complement the interviews as a form of verification. Following the pilot interviews, I was presented with the opportunity for direct observation in the corridor spaces, where the participants were located in the department. Mostly, this happened after the interviews when the participants invited me to have a look around their corridor spaces and wet labs which they referred as their workspaces. I was led from the scheduled interview rooms towards the participants' corridors which they accessed using their ID cards. This allowed me to record the field notes and verify the interview transcripts in understanding how women understood their workspaces, thereby further validating my findings. I will explain these below.

Some participants offered to draw the structure of their workspace or mini lab to help me better understand their workspace (please refer to Fig. 9). The field notes and the memos, together with the participant drawings of their workspaces, offered me a better insight into the geographical pattern of the department and the differential interactive patterns in each corridor. For instance, despite some corridors having same social spaces such as coffee machines or a lunch space, in some corridors they were spaces promoting interactions and in others, formal spaces without any friendly interactions. Each of these spaces was explained by the participant who showed me around their corridor/lab space. These observations were noted in the field notes as soon as I finished the corridor tour.

Thus, the field notes, participant drawings and memos were further compared with interview transcripts for verification during the analysis.
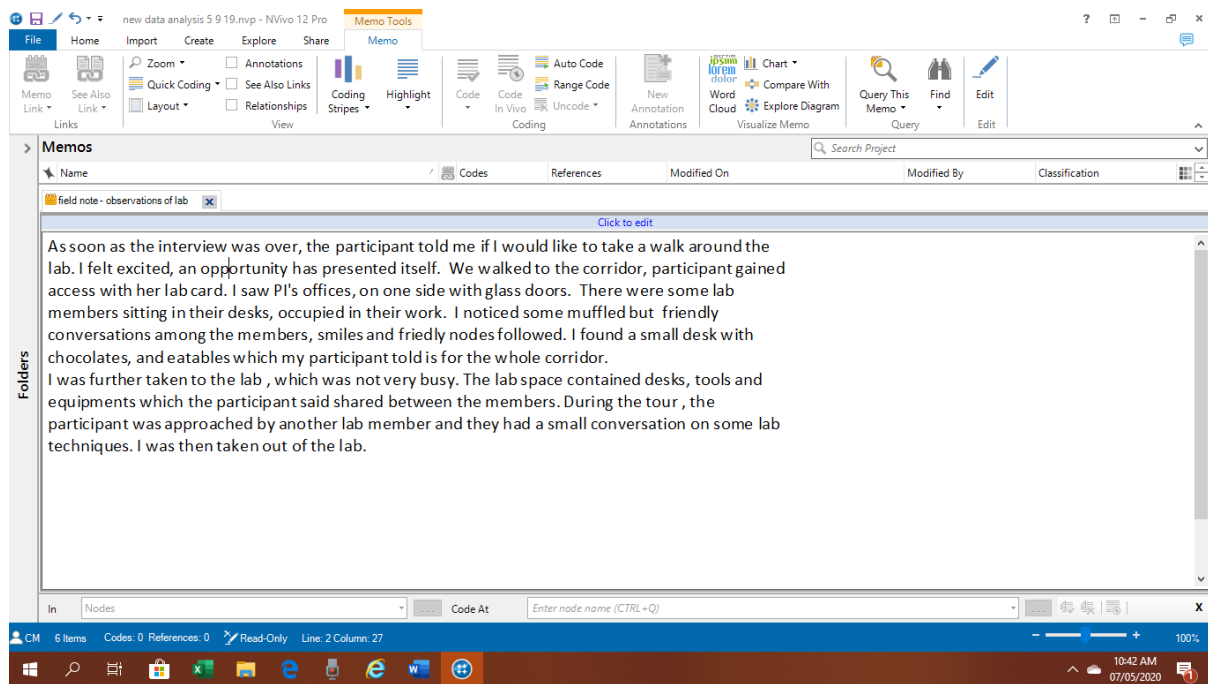
Fig. 1. Example of a field note in NVivo 12

As mentioned earlier, the freedom offered by the inductive research allowed me to add these notes into the field notes and further questions were formed during the second phase of interviews. Additionally, the casual observations as shown in Fig. 3. provided me with the opportunity to validate my findings on the actual practices of everyday working life (Yin, 2003; Eisenhardt, 1989).

3.4.3. Documentary Data

Corbin and Strauss (2012) mention that the documentary evidence can be used as a source of data if it provides the desired information. Documentary evidence can be organisations' official reports, historical records, website information, advertisements and so on, which can be used for systematic evaluation in qualitative research. Bowen (2009: 31) mentions that qualitative researchers using documentary evidence can benefit from its efficiency since it is less time consuming, informal documents are easily available in the public domain, it is less costly, covers detailed events and provides exact references. Therefore, the interview and observational data can be contextualised through documents.

Qualitative researchers are advised to use documentary evidence if it provides information required for the research study. In this research, it was vital for me to examine the Athena Swan organisational documents which include the department's award applications, prior to commencing the interviews. Furthermore, documentary evidence informs the researcher of the study context which can help the researcher to understand the historical background of the organisation (Bowen, 2009). During this phase of the study, I examined the organisation's Athena Swan award application documents obtained from the website to provide me with better insight into the department's gender equality initiatives. The website information also provided me with information on the academic staff working in the department.

As Bowen (2009) observes, documentary evidence as supplementary data can be used as a source of verification for interviews and observations. Therefore, the findings from the interviews and observations were cross-verified with the documentary evidence for clarity. It was during the second phase of interviews that the Athena Swan award application documents were compared along with the interview data. This showed the department's initiatives towards gender equality in relation to the Athena Swan principles, as well as the evidence they have shown of the accomplishment of the recorded initiatives. This was further compared with the departmental practices described by the participants which informed me during the data analysis process. As the research progressed, I also obtained the departmental map to inform me of the workspace arrangements of the corridors/labs.

The main weakness of documentary evidence includes the likelihood of biased documents and biased selectivity if the collection is incomplete (Yin, 2003). Also, the documentary information may not always be accurate and might be biased hence the documents under analysis should be carefully used and should not be considered as the literal record of the events that have taken place. However, their overall value suggests that document verification used alongside interviews and observations provided valuable information in this study.

3.5. Theoretical Sampling

In grounded theory research, sample selection is a concern throughout the research and Glaser and Strauss (1967) advise grounded theorists to actively look for the sampling data throughout the research process to capture the best information for theorising. The sampling in grounded theory procedure is grounded in the emerging concepts or the theoretical sampling (Corbin and Strauss, 2014; Bitsh, 2005). Thus, the sampling procedures should consider the concepts evolving from the data rather than the distribution of participants across the concepts.

The theoretical sampling in a project happens when the researcher purposefully selects the participants according to the emerging concepts as the research progresses. Therefore, rather than the number of participants, the unit of analysis becomes the concepts, and the researcher is advised to collect data from persons or places where the '*potential variations of the concept be maximised*' (Corbin and Strauss, 2014: 4). Such an analysis based on concepts benefits the researcher by providing flexibility to follow analytic leads and dense findings. The analysis of the pilot interviews resulted in the emergence of the concept of the *mini labs/cultures/corridors* which was related to women's experiences in lab spaces. After the first interview, in which the senior postdoc explained the concept of the mini cultures in relation to their workspaces, I followed up on the concept of the mini cultures (spatially significant) in the other interviews to understand how they would explain their everyday experiences. The concept of mini labs was thus found to be significant for understanding the everyday experiences of women academics since the cultural norms in these mini labs or corridors were found to be significant in terms of how women described their everyday experiences in the department.

In other words, the initial analysis found that there existed subcultural spaces or mini cultures which resulted in differential meanings for the organisational experiences of the participants. For the research question to be answered, it was important to understand women's understandings of

their mini labs which they explained to be their workspaces. So, this further raised questions on the gendered aspects of these mini cultures and the impact of the Athena Swan on these cultures. Therefore, a calculated decision was made to select women academics who could provide better information on the concept of mini labs and a few women on teaching contracts were excluded from the study. It was understood that women on research contracts who spend time in the research labs were able to provide a rich description of the concept of 'mini labs'. Thus, it was decided that women academics on research contracts would be selected for further interviews. I asked the department to send another reminder to the women academics on research contracts informing them of the study. This resulted in potential participants contacting me and showing interest in the study. Hence, the participant pool was updated after the initial data collection, once the theoretical framework was constructed (Eisenhardt, 1989; Locke, 2001). Thus, the second phase of the data collection focused on the theoretical sample for the concepts which emerged from phase one of the data collection.

Departmental position	Number
Senior lecturer (Principle Investigator, PI)	1
Lecturer (Principle Investigator, PI)	3
Senior postdoc	4
Postdoc	22
Research fellow	2

Table 4. Distribution of interviews

Theoretical Saturation

Data analysis is a combined process in GT where analysis starts from the first interview and concludes when no new data are found from which additional categories emerge, referred to as the *theoretical saturation* point (Glaser and Strauss, 1967). Research is considered to have reached

theoretical saturation when similar instances are found repeatedly in the collected data. The subsequent data collection progressed when interviews were conducted with the additional 25 participants (theoretical sampling) on research contracts who contacted me showing an interest in participating in the research. The interview questions were revised to include more questions based on the concept of *mini labs/mini cultures* which emerged from the seven pilot interviews. The questions were framed to understand the impact of the Athena Swan accreditation on these departmental mini cultures.

Therefore, a further 25 interviews were conducted with women academics on research contracts who had experience of working in a mini lab/corridor. They represented postdocs to PIs (from lecturers to senior lecturers) who work in these labs and could provide rich data. Theoretical saturation was achieved after 23 interviews when no further categories were emerging; however, two more interviews were already planned, and it was decided to continue to make sure that no new conceptual categories emerged.
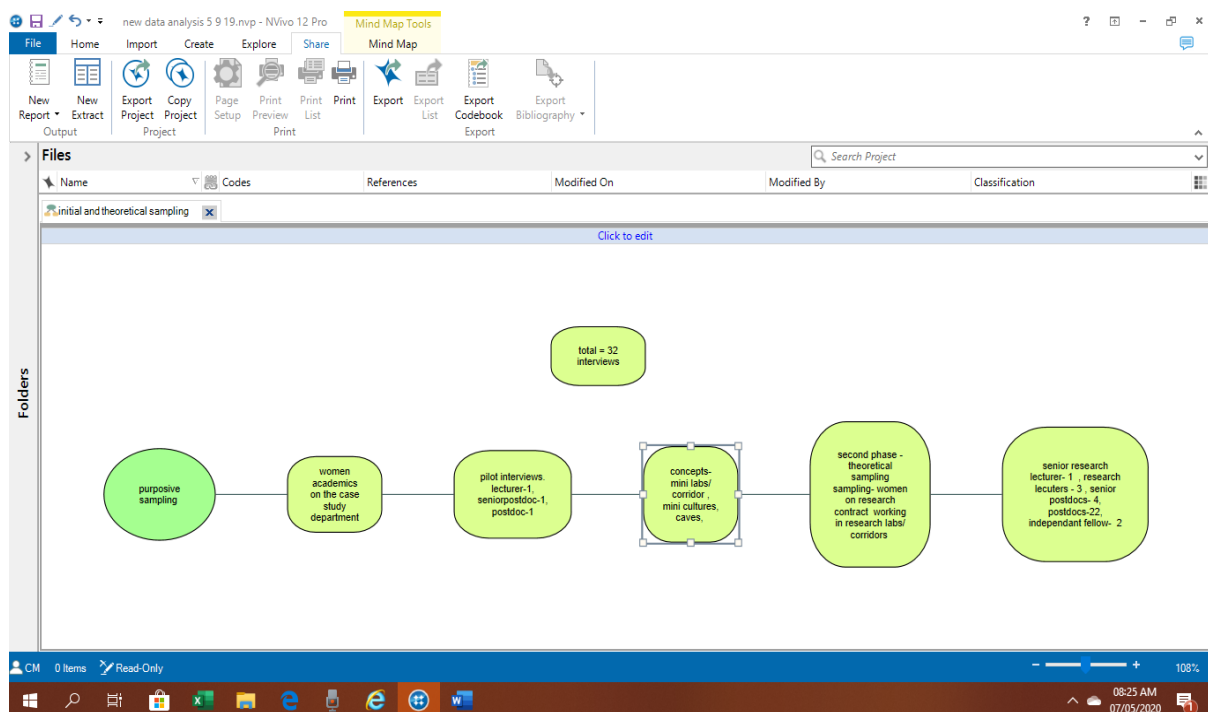
Fig. 2. The sampling diagram used in NVivo 12

However, due to language barriers, one interview was understood to be 'unusable' during the transcription process and was omitted from analysis (Burnard, 1991). Hence this interview was avoided in the data analysis; thus, a total of 32 interviews were used.

3.6. Role of the Researcher

Grounded theorists are cautioned about the potential impact of their personal and professional biases throughout the research process on the research project. Corbin and Strauss (2012) consider researchers to be an integral part of the research process such that the researcher might impact the research process. According to them, the researched and the researcher co-construct reality and the researcher's feelings and emotions can be conveyed to participants during the data collection process. This might influence the responses of the participants who might adjust their responses unconsciously. Therefore, grounded theorists are generally advised to record the influence their social identity and background might pose for the research process.

Finlay (2002: 225) further sums up the potentiality of reflexivity in the research process, stating that it helps to:

- Examine the impact of the position, perspective and presence of the researcher

- Promote rich insight through examining personal responses and interpersonal dynamics

- Open up unconscious motivations and implicit biases in the researcher's approach

- Empower others by opening up a more radical consciousness, evaluating the research process, method and outcomes

- Enable public scrutiny of the integrity of the research through offering a methodological log of research decisions

I agree with Corbin and Strauss's (2012) position that reflexivity is an integral process throughout the research to maintain transparency and trustworthiness within the research project. I kept a

reflexive journal to record my feelings and experiences during the research process which further helped me to acknowledge and clarify my subjective position (Ortlipp, 2008).

3.7. Data Analysis Procedure

The first phase of data analysis in this research began with transcribing the interviews. I tried to do the transcription on the same day as the interviews, though it sometimes continued through to the next day. This allowed me to familiarise myself with the data, thereby understanding the implicit meanings associated with my participants' responses (Charmaz, 1996). I re-read the transcriptions to study the data and this helped me to recognise the participants' feelings and views. The tone of their voice, and even the silence illustrated their lived experiences bridging them to the research questions, which helped in understanding the direction of the emerging concepts. For instance, there were instances when some participants sarcastically replied to questions on the Athena Swan initiatives which reflected their feelings towards the Athena Swan charter itself.

Secondly, the interview transcripts were transferred to NVivo 12 to assist in systematic analysis of the gathered data. NVivo is considered to offer substantive advantages to researchers by systematically organising the data and assisting with coding. Furthermore, the visual illustrations offered in NVivo 12 supported categorising data in relation to the density and distribution of the emerging patterns. The grounded theory process is considered to be reiterative and NVivo proved to be less time consuming than manual data analysis. In this thesis, all the interview transcripts, field notes and memos of participant observation during interviews were entered into NVivo for analysis.

Memo Writing

Memos, defined as a written record of analysis (Corbin and Strauss, 2012: 2) are considered to be an integral part of reflection during the analytical process and grounded theorists are advised to

maintain the habit of memo writing from the early stages of analysis. According to Corbin and Strauss (1990), omitting memo writing can result in conceptual details being lost since memo writing is an essential analytical process where the researcher reflects on the data at the beginning of the analysis.

Furthermore, memo writing is found to be useful for data exploration, understanding emerging categories, making comparisons and getting a clear understanding of relationships between the concepts and providing a useful story line when writing up the thesis (Corbin and Strauss, 2014). Considering memo writing as an essential step for data analysis, memoing was maintained simultaneously with the coding process in this thesis.

In this study, I maintained memo writing in NVivo where I recorded memos for each interview. Two memo files were maintained for each interview, one for recording the field notes and the other for recording the observations made during the interview. The other memo contained my thoughts during the analytical process, and as codes and categories were emerging. During the analysis, the thoughts on emerging codes were recorded every twenty to thirty minutes as memos. This was helpful for me to guide my thought process and also, during later stages, I referred to these memos for clarity. As new codes and categories emerged, I revisited the memos for information which I might have overlooked the first time.

In Fig.3, I have presented the memo on the emerging codes during Interview 1 where it is suggested that the participant's experience in the department relates to the physical spaces within which they are confined. In further interviews, codes emerged showing the difference in these spatial experiences. This resulted in me consulting the memo on Interview 1 which refers to the senior postdoc's description of the significance of the mini cultures which emerges in the mini labs.
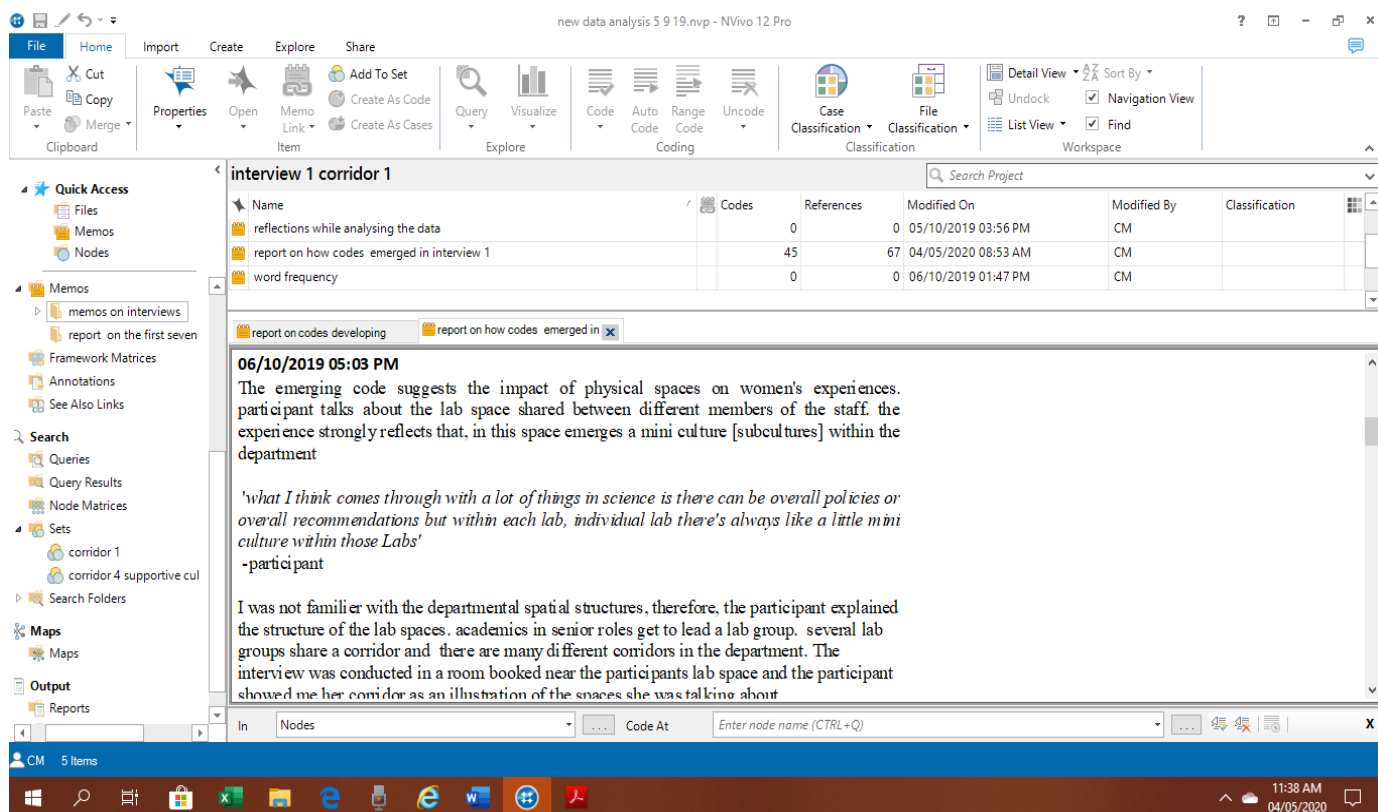
Fig. 3 Example of memo on emerging codes during analysis

3.7.1. Constant Comparative Analysis

Comparative analysis is another aspect which is considered essential during data analysis in grounded theory. Constant comparative analysis refers to comparing incidents with other incidents in the study for similarities or differences (Corbin and Strauss, 1990). The resulting concepts are further labelled, and as further categories emerge, these are compared with each other. Also, the field notes and the case study document were compared with the interview data for greater precision, consistency and to avoid researcher bias in the project. Throughout the analysis, I went back and forth comparing categories, incidents, field notes and memos bringing an audit trail to the data analysis. For instance, the interviews categorised under the code *happy labs* were constantly compared to each other to understand the similarities and differences. Similarly, the incidents in the *lonely labs* were compared with the incidents in the *happy lab* thereby connecting them together. For example, '*lab cleaning days'* were understood to be the incidents common in

the labs; however, they held different meanings for members in different lab spaces. The memos and field notes were also compared with the interview data to understand possible connections between them.

3.7.2. Coding

In grounded theory, data analysis is a continual process which happens simultaneously with data gathering. Therefore, simultaneous to the data collection, I transcribed the data and transferred them to NVivo. Each interview transcript was read and re-read to familiarise myself with the data. The next step involved '*searching out concepts behind the actualities, categorizing them, and then linking the categories to develop a theory*' (Thai et al., 2012: 11). This involved the process of coding wherein concepts are investigated from the initial data collection phase by turning raw data into conceptual ideas (Corbin and Strauss, 2014). The coding is considered as a verb while codes are the names given to the conceptual categories which emerge in coding. An integral part of grounded theory, coding is found to be the mining process whereby the researchers dig for valuable information within the data.

There are three types of coding in Straussian GT: open, axial and selective coding.

Open Coding

Open coding is generally considered a brainstorming approach wherein the researcher is open to data exploration. Corbin and Strauss (1990) maintain that the purpose of open coding is to allow the researcher to break down the data so that the researcher gains fresh insights into the phenomenon. In this thesis, I conducted line-by-line analysis of interview transcripts and these chunks of words, lines or paragraphs were given conceptual categories (Thornberg et al., 2014). This helped to manage the data as analytical pieces which were further comparable upon the emergence of additional developing concepts.

In the initial stages, a simple line-by-line analysis of interview data was conducted, and these data chunks were organised in the NVivo nodes (codes). Sometimes, NVivo nodes were created where

the phrase used by a participant became the node name (Edhlund and McDougall, 2019). For instance, during the analysis of pilot interviews, '*mini labs*' were referred to multiple times by participants and the term was allotted as the NVivo code. Examples of other NVivo codes which emerged during open coding included *mini worlds*, *caves*, *walls* and *isolated groups*. I also used memos to link the concepts emerging from open coding to facilitate analytical thinking.

Additionally, the diagrams or the visual devices in NVivo 12 were found to be useful in understanding the density of emerging concepts in each interview. For instance, it helped during the analysis to understand the core category emerging and understand the relationships between the emerging categories and the core category (Halawey, 2012). Moreover, word clouds provided useful visual representations which gave clarity to the thought process in this GT project.

Axial Coding

Axial coding is the process of relating concepts to each other in GT (Corbin and Strauss, 1990; 2014). In axial coding, the categories formed from open coding are related to each other, forming relationships and subcategories. This further helped in developing comprehensive themes and the codes were sorted based on recurrent themes. During axial coding, grounded theorists are advised to explore the properties of the '*categories, conditions, actions/interactions and consequences*' associated with the phenomenon (Corbin and Strauss, 1998: 126) forming subcategories. NVivo 12 was found to be helpful during the axial coding stage through node trees assisting in examining the relationships.

Recently, Corbin and Strauss (2014) have claimed that the axial coding occurs concurrently with the open coding and serves mostly for explanatory purposes. They refer to it as 'artificial' since it is natural for the researchers to make conceptual connections during open coding since these connections come from the data. In this thesis, axial coding was found to be useful in understanding how concepts were grouped into categories. NVivo 12 was useful at this stage of

analysis in organising the subcategories. It was at the axial coding stage that the mini labs were categorised in relation to the corridor membership. Furthermore, the categories evolved in accordance with the interactive patterns, routines, rituals, practices and the consequences of these interactive patterns.
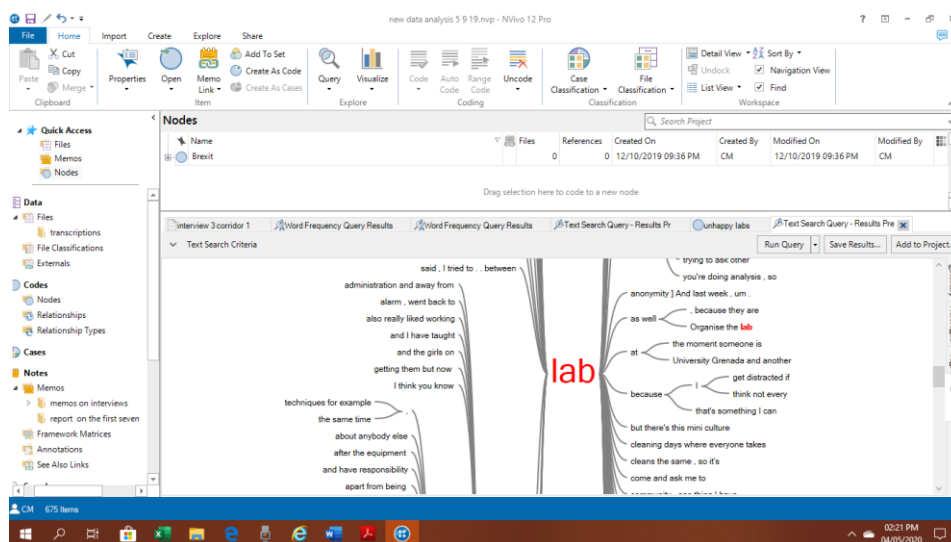
Fig. 4. Example of a word tree in NVivo 12

Selective Coding

The later stage of GT analysis is selective coding which begins with identification of the core category and unifies the subcategories with the core category (Corbin and Strauss, 1990). The core category might emerge from the identified categories and refers to the central theme in the research project. The analysis becomes more focused at this stage where the coding is limited to the variables associated within the parameters of the core category. At this stage, theory gets refined and the grey area is eliminated from the research but still the flexibility allows for the codes to be modified if unexpected ideas evolve (Thornberg and Charmaz, 2014). In this research, the core category was evident across the data; it was identified to be *spaces which constrain or enable women's career development or mini labs* which participants explicitly and implicitly and frequently mentioned in the interviews (Halaweh, 2012). Also, mini labs were connected to the

other emergent categories of *happy lab* and *sad lab* showing the relationships between them. Moreover, as Halaweh (2012) pointed out, the core category helped to explain the central phenomenon under investigation, explaining how the impact of the Athena Swan accreditation in the department is relative to the mini labs or the subcultures which might or might not accommodate inclusive and supportive practices. I continued constant comparison of the subcategories with the main theme which emerged from the research to develop theory. Additionally, the whole set of data, including the memos of participant observations during interviews, field notes, and the case study documents, were constantly compared with the core category to inspect any logical gaps which occurred during analysis.

3.8. Evaluating Grounded Theory

Finally, Corbin and Strauss (2014) suggest that the quality of grounded theory is difficult to evaluate since it depends on the person who does the research, the research purpose and the methods employed. They suggest the following criteria for evaluation:

1. Research rigor: to maintain rigor, research findings should *fit* the experiences of the research participants. In this thesis, the participants led the research process from the initial phase of data collection. The initial coding of the pilot interviews influenced the research process itself whereby the experiences of the participants guided the study. Also, I made use of NVivo to code around the participants' words thereby giving them voice in the data representation (Chiovitti, 2003). The theoretical sampling was further guided by the participants' experiences of the phenomenon.

2. Validity of the research: validity, in its non-traditional sense, is considered a '*kind of truth*' (Corbin and Strauss, 2014: 3). The validity of the research findings was evaluated through constant comparative analysis whereby the observation, field notes and case study documents were cross-referenced with the interview data.

3. Credibility of the research: to maintain the credibility of the research, I undertook a constant comparison method. The incidents were compared to other incidents and categories were cross compared throughout the analysis process. Also, to maintain trustworthiness, I clarified my position as a researcher throughout the research process by conducting reflexivity, thereby being transparent. Furthermore, sufficient details and descriptions of the research process are provided for the reader to understand the research in depth.

3.9. Ethical Considerations during the Research

This study has complied with the University of York's code of practice for good ethical governance and obtained approval from the Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS) before the data collection commenced (University of York, 2017). Access to the organisation was gained by contacting the Athena Swan coordinator for case study organisation, which was facilitated by my PhD supervisors. To maintain anonymity, the case study department and participants were given pseudonyms in the thesis and any information which might track them back was treated with utmost care. However, some of the data in this research were collected from the departmental website and the department's Athena Swan application documents which might pose a risk to the case study organisation being identified. To minimise such risk, additional to anonymising the department with pseudonyms, I avoided providing any exact figures which are given in the document.

There were several concerns during the data collection process. To avoid causing ethical issues by providing me with the potential participant list, it was decided that the case study department would send an email detailing my study to women academics in the department informing them of the study. The departmental email contained my email address and the academics could contact me directly by email if they wished to participate. I sent an information sheet to the participants who contacted me, which detailed the research purpose, data collection methods, storage and use

of the findings. Participation was voluntary and utmost care was taken to protect the anonymity, confidentiality and privacy of the participants and the case study organisation. Participants were informed that they could withdraw from the study at any point in the research and upon their withdrawal, the data would be destroyed.

The third concern was to maintain the privacy of the participants during the interviews. Therefore, when sending the information sheet, I also asked the participants if they wished to book a single room in the case study department for the interview. Thus, a precaution was taken to ensure that each interview was conducted in a private room or in the participant's office, provided it was empty. Most of the participants in this study were met at the department reception on the day of their scheduled interview where we proceeded to a previously booked room near their corridors. Only one participant was met outside the department premises, but inside the university in another pre-booked room for the interview.

Prior to the interviews, I explained the study to the participants and the informed consent of the participants was also obtained prior to data collection (Walliman, 2011). The participants and the case study department were pseudonymised prior to the data analysis. To conclude, during each step of data collection, transcription, and analysis I took much care to maintain the confidentiality and anonymity of the case study organisation and the participants.

Chapter Summary

This chapter has presented the methodological considerations of this research. The rationale for selecting a qualitative research methodology and modes of data collection have been presented. The detailed account of methodological procedures undertaken for data analysis were further illustrated. To demonstrate the transparency and trustworthiness of this research project, my personal and professional biases were illustrated in a reflexive account. Finally, the evaluative criteria in grounded theory and the ethical considerations in this research were described. The next

chapter will discuss the context of this research and illustrate the Athena Swan action plans developed by the UA department.

Chapter 4. An Overview of the UA Departmental Athena Swan Action Plans

This chapter provides the background of the case study department and briefly discusses the Athena Swan departmental initiatives over the years. It mainly focuses on the gold action plans of the UA department developed in the recent AS gold award application. I start the chapter by describing the departmental structure; to maintain anonymity the exact figures are not given. Then I discuss the Athena Swan initiatives developed and implemented as maintained in the UA department's AS gold application document.

4.1. Study Context: UA Department

The context of the study was a large department within the main Science unit of a research-intensive university. The UA department is staffed with more than 330 employees consisting of around 75 academics (slightly over 30% female); around 103 researchers (over 45% female) and professional support staff (over 68% female). Women at professorial level represent less than 9% of the total academic staff in the UA department. The departmental structure consists of a Head of the department overseeing the functioning of the department supported by a total of eight senior members in management. The departmental management team comprises administrative leads and academics who supervise the research and education strategy. The academic staff are led by two Heads, each of whom manages academics, one for the teaching and scholarship staff and the other for research and scholarship contracts. It is no surprise that there are comparatively few teaching and scholarship staff in the department, less than 15, due to the research-intensive focus of the department.

The UA department has been committed to the Athena Swan since its inception in 2005 and has been one of the pioneers in engaging with Athena Swan activities ever since. The department has been an active member and enthusiastic throughout their partnership about the Athena Swan charter by continuously engaging in gender equality initiatives among the staff and students. They

consider the largest impact of AS departmental initiatives to be on the increase in female academic staff, around 27% since 2013, and they claim that this is evidence of their initiatives in breaking the career barriers for women in Science. The documentary analysis of the UA departmental awards application over the years from the time it joined the Athena Swan benchmark shows that they adopt a systematic strategy to maintain Athena Swan principles in the department. At first, they select a self-assessment team which meets at regular intervals to oversee the AS departmental application process.

The AS self-assessment team (SAT) normally has 15 to 22 members selected from the student and staff population. Chaired by the deputy Head of Department (HoD), it is responsible for carrying out the gender equality initiatives agreed according to the ten principles of the AS charter. They set the gender equality goals for the department with the aim to improve the areas which need attention. Secondly, they collect quantitative and qualitative evidence using gender surveys, focus groups and qualitative interviews. Then the data are critically analysed to identify the key areas of concern with regard to gender equality issues and the departmental progress over the years in addressing gender equality issues. Finally, they develop a four-year action plan to address the issues identified in the analysis. The following discussion will detail the departmental initiatives to improve the gender equality issues within the department from its AS accreditation

4.2. UA Departmental Initiatives towards Gender Equality

The department has developed gender equality action plans to embed the Athena Swan principles into its culture. The action plans over the years have had a focus on supporting and advancing women's careers in the department.

The departmental Athena Swan gender equality interventions have identified some key gender issues by analysing data collected from surveys and focus groups. The focus group is also reported to be helpful in generating ideas for new initiatives in the department. The departmental

gold application identifies the key points which need to be addressed as a part of the AS initiative. They are as follow:

1. Support women through their key transition points

2. Improve opportunities for the career development of women

3. Improve flexible working options

4. Share good practices in the wider community

4.2.1. Key Career Transition Points

In the early years of its Athena Swan accreditation, the departmental statistics showed the career transition points from postdoctoral researchers to the lecturer stage to be difficult for early career researchers. Moreover, they acknowledge that the proportion of women leaving the UA department was larger at this stage of their career. Therefore, there was greater emphasis on collecting data to understand why women postdoctoral researchers left the department. Surveys were undertaken to identify the specific issues relating to women at different career stages especially among the early-career researchers. Though an exit questionnaire was introduced for the ECR who left the institution, it was reported to be a disappointment due to the low turnover rates.

The recent gold award application of the UA department shows that there has not been much progress in preventing women at early-career stages from leaving the institution. It is acknowledged in their recent gold application that the surveys show the leaky career pipeline is sustained at the postdoc to lecturer level. The recent departmental gold application also recognises this to be a significant issue since postdoc positions represent a crucial career point; however, they are still the 'leakiest' where women potentially leave. The department reports that they continue to make efforts to tackle this issue by taking action to prevent losing female talent at this stage. This is by encouraging postdocs to gain teaching experience, to participate in committees and

selection panels, providing them with inter-departmental mentoring and thus supporting their career development.

Moreover, the departmental efforts to enhance and maintain parity in the number of female staff at different career stages included the unconscious bias training which was available for all the departmental staff. To avoid unconscious bias at the recruitment and the promotion phase, chairs and the interview panel members were said to have attended unconscious bias training. Moreover, the department ensured mixed gender panel members in the interview panels for the PhD and the postdoctoral researchers. The department also reports having tailored induction programmes focusing on specific groups so as to inform them of equality and diversity. The induction programme is also reported to communicate the inclusive departmental culture highlighting family friendly policies and flexible working options. Moreover, the department highlights them by introducing core working hours which are supposed to provide better working patterns to maintain a better work life balance.

4.2.2. Career Development Opportunities

As mentioned earlier, the departmental statistics continue to show the lack of career progression rates from postdoctoral position to lecturer positions despite their efforts over the years from the Athena Swan accreditation. To remedy this, earlier interventions included providing career development advice and information to postdoctoral researchers. This also included several sessions to improve CV writing and interview skills as well as several seminars and talk sessions to inform and improve women of their career development opportunities.

The departmental applications for awards over the years shows it to be revising the career development plans. One of the developments noticed in the later applications is that they introduced a mentoring scheme to improve their research skills. This focuses on providing support for the grant application process and assisting postdoctoral researchers to achieve their research

objectives. The recent gold departmental action plan involved revised plans for the postdoctoral research staff by introducing career progression plans for them. The department considers the lack of progression for the postdoctoral career researchers to be due to them not being named in research applications. Therefore, focus groups were arranged to discuss the potential reasons for them not being named in research grants and applications. This was reported to result in positive outcomes where there was a slight improvement in the gender balance of the named researchers in the grants. However, these efforts are not yet reported to prevent the career pipeline problems or to improve the promotional prospects for postdoctoral researchers in UA department.

Mentoring is also prioritised in the gold action plans towards improving the career development of the departmental staff. The department encourages inter-departmental mentoring schemes to assist female academics and researchers to improve their awareness of career prospects. Mentoring is also provided to the women academics to improve their confidence to apply for larger funding. This is said to have slightly improved the funding level application of women academics. The unsuccessful grant applicants are further offered support by training and mentoring from the department. Also, mentors inform and communicate the career transition process for women on maternity leave. For new mothers, the departmental policies include better communication plans which means that they are made aware of the maternity leave options available to them, to keep them up to date on the departmental activities and to ensure smooth transitions from maternity leave and into flexible working options.

Inclusive and Supportive Culture

The department has moved forward from its earlier years of identifying the cultural barriers towards developing AS action plans to overcome these challenges and in the recent gold application, they aim to sustain the positive cultural changes they have achieved over the years.

In the recent gold application, they explain that the cultural changes undergone since AS accreditation are significant. The department seeks to gather information on departmental life

through surveys at regular intervals. The recent cultural surveys are reported to produce high response rates and the data, planned actions and the impact are published on the departmental website for transparency. The departmental staff meetings are considered to lead to lively discussions and inputs with regard to the AS initiatives. They are reported to give voice to the departmental members to raise their concerns. Moreover, to enable a supportive culture, the staff are given opportunities to have discussion with individual AS committee members if they are not confident to share their opinion in public.

Another way the department seeks to ensure an inclusive culture is by providing positive role models in the departmental events and website. The departmental website is considered a platform to include positive images of women scientists to show the inclusive departmental culture. Moreover, the department seeks to improve the gender balance during the outreach activities, thereby improving the visibility of female scientists in wider society. The department reports its efforts to maintain gender balance while inviting speakers for seminars and other departmental activities which may have large visibility. Moreover, these activities are timed in the core hours so as to allow the participation of members with caring responsibilities. This is highlighted to demonstrate and improve the inclusive departmental culture.

The gold action plan also explains that collegiality is greatly valued, improving the friendly atmosphere in the department. This is enhanced by regular social events held in the department which are advertised in advance so as not to exclude women with caring responsibilities from departmental activities. Moreover, the timing of these social events is also considered with regard to those staff groups with familial and other caring responsibilities.

Flexible Working Practices

Departmental applications over the years show their commitment to flexible working practices demonstrating the inclusive departmental culture. In particular, the recent AS departmental gold award application reports flexible working options as a high priority. It mainly focuses on pregnant

women and women returning from maternity leave by allowing options to attend medical appointments. Pregnant women experiencing a difficult pregnancy or who are near their term are offered flexible working options including work from home or reduced working hours. It further explains that any concerns of the research staff over funding issues during maternity leave can be raised with the administration manager. The reduced work hours are also offered to staff with caring responsibilities, to manage work and life balance and those nearing retirement.

The recent AS gold application shows a significant improvement in terms of the awareness of the departmental staff of the flexible working options. In the earlier phase of the Athena Swan accreditation, the department recognised a near lack of awareness of the staff about the flexible working options. One of the objectives in the recent gold awards has been to improve the awareness of flexible working options especially in terms of paternity leave. Therefore, the department communicates flexible working options in the induction for new comers and in briefing sessions with the managers.

Workload Model

The department has recognised the long working hours culture in the department as stressful and an unhealthy working practice for its employees. Therefore, the department has addressed this by communicating with the staff and students about healthy working practices. In response to the Athena Swan gold award application process to generate fair workload for departmental members, the department explains how it provides a transparent workload allocation model. The departmental workload model shows a focus on teaching, marking, administrative and committee memberships. Therefore, the model is considered to be helpful in fair allocation of work to the departmental members. However, the surveys collected by the department show the female academics reporting that their full workload is not reflected in the model. Also, there is less recognition of the research work of the staff in the workload allocation model.

4.2.3. Raising Athena Swan's Profile and Being the Beacons of Achievement

The departmental gold action plan shows efforts taken to improve the departmental staff's engagement with the AS. The departmental surveys which were conducted show that the majority of the departmental members gave a positive response recognising the department benefitted with the Athena Swan accreditation. This is also considered as evidence for raising the profile of the AS. However, the departmental survey recognised professional support staff are less aware of the Athena Swan. Therefore, focus groups were conducted with the professional support staff to generate ideas to improve their engagement with the AS.

The outreach activities in the wider communities are also considered to be activities intended to raise the Athena Swan profile. The publication of Athena Swan activities on the website is also considered to be helpful in improving the Athena Swan profile. The department continues to show their commitment as a beacon of achievement by sharing good practices with other departments. As ambassadors of gender equality, lunchtime sessions are conducted to create awareness of the AS activities done in the department.

Conclusion

To understand the impact of the UA department's Athena Swan initiatives on the lived experiences of the participants in this study, it was important to provide a brief description of the context of the study. This chapter served this purpose with utmost precaution taken to maintain the anonymity of the department. Moreover, it is fundamental to discuss the UA department's gold action plans to analyse how these have transformed into lived experiences for early- and mid-career researchers in this study. Therefore, this chapter explained the actions points taken by the department over the years to address the gender inequality issues with particular focus on their Athena Swan gold actions. The next two chapters illustrate the findings of this research.

Chapter 5. Spaces that Matter: Impact of Athena Swan Accreditation on Departmental Subcultures

This is the first of two chapters which presents two mini cultures in the department shaped by the parameters of space; one that aligns with the AS principles of inclusive and supportive practices and the other which does not reflect these AS principles.

In general, the findings showed that the experiences of participants were related to the mini cultures which promoted differential practices resulting in differential experiences for early- and mid-career researchers in the department. The main finding in this thesis illustrates that the experiences of the majority of the early- and mid-career researchers in the Athena Swan gold-awarded department reflects Subculture B which does not embed the Athena Swan principles. On a more optimistic note, this study identified some corridors with behavioural practices that are supportive and inclusive resulting in better experiences and retention of women. However, despite these being the minority subculture, the inclusive and supportive practices were not recognised as resulting from the Athena Swan departmental action plans, but due to the community building activities practiced within the few corridors. Additionally, the findings suggested that the Athena Swan does not address the needs of post-doctoral research contract workers despite them being a key part of the academic career ladder. These findings will be explored in two chapters in this thesis.

I will begin this chapter by illustrating the presence of subcultures in the department, which have differing influences on the experiences of the departmental members. The theme relates to the significance of corridor spaces, which participants interpreted as their workspaces, having an impact on their lived experiences. Therefore, I will present the evidence of two subcultures exhibiting dichotomic practices within the department to demonstrate the lack of uniformity in the inclusive and supportive practices across the subcultures. These findings do not reflect the Athena Swan departmental application reports of an inclusive and supportive culture in the department.

Next, the lived experiences of women from corridors identified as Subculture A are presented. Though Subculture A is identified as the minority subculture which has only two corridors thus classified, nevertheless it is found to be significant in the current research context to show the importance of spatial narratives for women's experiences. Moreover, Subculture A constitutes an ideal framework resulting in positive experiences for the participants in this research, therefore having wider implications for practice. However, the main findings of this research reflected the experiences of participants from Subculture B which constituted the majority of the corridors are presented in the next chapter.

5.1. Significance of Spaces

In relation to the investigation on the daily working lives of the participants in the Athena Swan accredited department, the most prominent category emerging from the pilot interviews was the 'workspaces' through which women related their lived experiences in the department. Women were distributed across the department and each of the participant's experiences emerged from the physical spaces within which they worked in the department. Therefore, it is important to demonstrate the physical spaces which relate the experiences of participants in understanding their daily working in an Athena Swan gold-awarded department.

5.1.1. Physical Spaces

As mentioned in the previous chapter, the initial questions to examine the lived experiences of the participants were loosely framed around the grounded theory approach in this research. The initial investigation on the experiences of the participants in the department in the first seven pilot interviews guided me towards the broader category of 'workspaces' which was understood to mean the physical spaces within which the women academics were situated in this study. These physical spaces were considered to play a significant role in how the participants understood and interpreted the inclusive and supportive culture in the department.

The physical structure of corridors was understood through observing different corridors in the department and the interpretation of them offered by participants. Additionally, a departmental map was studied to understand the geographical separation and names of different corridors during the analysis stage. I will now explain the departmental spaces as described by the participants, based on observation of these spaces and as delineated in the departmental documents.

The department building consists of 15 blocks which are divided into 22 corridor units. The academics on teaching and scholarship occupied a single block while the research staff were positioned across the rest of the blocks. The common spaces included a hallway and a coffee shop in Block A where tables and chairs were placed for the staff, students and the visitors. This area was generally used for informal lunch/coffee meetings and socialising. The Athena Swan departmental application document refers to this area as enabling socialising across the departmental members thereby supporting the inclusive departmental culture. It is further explained to display signs and posters welcoming the staff to the socialisation events in the department.

 The units within the departmental blocks were referred to by participants as research '*corridors*' spread across three floors in the department.

Block B

Corridor Three	Hallway	Corridor Six
Corridor Two	and Stairs	Corridor Five
Corridor One		Corridor Four
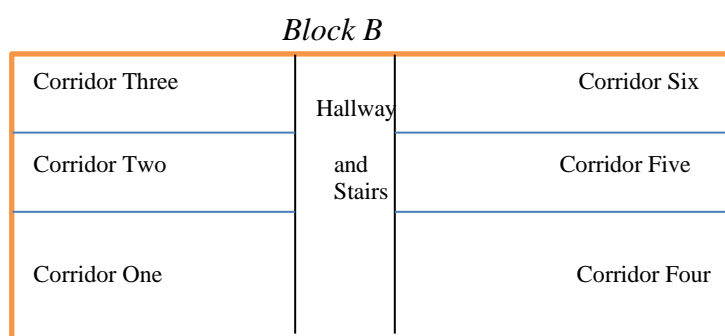
Fig. 5 Departmental building floor plan (Block B)

Fig. 8 shows the departmental building floor plan for Block B where the different corridors are positioned across the three floors and shared by multiple research groups.

According to P12 who works as a PI for a research group:

'*Multiple research groups share the physical laboratory, office and equipment. The postdocs and PhD students share the office space and PIs have individual offices in the corridor*' (P12, research lecturer).

Women described corridors as physical spaces with boundaries where two or more groups share office space and equipment. Similar explanations were provided by other participants who described their physical workspaces in relation to '*corridors*' which consist of different groups sharing office and lab space. To understand this further, I will present the physical structure of the corridors through a map.

Corridor Map

The information about the departmental structure was obtained by analysing the visitor's information map of the department. Some participants drew pictures of their corridors to help me to understand the shared corridor spaces, some showed me around the corridors, while some interviews were conducted in the unoccupied spaces of these corridors. The corridor map together with the participants' accounts and my observation of corridor spaces were analysed together in understanding these corridor spaces.
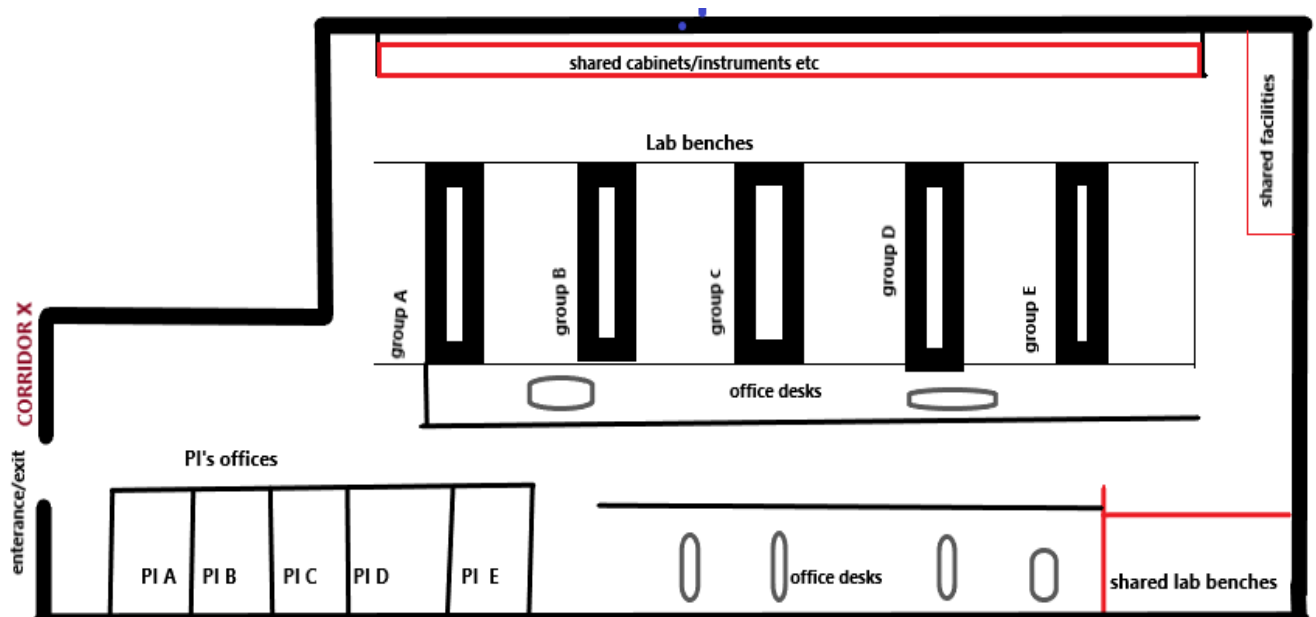
Fig. 6. Image of Corridor X

The above figure is an example of a corridor space drawn by a participant in this study. The department has 22 corridors which are divided by spatial boundaries. The access to these corridors is restricted and accessible to the corridor members through electronic cards provided by the department. It is possible that such restricted access to each corridor is to maintain security due to the nature of the research conducted at these premises.

Fig. 6 shows Corridor X where the left-hand side offices are occupied by individual PIs of different groups. Located near it are the office desks shared by different groups in the corridor which is an open plan area with desks, chairs and other office equipment and this space is mostly used for writing papers, reports or any paperwork. On the other side is the lab, where experiments are conducted; it is referred to as a '*wet lab*' by some participants. According to P6, this is where the '*actual lab work*' happens while the office desk space is for paperwork.

In her words,

'*We call wet lab work actual lab work in an actual lab, as opposed to paperwork*' (P6, postdoc).

The wet lab space is shared by different groups conducting experiments and they share the equipment in the lab. In general, equipment can include lab instruments, lab supplies, lab desks, office desks and office supplies. During the interview, some participants used the term '*lab*' for the corridor which they later clarified to be the '*wet lab space*' of the corridor where experiments are conducted. Sometimes the term lab was used to indicate their group in the corridor; this was clarified during the interviews by the researcher by asking if the participant meant the '*group or the corridor*'.

5.1.2. Spatial Arrangement: Hierarchical Spaces

The corridor spaces were hierarchically arranged where the mid to senior academics with the Principle Investigator (PI) positions, leading research groups in the corridors, occupied individual offices while the research groups shared the office space.

Since the academic staff figures in the department show women's representation in postdoc positions at around 48%, they share the office spaces. It was not surprising to find that the PIs' offices were mostly occupied by men who dominate the senior positions at about 66% in the department. This showed visible hierarchical positioning of men within glass-door offices while women in junior positions shared the office floor. This was mainly noticeable for corridors which were female dominated. For example, a participant explained how the members were situated in her corridor which had all male PIs.

'*You need to look at the amount of female technicians, and female PhD students and female postdocs in our corridor; it's like insane. We have on our corridor, we have all male professors*' (P4, postdoc).

The gender segregation appeared to be visible especially for the women in Corridor Two where all the PIs are men resulting in material spaces becoming representative of female segregation in junior roles with men occupying single offices. Several women pointed this out while showing me around the corridor spaces and while describing the drawings where they interpreted the spaces symbolising their junior status.

My field notes on the physical spaces were recorded as a memo as follows.

> *Closed Glass Doors*
>
> *Today's interview was conducted with a PI, in her office. I was greeted in the reception and taken to the office through a corridor. We went inside the corridor when the participant presented her corridor card in the card reader. On entering the corridor, I saw some women quietly working in their office desks. Sitting in separate chairs, three or four shared a desk among them. On the other side facing them, was my participant's office. I was taken inside the office, it was spacious. she closed the door behind us, ensuring the privacy of the interviews.*

My observation of the corridors shows the physical structure of the spaces reflecting the underrepresentation of women in senior positions in Science disciplines. Mostly the PIs' offices were located near to their research groups which was for quicker access to their lab members. The office spaces were shared by lab members who were in lower academic positions than the PIs and by default, women who were positioned at the lower hierarchical levels were segregated in the office spaces. Such spatial arrangements which are organised around organisational hierarchy sets the genders apart reflecting the hierarchical gender power relations within the workspace.

5.2. Workspace: Corridor Identities and Relationships

The research noted the lack of unified feelings across the participants as part of the department; rather, they explained their identity in relation to the corridors. Working together in the shared corridor spaces created a sense of shared identity in relation to their corridors among the participants. This was noticed from the beginning of the study while meeting the participants in the reception or the mutually agreed space, where they identified themselves as a member of a particular corridor.

For example, P6 identified herself as a member of Corridor Five during our meeting at the reception.

'I am from Corridor Five' (P6, Corridor Five).

The pattern of the participants identifying with their corridor spaces continued throughout the interviews as well. The initial interview questions were planned to be simple and acted as the icebreaker, initiating the conversation; the participants were asked to give a short introduction. The introduction included their name, country or city, family status and always their corridor membership. Some of them drew where their corridor was located, introducing it as their workspace, and shared their research interests. For example, P31 described her corridor name and her research group.

'*I work in Corridor Two with X group*' (P31, Corridor Two).

'*So, this... [drawing with pen], this corridor we are on is six, and if you go upstairs and that's where our whole lab is based*' (P26, Corridor Twelve).

As the above examples show, women continued to refer to their corridor throughout the interviews while describing their experiences in the workplace. As referred to in Fig. 9, some women drew their corridor to explain the structure of their workspace. This showed a strong sense of identification as members of their corridor rather than feeling collective as a department. Also, the participants were found to be constantly using inclusive pronouns such as 'we', 'us' and 'our' while describing their corridor experiences. Such use of pronouns indicated a sense of collective feeling where members recognised themselves as a member of a unique group within the organisation. Therefore, subjective interpretations of these corridor spaces reflected that the women understood their workspace in relation to their corridor spaces and the groups in these corridors. The corridor membership was thus understood around the collective identification of the members belonging to the distinct group within the UA department. While the sense of belonging to their corridor space was extended from their identification as the UA departmental members, most women from the pilot interviews explained that they confined themselves within the corridor spaces.

For example, P1 from the pilot interview explained the general behaviour of the departmental members:

'*People probably just go back into the hole of the cave of their lab [corridor] and focus on their stuff...*' (P1, postdoc, Corridor Five).

This was confirmed in the rest of the interviews, where the participants explained how they caved themselves in their corridor spaces using metaphors of bubbles and circles. For example,

'*my lab [corridor] is a bit of a bubble*' (P4, postdoc, Corridor One).

'*I've got a really small circle and I tend to stay within my lab group … or my, I just know the people in the lab group near me so… I have very good support in the corridors or in the Lab groups. I think people do tend to stay within their lab groups*' (P3, senior post-doc, Corridor Five).

The open coding of the pilot interviews found that all the postdocs formed relationships within their corridors and few relationships outside their corridors. This was mostly found among postdocs who constructed their workspaces in relation to the relationships they share within the corridors. The data suggested the corridors symbolising enclosed spaces for women and some women used metaphors of 'caves' 'bubbles' and 'circles' to explain their experiences. Thus, women restricted their movements, activities and relationships within these enclosed spaces preventing cross-corridor interactions and relationships between the departmental members.

Participants explained that they stayed within their spaces thereby forming relationships within these circles and it was evident from the interviews that the 'relationships' were another criterion for women to define their workspaces. For example, when the participants were probed to explain what they meant by their identification as part of a corridor, they explained how sharing the corridor space and equipment resulted in the relationships within these corridors. Also, working alongside other group members results in familiarity with each other; therefore, there was a sense of collective identity formation in relation to the relationships formed within these corridor spaces. Also, the nature of the interactions with their colleagues who operate within the same space was a key factor in terms of how participants explained the nature of their workplace. As mentioned earlier, the caves and bubbles further showed that the interpersonal relationships largely remained within their corridor spaces. Therefore, the corridor spaces became confined spaces for women within which relationships were formed and maintained. Thus, women defined their workspaces in terms of the relationships and the spatial identity within which they performed scientific work.

Interpersonal Relations

```
┌─────────────┐
│  Defining   │
│  Workspace  │
│ (corridors) │
└─────────────┘
       ↕
    Identity
```
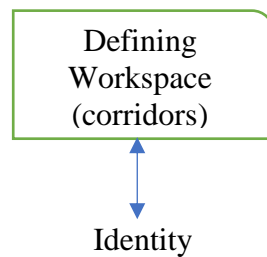
Fig. 7. Interpretation of workspaces

Women confining themselves within the spaces further suggested that interactions were mostly limited to their corridors where they focused on their work and corridor activities while *shutting out* activities outside their corridors. Such spatial performativity resulted in limited participation of women in departmental activities which can have implications for Athena Swan activities organised by the department.

As shown in the previous chapter, the award application shows that the department promotes professional opportunities and an inclusive culture by organising seminars on career development through, for example, lunch sessions, inter-departmental mentoring opportunities, and social events in the department. Additionally, they explain the core hour working practices to improve inclusive staff meetings and use the workload model to ensure fairer workload allocation in the department. Moreover, they show the family summer social event organised as evidence of regular socialising events organised to improve the inclusive culture in the department. These events are organised and communicated in advance to the staff so that women with caring and other responsibilities are able to attend these events.

However, the interview extracts showed the behavioural pattern of the postdocs whereby they distanced themselves from the departmental socialisation limiting their daily lives within the corridor, which further raised questions about how the above-mentioned initiatives impact their experiences. Therefore, it became significant to understand the daily lives of women in their

corridors, which women interpreted as their workspace, and the how the *gold* gender equality initiatives of the department have had an impact on their daily lives.

During the subsequent data analysis process, to understand the lived spaces of women and the impact of AS gold departmental initiatives on their daily lives, the women were categorised according to their corridor space to help with the data analytical process. According to the participants' identification of their workspaces, women were categorised according to their corridors as below.

Corridor name	Number of participants
Corridor One	7
Corridor Two	4
Corridor Three	5
Corridor Four	2
Corridor Five	2
Corridor Six	3
Corridor Seven	4
Corridor Eight	3
Corridor Nine	1
Corridor Ten	1

Table 5. Participant distribution across the corridors

Primary data analysis of the pilot interviews revealed the theme of women interpreting their workspaces in relation to their corridor spaces. This was further investigated through theoretical sampling resulting in the emergence of categories showing the mini cultures which will be discussed next.

5.3. 'Mini Cultures'

As mentioned previously, the seven pilot interviews conducted initially in the study revealed that the participants identified themselves according to four different corridors and that these corridors or the lab spaces were differently interpreted by women from different corridors. The open coding

suggested that their experiences derived from their corridor cultural norms and behavioural practices which were interpreted as *mini cultures* by the first participant in this study. When she was asked about her experiences in the corridor, P1 answered,

'*People probably just go back into the hole of the cave of their lab and focus on their stuff… they feel a little bit trapped in that mini culture*' (P1, senior postdoc).

Upon probing to explain mini cultures, she continued,

'*so, there may be six people on your lab, maybe there is 20 people in your lab but there's this mini culture that doesn't necessarily adopt all of the recommendations on all of the sort of guidelines… from the likes of Athena Swan or the concordat*' (P1, senior postdoc).

P1 is a senior postdoc and has been with the department for almost 15 years and mentioned that the behavioural pattern appeared to be different in corridors where some promoted gender equality practices and others did not. She explained this through examples of long working hour practices which she explained that some labs might follow, and some might not; thus, there is a lack of uniformity of such practices across the mini cultures. She was in the department when they first started the Athena Swan accreditation process and suggested that despite the best intentions of the departmental gender equality schemes, the practices in different corridors might continue since there are no consequences for ignoring such initiatives. Other participants also agreed that departmental corridors can have different behavioural norms including working hour practices, interaction and socialisation patterns which influence the corridor members' experiences.

Further analysis of interviews through axial coding found relationships between corridor spaces and the lived experiences of women. The metaphorical use of 'caves' and 'bubbles' in describing the labs further indicated differential interpretation of these spaces by the women who belonged to different corridors. As the above narrative suggests, the Corridor Five member compared her corridor to a 'cave', suggesting a symbolic dark and enclosed space lived in by women in this corridor. In contrast to the cave metaphor, the woman from Corridor One used the metaphor of a

'bubble' to describe her lab. While the bubble signifies an enclosed space trapping air inside, it suggests a better narrative of a well-lit space offering more visibility to the occupants inside it. Such interpretations, together with women's descriptions of their corridor behavioural practices, were found to create differential meanings of corridor spaces for women.

The behavioural practices within the corridor workspace can evolve over time, forming the mini cultures within corridors. This resulted in women who shared the same corridors having more common experiences compared to women from other corridors. The groups being located in close proximity can share similar experiences in terms of their daily working lives and the routine problems faced by the corridor groups were more similar due to them sharing the workspace. Therefore '*groups of people or communities*' are formed within the spatial context and the everyday interactions can result in a set of behavioural norms being set in the corridors.

These behavioural practices can result in women's interpretations of the nature of their workplace. According to P6,

'*There is definitely workplace cultures in labs... definitely (emphasis). And a lab will have a reputation for being a happy or an unhappy lab*' (P6, postdoc, Corridor Five).

Thus, the pilot interviews guided me towards the theme of mini cultures in the department which might or might not promote gender equality practices as described in the Athena Swan document. Similar to the metaphors of bubbles, caves or circles to describe different labs, women also described their labs in terms of being '*happy*', '*unhappy*' or '*weird*', to explain the mini cultures in the lab which indicated that the nature of the mini culture influenced how women constructed their subjective experiences of their working lives.

Further questions were aimed at exploring the 'mini cultures' in terms of what behavioural practices made the corridor happy, sad or weird. As previously mentioned, at the end of the first phase of data collection, the participants were divided according to their corridors to better understand the corridor practices. The emerging concepts from each corridor were constantly

compared with each other individually and then by corridor. The second stage of this research involved in-depth analysis of the behavioural practices within each corridor space. In the third stage, the research examined the influence of the Athena Swan departmental initiatives on these mini cultures. The findings derived from the data suggested differences in overt behaviour, beliefs and values in different corridors and these differences impacted the participants' lived experiences. For the purposes of analysis, the subcultures were divided into Subcultures A and B where corridors displaying homogenous behavioural patterns were grouped together. I will now present the behavioural patterns in these subcultures in relation to Athena Swan gender equality departmental claims below.

5.4. Subculture A – Supportive Subculture

Corridors One and Ten shared homogenous interactive behavioural patterns and hence were categorised under Subculture A. There was a total of eight women from both corridors, seven from Corridor One and the postdoc from Corridor Ten. Despite the fact that Subculture A appeared to be the minority, the findings were important in understanding how different spaces shaped the experiences of women in Science.

Subculture	Number of corridors	Total number of participants	Senior postdoc	Postdoc
A	2	8	2	6

Table 6. Corridor divisions

The structure of Corridor One was described as being '*female heavy*' which several participants interpreted to have influenced the corridor behavioural pattern. This is what two members of staff had to say:

'*I think it is like our lab is very female-heavy in terms of like, technicians, postdocs and stuff. So that's kind of life… I think having more women probably, it makes me feel more comfortable like…*' (P4, postdoc).

'*One thing that makes it a great atmosphere is having key people that don't leave. So, we have long-term technicians that are employed... it's a really lovely place to be. Ahh... we get lots of people applying for jobs*' (P30, postdoc).

One of the reasons for the female domination in the corridor was interpreted to be due to the positive corridor atmosphere resulting in the retention of women. These experiences indicating women staying in the corridor longer was cross-referenced with the participants' working history which they provided during the interviews. In the study, a total of four senior postdocs participated and among them three senior postdocs were from Corridor One. They explained their longer-term working history within the same corridor for more than 13 years. Also, most of the postdocs from Corridor One explained they had been with the corridor for a longer time compared to the rest of the corridors. They confirmed that the corridor culture has played a role in them staying for longer in the department and like the senior postdocs from the corridor, they explained feelings of pride and being lucky to be a part of their corridor.

Similarly, P30 claimed that women stayed in the corridor for a long time due to the '*lovely*' atmosphere in relation to the lasting and meaningful relationships in the corridor which resulted in close ties between the corridor members, thereby allowing them to *retain talents* within the corridors. Therefore, the continuity of the members was experienced to be a factor reinforcing the core values of communal relations in the corridor.

Also, analysis showed relationships between female domination and the perception of the values of '*community, close relations, and togetherness*' in the corridor. Most women described that the corridor space, being female dominated, had shaped the interactive pattern in the corridor.

In general, behavioural patterns in Subculture A further showed values of communal relations among the participants. Women from Subculture A described their corridor experiences in terms of being '*happy*', '*fun*', '*lovely*', '*community*' and '*lucky*' indicating positive experiences for the lab members. When asked about their corridor, all the participants from Corridors One and Ten described their corridor as *friendly*.

Friendly Interactions and Values of Care and Support

Women from Corridors One and Ten presented their corridors mostly as 'friendly', which emerged as one of the most recurring terms used by women when describing their lab/corridor.

'*Can you tell me more about your lab?*'
'*Very friendly*' (P16, Corridor One).

'*It's very friendly and relaxed*' (P18, Corridor One).

'*It's really friendly*' (P32, Corridor Ten).

Fig. 8. NVivo word frequency

The corridor being referred to as friendly was talked about in terms of routine interactions between the members. The word frequency further showed '*close relations*' and '*togetherness*' as categories arising in the analysis which were classified under the theme of *communal relationships between the corridor members*. There was a community feeling among the members who explained this to be resultant of the close relations they shared within the corridor.

P7 who joined Corridor One a few months back commented,

'All people know each other, and umm... especially open and friendly because you can approach anyone and ask if you can use this equipment or that' (P7, postdoc).

'It's really friendly. So just come in and say hello to everyone. Sometimes have a bit of a chat, but normally just get on, and then have a chat later… builds a stronger local community. Because you, you know, each other better, ahh' (P30, senior postdoc).

'we usually, other woman will usually say as you can see. When you see me, "It's a nice look", something like that. "It's a nice scarf, did you got it". So, something like that, we usually do it like a nice comment in the morning' (P10, postdoc).

When questions were asked to explain what they meant by *friendly*, the participants placed emphasis on the *chats*, *talks* and *jokes* indicating verbal interactions. Also, there were feelings of being noticed and heard further creating a sense of being valued in the corridor. As P10's comments show, the daily behaviour in the corridors gives space to the mutual admiration and appreciation where the corridor members feel positively visible. The morning greetings and exchanges were considered to create a sense of familiarity, and a sense of collegiality between the corridor members which were valued in the corridor. Moreover, such interactions were considered to improve the familiarity between corridor members creating and maintaining the communal relations. Therefore, such collegial relations were an important dimension for the corridor members to address these spaces as *happy* and *funny*.

The axial coding found the codes of 'care and support' related to emotional and professional support in Subculture A. According to corridor members,

'It's a very funny place and people are supporting' (P16, senior postdoc).

'And everyone is supporting' (P30, Corridor Ten).

'*I mean as a lab member you know I guess... everybody have a responsibility to care for each other so*' (P5, senior postdoc).

'*If you feel even sick or something. You didn't, didn't come one day, they ask about you. So, it's nice. They sent for your email or something. And if you have even a bad feeling, they are usually support it and try to make it less, and even if you're happy or something you can share it with them. So, it's good, actually...you feel that it is a second family*' (P10, postdoc).

In Subculture A, building and maintaining relationships of care and support between corridor members were recognised and valued. These relationships in the corridors were characterised by closeness, familiarity and collegiality where two women used the term '*family*' to denote close relationships in the corridor. The physical and emotional wellbeing of the corridor members are noticed by colleagues and they are offered emotional support which was generally believed to be their *duty of care* as depicted by one senior postdoc. This showed a sense of engagement across the corridor members; moreover, there was a sense of comfort noticed among the corridor members when they described the corridor relationships. Thus, the supportive communal relations in the corridor resulted in women finding themselves valued in the corridor, creating a sense of solidarity among the corridor members.

The important thing here is that there was no evidence to show that the friendly relations identified in Subculture A were an impact of the departmental intervention to embed the Athena Swan gender equality principles in the corridor subcultures. The departmental AS action plans and the participants' accounts show no policies or practices aimed at improving the friendliness and cooperation within these corridor spaces.

5.4.1. Approachability and Supportive Behavioural Practices Resulting in Flexibility

The helpful attitude across the corridor was reported by all the members which most women interpreted as being due to the friendly interactions among the members. The communal relationships across the corridor were considered to be open and inclusive resulting in informal socialisation opportunities within the corridor. This resulted in ties and close relations being formed between the members resulting in a friendly network across the corridor community. P18 explained how the helpful attitude resulted in corridor members easy accessibility to each other:

'*People are really nice to each other and if you need something, people will help … So if you, for example, trying to find out something you need to know how when you go to talk to somebody that will help you and if they don't know the answer they will tell you there is the other person that has worked on that if you go and ask them*' (P18, postdoc).

The corridor practices in Subculture A displayed traits of expressive behavioural norms showing sensitive, kind, caring and supportive patterns towards each other. The members' identification with the feminine behavioural norms in Subculture A resulted in them enacting such behaviour in the corridor. These informal practices displaying supportive and caring values in Subculture A were reported to create more flexible working experiences for the members. For example, P10 reflected her experiences in terms of flexibility in working patterns, she explains the informal support between the corridor members helping with her flexible working in the corridor

'*So, if you need any hands, anyone can help you, which is good actually… if I need to go, yeah, I usually ask anyone, please take this sample for me at say 5 o'clock and put it in -20. But to be honest, you know, just to give him a short note or something to let him remember or send him email before it. It will be fine*' (P10, postdoc).

Such flexible working options enabled by the friendly nature of Subculture A were further found to be significant for women with caring responsibilities. Four women from Corridor One and the postdoc from Corridor Ten reported having childcare responsibilities. All the mothers in Subculture A described that the corridor behaviour is generally accepting of women's caring responsibilities. P10 is an international postdoc who has childcare responsibilities; for her to be in the lab at 5 o'clock due to the nature of an experiment can hinder her from picking up her child from school. She finds the communal relations in the lab allow her to approach her colleagues to ask them to do any minor tasks which do not need her direct supervision. The flexibility available through communal relationships was also noted by women with no caring responsibilities. For example, P16 explains her experiences of flexibility in the corridor which she finds being available to the corridor members irrespective of their caring responsibilities

'And if I have to go, I go. And if I have something which has to be done, I ask if someone can do it for me. And he's very friendly and supportive. And they do not just because I am a mother, it's true for people who don't have children too. Yeah. Yeah' (P16, senior postdoc).

However, it was explained that the flexible working conditions experienced in these corridors were a result of the values of cooperation and collegiality in Subculture A rather than the departmental Athena Swan actions. Despite the flexible patterns due to the collegial relations in Subculture A, working long hours continued since it was demanded of the scientific research work. For instance, P10 explained her job responsibilities might make her stay longer in the lab:

'Some days, we need you to stay more (time in the lab). So sometimes you have some incubation time, That's quite too long. So sometimes I need to choose to stay 7/ 8/10pm(laughs)' (P10   ).

Similar quotes by the other corridor members showed that the job responsibilities involved with the postdoc profession might result in working '*like a couple extra hours in the evening, weekends and stuff*' (P5, postdoc). As a part of improving the flexible working patterns, the AS departmental action plans show them having implemented the workload model and core working hour practices. Firstly, the workload model to challenge the unfair workload generally imposed on the departmental members was found to have no impact on the experiences of the postdoctoral researchers, the nature of whose work might require them to work long hours. As mentioned in the previous chapter, the workload model mostly focused on the working demands associated with teaching and administrative duties and overlooked the research dimension included in the working hours of the postdoctoral researchers. Therefore, this has had little or no impact on the early and mid-career researchers, who continue to work long hours.

While the departmental Athena Swan gold application shows flexible working hours being offered to women with childcare responsibilities where they are offered alternative shorter and longer working days to manage childcare, the interview extracts did not show women aware of any such practices. Moreover, the participants from Subculture A insisted that they managed flexibility through mutually supportive behavioural practices within the corridor rather than any departmental policies or practices.

Secondly, the Athena Swan action plans to support the flexible working patterns offer flexible working hours to employees where core working hours are delineated as being from 10.00 am to 12 noon and 14.00 pm to 16.00 pm. While this is described as '*healthy*' in the departmental document, it does not have any impact on postdocs due to the nature of the scientific work which, as shown above, sometimes demands hours outside the core hours. Therefore, the core working hour practices have not addressed the working patterns of the postdocs in Subculture A who survive this culture through mutual support. Thus the 'approachability' of corridor relations, and

the cooperation between the corridor members has created the 'flexible working' conditions in the corridor for women with caring responsibilities

In short, the findings suggested that the postdocs interpreted the flexibility to have stemmed from the communal and collegial relations in the corridor. The claims made in the AS application to have improved the flexible working conditions of women as a result of departmental interventions were not reflected in any of these interviews. Though the AS departmental actions were found to be unsuccessful in challenging the long working hours culture associated with the scientific lab jobs, the communal relations and collegiality identified in Subculture A created a positive working space for women in these corridors.

Lack of Departmental Support: 'They were pushing this woman out'

Women's belief in the lack of departmental support for the flexible working options further stemmed from their experiences of a recent incident related to their colleague in Corridor One. When asked about their flexibility, women expressed the unsupportive attitude of the department towards flexible working options, and as evidence to the lack of departmental support for flexibility, some women described the following incident:

'well, I think our lab is quite quite like, we grow quite a lot of X [particular topic] and one of the technicians, she is headed of the X [job role], but she wanted to like, ahh... basically, lose some of that responsibility. I don't think she was thinking about retirement ... She just wanted to not be in charge of everything anymore, and go down a pay grade and like, have more free time and stuff. And then like, the department basically told her, like, she couldn't do that. So, they were gonna, like, find a replacement for her all together. And then one of the technicians in in my lab, told my boss X [information removed]. But it was ridiculous that they were pushing this woman out here and like he like helped her and she can keep the job now. So that was really nice' (P4, postdoc).

As the above interview quote suggests, women expressed negative feelings towards the lack of support for women who request flexible working options. Two other women explained the same incident illustrating it as an example of the department's lack of support towards women. The departmental AS action plans shows a female-friendly culture emphasising women being offered flexible working options. This includes *all staff being* offered part-time working options and 100% of flexible working requests being approved. Moreover, the department reports that staff nearing retirement age are offered reduced working hours.

However, the above incident was explained as an example of lack of impact of the Athena Swan, where it was revealed that the woman was not granted the flexibility when she asked to go part-time and there was a collective effort across the corridor to support her. This resulted in a general mistrust and tension among the corridor members towards the management while further creating a sense of solidarity within the corridor. In short, the AS action plans supporting flexible working options were not reflexive in the above incident reported by the participants, and resulted in negative opinions among the members towards the AS itself.

This has further implications for the Athena Swan principles which maintain that they commit to tackle career pipeline for women in Science. Such an approach from the HR team towards women's requests for flexible working hours can result in women leaving academia due to a lack of flexible options. This can further become counterproductive for the gender equality initiatives of Athena Swan.

5.4.2. Acceptance of and Support for Women's Bodies in Corridor Spaces

The theme of acceptance and support in Subculture A was reported by all the women irrespective of their caring responsibilities. When women were asked to talk about their experiences of corridor

support, two women from Corridor One discussed their experiences of corridor support in relation to menstruation.

P10 explained,

'*sometimes it [menstruation related issues] happens while I'm in the middle of the experiment or something. But to be honest, I ask one of the women to support me (laughs). Because I feel shy to, to take any help from one man. or He will say "What's wrong with her, she was very fine, just before one hour you know". He will not understand. So sometimes I ask for help from any one of our colleagues to complete it for me or to keep it until tomorrow. Sometimes I go home directly because I'm not feeling well, you know, yeah…something like that. Sometimes I can cope completing the day*' (P10, postdoc).

For P10, while menstruation can be talked about among female colleagues, it still appears to be a taboo subject to talk about it with male colleagues. However, P10 was able to approach female colleagues for help if she felt sick sometimes in relation to her menstruation. She explained that she has the space to approach them to ask for assistance with the lab work which needs to be done in a timely manner. The space for female corridor members to talk about their personal bodily needs or issues also shows the friendly nature of the relationships within the corridor. Furthermore, P10 being able to go home if she is unwell due to health issues in relation to menstruation was considered a result of the communal relations between corridor members. This shows that there is a general acceptance of the needs of menstruating bodies in the corridor. This was further reflected in the experiences of another participant who did not have children but explained the support in corridor was extended to all women in the corridor.

According to P4,

'*One thing going back to my lab community, one thing I have really liked, and it really saved me once, I don't know who's doing it. That's someone leaving communal tampons … Yeah, that's*

seriously, that's really nice. People, it's just like a little. That's really nice to people. It's just like a

little thing' (P4, postdoc).

P4 also described her corridor in terms of '*nice, close, support, community and care*' and upon probing she described an experience which she considered '*unique*' in Corridor One. According to P4, her '*menstruation*' is heavy which can be inconvenient during days when she comes to work. However, she finds communal tampons in the corridor space which have '*saved*' her once during her menstrual cycle. The communal tampons in the corridor symbolise the values of care and support for P4 who interprets the gesture as '*little things*' which are '*nice*' in the corridor. Such a behavioural practice was found to create a sense of acceptability for P4, who finds it '*comfortable*' working in the corridor. It should be noted that the gender equality initiatives reported in the gold award document do not show any of the above practices where the women are supported in terms of their menstruating bodies. The above experiences shared by women were explained to be the behavioural practices which emerged in Subculture A rather than any departmental initiatives.

The comfortable corridor space was also reported in the experiences of a new mother who explained her lactating body was supported in the corridor space.

P5 shared her experiences:

'*I went home at lunchtime breastfed and came back to work. And you know nobody ever said anything and that was just... ehh ... you know I could use the first aid room to express milk... You know… during the day… when I wouldn't go home but actually, didn't work for me because my child wouldn't drink anything from a bottle [Laugh] ... That was a bit pointless… but you know it was possible. And hmm... I felt ... hmm… you know happy*' (P5, postdoc).

P5, a senior postdoc, returned to work after four months of maternity leave and explained how her choice to breast feed was supported in the corridor. She described her experience of being provided with flexible options for going home to breast feed the baby, which she considered as a supportive

behaviour in the corridor. Also, she described being provided with the space for expressing breastmilk symbolising being valued, the support and inclusion of lactating bodies in the corridor. She described how the experiences improved her ability to manage her maternal body requirements as well as her work as a scientist.

The departmental action plan also shows that it has dedicated a room to breastfeeding enabling nursing facilities for new mothers. However, the breastfeeding room mentioned in the department was found to be on another floor, in the socialisation area and away from these corridors and hence may have less significance for the participant who spends most of her working hours in the corridor.

The Athena Swan action plans of the department had no reference to support for menstruating bodies. Also, the support for pregnant and new mothers was mostly reported in terms of the flexible working options and in terms of early maternity leave for those having a difficult pregnancy. The findings suggest that the inclusive and supportive experiences for the women in Subculture A during their menstruation, pregnancy and the new motherhood term were not a result of the Athena Swan actions of the department.

5.4.3. Collaborations and Knowledge-sharing Opportunities for Women

Another theme which emerged during the analysis of Subculture A was the impact of the cooperative and collegial approach in Subculture A, resulting in knowledge-sharing opportunities and learning outcomes for its members. The participants explained their experiences in relation to the collaborative opportunities:

'*Sometimes I will talk with X [corridor member], in the office there, who has a similar position to myself, we might talk about research that X is doing that might help me in a proposal for a related area... I think having that community network across the floor, makes it much easier for people to*

ask for help, people offer help they are more willing with their time to show people how to do things' (P30, senior postdoc).

'*So, the guy that I sit next to, he does this technique called X, which I do, and he was just sort of stuck on how to get to the next step. So, we were talking about it and I couldn't think about how to help him and then we will, Googling and time to work out on some eventually, we got one together. So, I guess that's the way that we can support each other. If you're stuck on something, as soon as you start talking about it helps you to work through the problem*' (P33, Corridor Ten).

The focus of a research career being knowledge creation, the daily socialisation in the corridor has resulted in opportunities for knowledge sharing in the corridor. The friendly interactions and the approachability between the members were regarded as supportive of women's career prospects. The exchange of knowledge included acquiring technical skills as well as working together to learn a new skill to expand the research prospects. The corridor members' behaviour of reading each other's research proposal, teaching techniques to each other and advising on career prospects can also be interpreted as informal mentoring relations across the corridors. The informal mentoring was based on the values of *caring and support* across the corridor emerging from the communal relationships. Such corridor mentoring relations were found to be a catalyst for learning and the exchange of research ideas can sometimes result in collaborative opportunities between individuals.

Similar to the accounts of the corridor members, I also observed the corridor to be friendly during my visit to the corridor; there were smiles, greetings and jokes shared in the lab. The fieldnotes reported women in the lab to be relaxed and some engaged in friendly greetings with us while we passed by. My participant was approached by another woman from the corridor for her advice on

a research technique. These behaviours increased the likelihood of people working together to solve certain problems thereby inducing learning outcomes.

The UA department also recognises the importance of peer support and mentoring for career development opportunities for the academic women with special emphasis on the inter-departmental mentoring scheme available for postdoctoral researchers. Moreover, it is shown that the female academics are provided training for grant writing workshops and feed back to those unsuccessful in securing grants. The departmental action plan further recognises the significance of the postdoctoral researchers being named in the grant application and therefore, has continued their inquiry using focus groups to understand the factors influencing the naming of postdocs on the research applications. While the informal mentoring within their corridor spaces seems to have positively influences the experiences of the members in Subculture A, the participants' accounts suggest no impact of the interdepartmental mentoring schemes offered by the department. Moreover, they were mostly unaware of any such schemes offered to them. As mentioned earlier, this may be due to the postdoctoral researchers mostly engaging in their daily lives within the parameters of their corridor spaces.

Corridor Family: Gendered Roles

As mentioned earlier, two women from Corridor One referred to '*family*' in relation to the social interaction in Subculture A. While this was generally used in relation to the supportive relations in the corridor, the axial coding further found relationships between the familial roles and corridor labour. As previously stated, all the PIs in the corridor were men, symbolising power and hierarchical inequalities in the corridor.

P4 , a postdoc from corridor one explains the difficulties of having all male bosses in the corridor.

'*I think that it's very difficult when you're a female with male bosses to bring out the female only issue, because you worry about looking like, really whiny*' (P4, Corridor One).

She continued,

'*when I got my period, I get really bad periods. And I have never told my boss "I get really bad periods"*' (P4, Corridor One).

The majority of women from Subculture A recognised the structural inequality in the corridor with women being segregated in junior roles and all the PI roles being occupied by men. The Athena Swan gold application by the department shows the department to be female friendly by showing evidence of increased numbers of women employees.

However, the female segregation in junior roles and the lack of female leaders in the corridors can result in negative experiences for women who might have issues with communicating to the male leaders about their intimate issues. As the above interview data suggest, menstruation and related topics were viewed as taboo topics which women avoided mentioning to the male PIs. P4 reported that one of the negative issues of having all male PIs in the corridor was being unable to communicate intimate issues with the male boss out of fear of being negatively stereotyped. While only one woman appeared to have reported this issue, since being managed by male academics can have negative implications for women who might feel reluctant to express their feelings to the PIs. The remarks were consistent with the assumption that the male head of the family should not be disturbed with work or non-work-related emotional issues. There was further indication of male/female gender roles in the corridor when one senior postdoc referred to her mothering the corridor. For instance, P30 is a senior postdoc in corridor one who explains the role expectations sometimes result in her doing additional unpaid chores in the corridor.

'*uff... I don't know, sometimes I go in, and I feel like their mother [referring to the corridor members]; it's just, just crazy, I go in and empty all the bins and I'll wipe the surfaces down and I'll clean the sink area, and I'll put all the washing away. And I will really feel like their mother. And umm… I don't go to lab so much. So maybe you learn to live with it [laughs]*' (P30, senior postdoc, Corridor One).

The senior postdoc described her experience of cleaning after the rest of the corridor which she interpreted as *mothering*. The meaning of mothering was constructed in relation to cleaning after others in the corridor relating to the traditional gender roles of women performing domestic labour. Such nurturing practices in the corridor were interpreted as responsible work of taking care of the *mess* left by others in the corridor. However, such gender roles in the corridor can be time consuming and take away from actual rewarding research work which can hinder career advancement opportunities.

Gender stereotypes in the corridor were also identified by two other postdocs in the corridor. P7 and P4 explains how gender is enacted in their corridors

 '*when people come to lab, I need strong men to carry something. I could also help you or get something from the top shelf*' (P7, postdoc).

'*whenever something heavy needs moving in the lab, people always look to the boys to do it*' (P4, postdoc).

Participants mentioned the corridor behaviour sometimes frustrates them when they hear men being asked to do the '*heavy, tough*' jobs like lifting the fridge. Having studied in an all girls' school, P4 feels such behaviour where people ask for '*strong men to carry something*' to be *stupid*. She considers this to be an example of things which lab members say *without thinking* and sees it as an issue for women. The implication of the above incident points towards the gendered stereotyping in the corridor which sometimes results in a gendered division of labour. Such behavioural patterns in Subculture A point to the gendered dichotomies where men are viewed as tough and strong while women are considered weak. The behaviour indicated women being negatively stereotyped as weak and being overlooked to do certain tasks. Despite the corridor having communal relationships, such incidents reveal the corridor relationships to be, to some degree, gendered, resulting in these spaces becoming gender performative.

The departmental Athena Swan action plan recognises unconscious bias by encouraging women to apply for recruitment, promotion and providing training to avoid bias. The initiatives towards reducing the unconscious bias include online training for the staff and reminders being emailed to the staff to complete the training. They also highlight lunch sessions on unconscious bias training provided for staff and students as well as providing website resources regarding unconscious bias. However, the majority of women from the corridor did not mention any such departmental initiatives to address gender issues. Only a single postdoc mentioned her being on a course on an '*unconscious bias thing*'; but she did not know any more about departmental policies or practices to avoid such issues. The findings suggested that while the department provides such training opportunities, these have not been communicated effectively to the early career researchers.

5.4.4. Corridor Values Communicated through Social Practices

To gain a better understanding of the behavioural practices in Subculture A, research into a variety of corridor social practices was analysed. The axial coding further identified relationships between the social practices in the corridor and symbolic meaning women derive from them. In the more detailed analysis of Subculture A, the socialisation rituals were identified to be a social practice communicating the values of cooperation and inclusion. The socialisation rituals in Subculture A were identified to be:

1. Lab cleaning days

2. Periodical celebrations

5.4.4.1 Lab Cleaning Days Communicating Values of Cooperation and Inclusion

The lab cleaning activity was identified as a periodical ritual in the corridors which the Subculture A members identified as resulting in socialisation. The ritual was explained as a part of their daily life in the corridor which took place weekly or fortnightly. The corridor members explained,

'*They are Like umm… They are just lab cleaning days where everyone takes part. And it is so much nice afterwards [laughs]*' (P7, postdoc, Corridor One).

'*So many of us are involved in trying to keep the place clean. There's a critical mess and so everybody helps*' (P30, senior postdoc, 15 years in Corridor One).

'*Every X [weekday] morning, we will meet in there at half past nine. And we do have an hour of cleaning and setting up the labs. It's nice and tidy. So, for the rest of the week, and everyone gets there together*' (P33, Corridor Ten).

All the participants in the study recognised that clean labs were an imperative for the smooth functioning of the corridor. The scientific work in the lab creates a *mess* and the vessels and equipment need to be kept clean, which is managed in the routine cleaning days in Corridors One and Ten. Corridor members described the routine cleaning days to result in *nice*, *clean*, *organised* and *tidy* labs where the members can work smoothly. This performance was described to be collective, organised, repetitive and routine to organise the lab. There was a sense of shared corridor membership reflected in the interviews when women described the lab cleaning day. They used words like '*Involved*' and '*together*' expressing their sense of unity, solidarity and bond communicated through the lab cleaning ritual. Despite the formal structure of the lab cleaning day, the ritual itself showed behavioural patterns of socialisation within the corridor.

 P33 described the lab cleaning day interactions,

'*Because everyone's there at the same time. Everyone says "Hi. How's your weekend?"*' (P33, Corridor Ten).

While the goal is towards a clean working space, the practice of lab cleaning becomes an interactive process encouraging lab members to communicate with each other. Women expressed feelings of enthusiasm when explaining the cleaning day, with most of them describing the activity as '*helping each other*'. Despite the formal structure, the interaction during the lab cleaning day was not just task-oriented performances but it communicated collective, inclusive behaviour symbolising cooperation for women in Corridors One and Ten. In general, the cleaning days

created and communicated positive emotional feelings and shared responsibility among the members in Subculture A.

5.4.4.2. Celebrations: Making a Real Difference

The sharing of supportive and inclusive values in Subculture A was also evident in the corridor socialisation celebrations. Corridor members spoke of the routine social events including a yearly Christmas dinner and birthday celebrations organised in the corridor which were more structured in nature. Other unstructured celebrations included childbirth, farewell parties or when a PhD student passes their viva. The corridor members explained:

 '*We have Christmas dinner together so you know it's really very friendly the kind of atmosphere which I find really helpful and and nice and you know… I think it makes real difference if you work in the lab where you're surrounded by friends and friendly people*' (P5, postdoc, Corridor One).

'*And then when a PhD student has viva, we have viva celebration with wine and things*' (P18, Corridor One).

 '*So sometimes we have like a celebration or birthday or one of them, you know, have a baby or something, has something personal he likes to share it with us or something like that. So yeah, we have a good time for fun [laughs]. And if some people want, will travel to to his country or something like that [farewell party]. Of course, we're gathering to say goodbye for him and buy a nice gift for him or something like that. Yeah*' (P10, postdoc, Corridor One).

In Corridor One, the members sign birthday cards for celebrations:

'*The card goes around the whole corridor; it's not just your group and I always really liked that [laughs]. It's really nice to get a card everyone signed*' (P33, Corridor Ten).

The routine socialising events in the corridors contribute to the culture of communal relationships and a sense of community among the members. The Christmas dinners are structured events happening yearly and organised outside the corridor space where the reservation is made in a

restaurant. The corridor member gets together to have Christmas dinner which they describe to be *fun* events generating happy emotions. The birthday celebrations are also structured events happening in the corridor spaces celebrated by sharing cakes and, in Corridor Ten, sharing signed cards. P33 explained this to be an event where they express care and collegial relations to each other. Other unstructured socialising events include farewells, PhD success celebrations or when a member becomes a parent. P33 shared an experience where she went for a socialisation event outside the corridor organised by a corridor member.

'*So, we did like an escape room. You know, one of those? Have you heard of it, where they have, like a room where you get locked in and then you have to solve all these puzzles to get out. So, our whole corridor like this [hand gesture], someone organised it… So, we put ourselves randomly in teams, and then we were competing to see which team could make it out the fastest*' (P33, Corridor Ten).

P33 has children whom she leaves with her husband when there is an unstructured event organised outside the corridor space. Such events were interpreted as *fun activities* organised by random members in the corridor. Such team-building activities can result in different groups having better communication and networking opportunities. In similar terms, the informal gatherings for birthday celebrations and other personalised celebrations created a feeling of acceptance for the members in Subculture A. The artefacts of *birthday cards*, *farewell cards*, *cakes* and other *gifts* become symbols of inclusion showing them being recognised and valued in the corridor spaces.

Thus, social events played a key part in communicating the values of inclusivity in the corridor and were a source of fun and enjoyment for the participants who expressed the events to hold meaningful values for them. The collective experience of participation in these socialisation events revealed that it results in reinforcing values of caring for each other, supporting and communal relations among the corridor members. Therefore, the corridor celebrations were identified to be

successful interactive ritualistic practices communicating and reproducing solidarity and positive experiences for women in these corridors.

While such routine socialising practices have a positive impact on Subculture A, women did not mention any departmental socialisation events they attended. The importance of the socialisation among the departmental members is recognised in the departmental Athena Swan action plan which shows the departmental effort to improve socialisation by arranging family friendly events and celebrations. However, women postdocs from Subculture A described being largely unaware of any departmental socialisation events.

5.5. Impact of the Departmental Gender Equality Initiatives on Subculture A

Subculture A has a positive tone in relation to inclusivity, support and caring values described by women in the two corridors. While this relates to the claims of an inclusive culture promoted in the department in the AS gold application document, the departmental action plans to improve inclusivity and reports improvement in departmental meeting timings, collegiality by organising socialisation events in the department and communicating Athena Swan departmental initiatives through emails and the website.

However, the finding showing inclusive and supportive practices were not a result of the AS action plans which mainly focused on addressing the issues within the department as a whole and had no actions to address the behavioural patterns within the corridor spaces. Women reported the corridor behaviour to be a result of the historical communal relations among the members rather than any departmental policies or practices. Additionally, the majority of the women were largely unaware of AS actions in the department. Despite the claim of the department to enhance the inclusive culture by organising family friendly events, women reported being engaged in the corridor activities rather than any departmental programmes. The women further explained that they were not informed of any socialising events in the department. The department explains that the AS

initiatives are communicated through emails, on the departmental information boards and at the faculty meetings. However, the findings suggest the departmental effort to communicate to the postdoctoral researchers may not be very successful.

When questions were asked about their engagement in the departmental programmes, the majority of women were unaware of the departmental practices to improve the inclusivity of academics in the corridor activities. One quote from a postdoc reads as follows:

'*I think it's [Athena Swan departmental initiative] been pretty poor in raising awareness. Because I don't know too much about it. Like, I don't think many people do. I don't think it impacts me at all. Like I've seen it like, I never have it like on their website, they're Athena SWAN accredited. And like, honestly, sometimes, I wonder, but I don't know how they got their credit. But I don't know of the steps that they had to go through like*' (P4, postdoc).

 '*sometimes it's a feeling that they maybe have it [Athena swan] on the outside, and then you see it. When I apply [for the job]. But then afterwards, when I came here, I didn't hear much about it*' (P7, postdoc).

The interview quotes reflect the general opinion of the corridor members about the departmental accreditation of Athena Swan. There was an impression that the department has not been active in understanding the issues of the postdocs or in communicating the career opportunities available to them. Participants mostly talked about Athena Swan as a *thing on the website* and considered it to be a departmental website display rather than resulting in any positive experiences for the women. Athena Swan accreditation was considered to be an act to impress rather than making an impact on the experiences of the members. An analysis of the departmental gold application showed that the SAT committee includes a post-doctoral research assistant and a research fellow among the 21 staff of whom 14 are female. It should also be noted that the postdoctoral researchers represent the majority of the academic staff population and a single postdoc representative may not be able to represent the issues women face in different corridors. While the SAT committee's inclusion

criteria are shown to reflect all staff and groups, thereby aiming to integrate Athena Swan principles across the different aspects of departmental life, the lived experiences reflected in the interviews from Subculture A showed that accommodating a postdoc or a research fellow might not address the issues postdocs face.

While the corridor members expressed beliefs and values of inclusivity within the corridor culture, participants also described their feelings of being excluded from departmental activities. While the majority of the corridor members were unaware of departmental activities outside the corridor, one participant reported having been excluded from an AS departmental celebration.

P4 reflected,

 '*when they got the Athena SWAN thing, there was like a drinks reception for all the people who was involved. And I know, he (PI) went. And I know, he felt a bit awkward about going because like, his lab is basically all female. None of us were invited. And he was and he was like, sorry, guys! So, I guess it might have like, filtered through a little bit like almost subconsciously in a way...*' (P4, postdoc).

When women were probed to explain their feelings about the gender equality initiatives by the department, P4 challenged the meaning of the Athena Swan programme if it excludes women. She described the incident when only the PIs were invited to celebrate the Athena Swan success in the department. Since all the corridor PIs were men in female-dominated corridor spaces, this resulted in women by default not being invited to the event. This was viewed as a hypocritical act of the department where women were not invited to an event for the Athena Swan award.

 Such celebrations are also socialisation events and being excluded from such events may result in women's negative perception towards the department's commitment to gender equality initiatives. The Athena Swan application also documents the department celebrating the success of the AS journey which results in female staff feeling part of the wider community in the department. However, the departmental practice of omitting women who are mostly segregated at junior levels

from such celebrations may result in women's feelings of exclusion from the department. While the department claims to have an inclusive culture towards all staff, the majority of the participants expressed feelings of having outsider status within the department. According to some interview extracts,

'*So, I feel that I do a lot more than maybe 50% of the academics in the department, but I'm not, I'm not in the club*' (P30, senior postdoc).

'*I think the other problem is that postdocs are sometimes not really counted as staff*' (P5, senior postdoc).

The feelings of being invisible and excluded from the department were salient among senior postdocs who found that despite years of working in the department, they were being overlooked by other academic members. P30 considered this as being excluded from the *club* while P5 interpreted the experience as not being considered as *staff*. Such exclusive practices in the department can result in negative feelings of women towards the department and discourage them from participating in departmental activities. Despite their reservations regarding departmental inclusion, the supportive and inclusive behavioural practices in Subculture A resulted in generally positive experiences for women working in Corridors One and Ten.

This chapter has shown that the experiences of participants depended on the corridors which they identified to be their workspaces. These corridors were identified to show heterogenous behavioural patterns; therefore, they were further divided according to the common behavioural patterns. The above findings are reported from a total of eight women from two corridors which were classified as Subculture A. The behaviour pattern in Subculture A was characterised by values of communal relations, care and collegial support which participants described to have improved experiences in their corridor spaces. The inclusive and supportive culture reported in the interview analysis further had a positive impact on women's daily corridor lives. Such values were further communicated across the corridor through corridor rituals and celebrations which further

improved group solidarity and collegial relations. This resulted in collaborative opportunities and positive learning outcomes across the corridor spaces.

However, the inclusive and supportive culture was limited within the corridor spaces and the women expressed feelings of exclusion from departmental life. The subculture also featured gender stereotyping and gender roles which can have a negative impact on women's experiences. Women were largely unaware of departmental policies and practices on gender equality. Also, they believed that the Athena Swan accreditation of the department had had no positive impact on their lived experiences. Though the findings can be considered to be derived from the minority Subculture A, this has relevance showing the inclusive and supportive culture reported in Subculture A and is not a result of the departmental gender equality intervention. In the next chapter, I will present findings illustrating the experiences of women from Subculture B which formed the majority of the corridors in the department, in relation to the Athena Swan departmental action plan.

Chapter 6. Impact of the Athena Swan Accreditation on Subculture B

Introduction

This chapter shows the findings derived from analysing the experiences of women who are categorised from corridors showing behavioural patterns identified as Subculture B. The majority of the participants in this study were identified to be members of corridors which were categorised under Subculture B. As the dominant culture, Subculture B posed different challenges for the women and was characterised by values of assertiveness, competition and independence. Moreover, the accepted and valued behavioural patterns displayed showed the ideal scientist in these corridors to be associated with long working hours, high publication rates, independent and lonely work practices.

Therefore, the findings suggest that the Athena Swan principles of inclusion and support have not been transformed into the lived experiences of early- and mid-career academics in Subculture B. The behavioural practices identified in Subculture B were further found to be in contrast with the evidence presented in the Athena Swan departmental gold document which highlights the positive aspects in the department relating to collegiality, socialisation and communication. Rather the findings show women's performativity in relation to ideal scientist norms results in them feeling lonely, isolated and unhappy within their corridor spaces.

The chapter begins by showing the number of corridors categorised as Subculture B and the distribution of participants across these corridors. Next, the interaction pattern in the corridor is illustrated showing the hegemonic values which are considered ideal in Subculture B. The impact of such practices on the corridor members, especially for women with caring responsibilities, is further shown. Next, the findings show the tendency of women from these corridors to leave the department over the ideal scientist behavioural norms in Subculture B. The findings further illustrate how these hegemonic practices are reproduced through the ritualistic practices in these corridors. The negative experiences in relation to Subculture B practices were found to have

impacted participants' view of the Athena Swan charter itself and this is presented in the last section.

List of Corridors and Participants in Subculture B

The majority of participants, 24 out of 32 identified themselves as being from Corridors Two to Nine which embodied characteristics associated with Subculture B.

The distribution of women across these corridors is shown in Table 7.

Corridor Two	**4**
Corridor Three	**5**
Corridor Four	**2**
Corridor Five	**2**
Corridor Six	**3**
Corridor Seven	**4**
Corridor Eight	**3**
Corridor Nine	**1**

Table 7. Distribution of participants across corridors identified to have characteristics of Subculture B

While the corridor structures were similar for Corridors One and Nine, participants' reports of their lived spaces in terms of corridor interactions were different to those for Subculture A. The categories were further analysed in relation to the impact of departmental *gold* gender equality initiatives on the experiences of women in Subculture B.

6.1. Lack of Social Interaction in the Corridors

In comparison with Subculture A, the behavioural practices across corridor Subculture B were the opposite in relation to the inclusiveness. The AS action plans of the department show inclusiveness mainly in relation to improving women's representation on the committees, maintaining timings for staff meetings to include members with caring responsibilities and organising and timing family friendly departmental social events. However, early- and mid-career researchers who mostly spend their time within their corridor spaces might feel little significance from these events.

While the members of Subculture A survived their exclusion from the departmental life through the friendly and collegial corridor relations, Subculture B was found to be characterised by lack of interactions and cordial relations across the members resulting in an impersonal environment in these corridors.

For instance, one of the prominent categories which emerged was repeated references to women's concerns over lack of *talk* in these corridors. In response to a question about her experiences of her daily life on the corridor, P29 suddenly replied that the corridor life was *weird* in terms of interactions:

'*Oh, its weird [her reply is fast] yeah. because here people felt like, within the group fine, but between the groups, it was like… I saw you really, many times, and you, you pretended you don't know me so it's like weird but everybody here is saying that X [corridor] is very weird*' (P26, postdoc, three years in Corridor Three).

Similar to the experience of P26, the majority of participants described their experiences as being negatively influenced by the lack of verbal interactions in the corridor. The individual analysis showed emergence of code *indifference* between different groups in the corridor which P26 interpreted as having resulted in the corridor reputation being *weird*. Similarly, the PI from Corridor Three explained the corridor interactions to be mostly limited within the groups and expressed emotions of feeling *embarrassment* about not knowing the names of the corridor members. Participants generally used the words '*pretence*', '*weird*', '*odd*', '*segregation*' and '*reserved*' to describe their daily lives in the corridor which were further explained as a *problem* due to lack of interaction. This was a general behaviour identified across Corridors Two to Nine, and the majority of participants explained the interaction were limited to within their groups rather than corridors.

 '*There's not as much of a talk between groups*' (P21, postdoc, Corridor Three, seven years).

'*they don't have communication, so we don't have many things together*' (P30, Corridor Six, five years).

'*you tend not to talk and chit chat*' (P31, Corridor Two).

'*I think in general chatting between the groups along this corridor would be good because I should know what people next to me do*' (P11, Corridor Three).

In contrast to Subculture A, it was noted that sharing the corridor spaces does not necessitate communal relations in Subculture B. In explaining their daily routines, some participants reported morning greetings being unnoticed or ignored as an example of the lack of friendly conversations in these corridors. Therefore, the lack of communication between the groups resulted in the spaces being experienced in terms of distant and reserved relationships. Additionally, the weak communications in the corridor resulted in unconnected groups across the corridor. Such behaviour has had a negative impact on the daily working lives of participants, all of whom recommended better communication to improve their experiences in the corridor space. Reflecting on the question in terms of their daily working routines in these corridors, the majority of the participants explained that the lack of communal relations is also due to the work focus approach in the corridor.

For example, P19 explained her typical day in Corridor Seven:

'*my day is focused on what am I doing in my projects in my lab*' (P19, Corridor Seven).

'*people eat lunch at their desks*' (P22, Corridor Nine).

'*So really it was just a very functional space there was no lab community… at all really*' (P20, Corridor Eight).

'*sadly, it's not the most social place I have ever worked*' (P15, Corridor Three).

Similar to the above interview extracts, the majority of the participants from Subculture B identified themselves focusing on their work and limiting socialising to their research groups. For example, P19 has been in Corridor Seven for more than three years and she explained how her

typical day focuses on lab experiments, checking emails and other work-oriented tasks where the socialisation is described to be within her research group. This has resulted in corridor spaces being mentioned in terms of functionality, lacking communal feelings and collegiality.

The constant comparative analysis found such behaviour patterns directly correspond to women's interpretations of *sad* corridor spaces in the department. The findings are significant in the light of the Athena Swan departmental gender equality initiatives which maintain that the department values collegiality. While they use the departmental staff surveys to demonstrate the improved collegiality across the department as a part of the evidence in the Athena Swan gold application, the findings from the current research indicated the lack of cordial relations resulting in an impersonal working environment in Subculture B. Moreover, this shows the negative aspects of Subculture B where the members describe the space in terms of lonely, sad and functional spaces. Therefore, AS departmental action plans have yet to address the issues in their dominant culture which women described as creating lonely and secluded work environments for them.

6.2. Ideal Scientist Behaviour: Lack of Inclusion and Isolation

Despite scientific careers being historically masculine, the behavioural patterns of Subculture A identified stereotypically feminine values. However, in contrast to those of Subculture A, the behavioural practices of Subculture B were based on the belief associated with stereotypically masculine values.

Firstly, the ideal scientist norms were identified in relation to the masculine norms of non-communal and task-oriented practices in these corridors (One to Nine). Several women spoke about the lack of social relations in the corridor in relation to the assumption that scientists are '*antisocial*', '*introvert*', '*quiet*' and '*non-talkative*'.

Participants reported,

'*generally, I don't necessarily feel like there's any particular dislike or you know… animosity going on between groups … hmm… [thinking]… it's more of a yeah… just a… you know… how scientists have this reputation for being a little bit intellect and a little bit antisocial [laugh]*' (P15, Corridor Six).

'*people tend to be quiet, kind of closed off and that is probably a scientist thing. Hmm. [?? not clear] I think it's just because scientists tend to be quite introverted sometimes [laughs]. So, everyone in our group is quite quiet*' (P14, postdoc, Corridor Seven).

'*Usually scientists are not talkative [laughs]*' (P23, Corridor Seven).

In general, the behavioural pattern in Subculture B was described as being the stereotypical intellectual scientific behaviour in Science. The notion of ideal scientists was generally associated with stereotypically masculine behaviour of private, non-communal and emotionally distant individuals. The devaluation of the stereotypically feminine values of communal relations and cooperation may have resulted in most women in Subculture B focusing on their jobs and shutting out corridor socialisation. Thus, to fit in or survive with the masculine behavioural patterns, women perform silent scientific work in the corridor and display the traditional masculine traits of rational and independent workers who avoid seeking emotional support from their colleagues.

As mentioned previously, despite the Athena Swan departmental gold award documents reporting the department highly valuing collegiality, this was not observed in Subculture B. Instead, the persistence of the masculine image of the academic scientist in these corridors went against the inclusive and female friendly culture in Science envisioned in the Athena Swan Charter. While there were no or few collegial relations between the corridor groups, some women reported better support within the groups where they engaged in conversations and shared breaks. The behaviour in the corridors where members confined themselves to their groups was termed by P27 as being in the *group zone*, symbolising boundary behaviour within the corridor spaces.

This results in these spaces further shrinking for these women who are confined within their groups and avoid interaction across other groups in the corridor. For instance, P31 who joined Corridor Two as a postdoc a few months back described the corridor space as a *small box* and how she does '*not enjoy working like this in a small box*'. The behavioural pattern noticed in these corridors shows the accepted norms for the women to be confined within these groups which some women described as resulting in isolation and lonely experiences. For instance, P15 reflected on her sharing corridor space with the other groups:

'*I very rarely interact with them ... which actually I find ... very odd ... very specific to this working environment for me, hmmm ... so I don't tend to greet anyone when I first arrived. I might meet a couple of postdocs that work near me in the lab or if I see my supervisor, hmm… I will say hello to them but that's very depending on whether or not I see them early on in the day or… So, this group that I sit it, we all greet each other but it's just that I'm not part of the gang [laugh] that kind of thing...*' (P15, Corridor Six, postdoc).

According to P23,

'*people aren't interacting with us because of we come from this lab and they don't want to touch us. They don't want to come close near us. So, my other two co-workers, they felt that they were isolated*' (P23, postdoc, Corridor Seven).

'*they just don't consider what I say; it's more ignore, ignore me*' (P27, Corridor Four).

The *group zones* further created exclusionary practices in the corridor where some women explained feeling like *outsiders.* In general, the women who felt excluded in these corridor spaces described the *gangs* ignoring their presence and excluding them from activities by not inviting them for lunch or coffee breaks despite them sharing the bench or office spaces with them. For instance, despite being in Corridor Six for almost a year, P15 explained her feelings of being ignored in conversations while sitting next to a group.

The feelings of exclusion and isolation were mostly reported by women whose group dynamics were not friendly, women from small groups which had mostly male members, and women on research fellowships. The lonely experience was reported by both the research fellows from Subculture B whose work was described as being semi-independent in nature meaning that they did not belong to any particular group. Since there were no communal relations across the corridor, it was important to belong to a group in these corridors. However, the group zone/gang behaviour resulted in them not being accepted into any in-group's socialisation within the corridor. While better intra-group interaction improved the postdocs' experiences, for those who felt rejected, both the independent fellows from Corridors Two and Three felt like intruders in the corridor spaces.

In general, the women in Subculture B usually associated with other women scientists rather than their male peers, which is not surprising due to the domination of women in postdoc roles in these corridors. Women from male-dominant groups explained that they did not have someone to *talk* to since their corridor's female gangs excluded them from meaningful participation in corridor socialisation. For instance, P23 from Corridor Six explained that her women colleagues had left the group and how this caused her to feel isolated due to the group still having male postdocs who avoided interaction with her, indicating boys' club behaviour in the group. This resulted in them being in a double bind where they were excluded from the boys' club and avoided by the girls' gang in the corridor.

According to P23,

'*Even when we're on a big group [corridor], we're still isolated like, we're still, within our area. So, in the lab, we have our area so we don't really, we only share a few things but most of the time we are just there*' (P23, postdoc).

Similarly, P12 explains her lonely experiences in her corridor

'*I became very lonely because it was like, now I don't really have anyone to, to talk to, but I've tried, you know*' (P12, Corridor Six).

P12 has worked as a postdoc in another country and she reflects feeling *shocked* when her *greetings* were ignored when she joined the corridor. She interpreted such behavioural patterns as a symbolic *barrier* for interaction and described her corridor as a *cold and distant* space to work having a negative impact on her lived experiences. Similarly, P23 described her sense of exclusion by being denied meaningful participation in corridor socialisation by the other groups who avoided her. The gang behaviour suggests that the women who were not allowed in the club felt lonely and isolated in these corridor spaces.

In general, the corridor interactions reported in Subculture B were patterns of exclusion where several women described their lonely and isolated experiences. Such behavioural patterns contrast with the UA departmental claims to promote an inclusive culture which supports and nourishes women's workplace experiences. However, it can also be noted that the department's practices to improve the inclusive culture are listed in terms of the inclusive staff meetings at core hours, social space for coffee/lunch in the atrium, events for staff and students.

Such inclusive practices being promoted in the department are recognised as being in alignment with the Athena Swan principles of inclusivity to contribute to an inclusive culture in HE. However, this suggests that the department has not recognised the lack of inclusion women feel within their corridors due to them being ignored in terms of corridor activities, lack of corridor socialisation, collegial relations and work-focused impersonal environments. Such lack of inclusivity within the corridors can result in the women from Subculture B being excluded and isolated in their workspaces which conflicts with the Athena Swan principles.

6.2.1. Hegemonic Masculine Values: Behavioural Patterns of Competition and Lack of Collaboration

The general notion of the *scientist* included task-oriented and research-focused individuals and the success in corridors was mostly determined by the *research results* and *publications*. This resulted in hegemonic norms of competitive practices within the groups and across the corridors.

The corridor members noticed,

'*And now we're all competing to, you know, to get the nice, the nice experiments. And that aspect of it isn't, isn't very good. And that's why a lot of it is very much, very formal*' (P29, Corridor Two).

'*I don't think I've ever felt like I was directly competing with anybody that I was working with. But yeah, I think there is some people are competitive about it*' (P14, postdoc, Corridor Seven).

'*everybody works very hard and everybody works in the lab like those are experiments and sometimes it can be lucky for some people that have really good results but like you know somebody working on a project that doesn't give just as good data to be published in a high-quality journal, doesn't mean they don't work equally as hard but that can be quite demotivated*' (P19, Corridor Seven).

As the above extracts show, the majority of the participants believed that they needed to be competitive to succeed in the corridor. Women explained competing against each other for publications since this was considered as success in the corridor. Similarly, they explained being under pressure to prove their competence by showing good results from experiments to their PIs. The members with better results were rewarded in the corridor by being offered new experiments which could have a high impact. The better results, in turn, could assist in getting a better publication rate for the group, helping to attract more funding thus completing the success cycle. Therefore, the competitive practices between the members and the groups were identified to be a general behavioural pattern in Subculture B. Furthermore, it was important for individual members as well as the groups to demonstrate their success and thus justify their membership in these corridors.

The axial coding showed the competitive behaviour being related to the notion of the norm of being the ideal scientist. The successful scientist in a research group is the one who produces positive experimental results, has excellent publications and attracts more funding, while those who are unable to comprehend this behaviour are considered unsuccessful. Women from groups which appeared less successful are sometimes excluded from collaborative opportunities in the corridors. For instance, P29 from Corridor Two explained,

'*It would be nice to collaborate with your own group and your own, your other postdocs to get nicer publications, get more publications. But I don't see that as an option in this group, because everyone's very much independent*' (P29, Corridor Two).

'*There is a lot of, this person doesn't like that person, this person doesn't collaborate with that person. Yeah, it's quite cold in general*' (P31, Corridor Two).

'*Probably part of the idea that we're not publishing because we're not collaborating*' (P23, Corridor Seven).

'*We have less social things maybe less and so we sharing less information*' (P27, Corridor Four). Women recognised the importance of collaboration to be important for the scientific career and expressed concerns about the lack of any within these corridors. The independent lonely worker practices identified within Subculture B were therefore found to be determined by a lack of sharing information and competing against each other rather than working together. Moreover, the general behaviour in Subculture B, associated with a lack of collegiality, communication and communal relations, was reported to have a adverse effect for women who want to collaborate.

While the ideal scientist worker pattern incidentally resulted in individuals losing out on collaborative opportunities, some women reported that their groups deliberately avoided any collaborative chances. For example, P8 from Corridor Eight reported that the reputation of the groups might result in them losing out on collaborative opportunities with other groups or individuals from other groups. She explained that if the group has a reputation for being *unhappy*

where the group members and the PI did not get along with each other, this may result in members of other groups avoiding personal and professional interaction. Also, the competitive behaviour might result in some groups not getting along with each other, resulting in them avoiding collaborations.

This was similar to the experience of P23 who described her group's reputation as the unhappy group resulting in them being avoided by other corridor groups. Thus, they lose out on collaborative opportunities and publications with other groups, which has a negative impact on their career development opportunities. To have successful collaborations, women need to demonstrate having competitive skills, as well as belonging to the research groups with good reputations. In short, the competing practices among the group members and the pattern of corridor groups to collaborate with other successful groups can be difficult for some women who find such performative practices difficult. The lack of collaboration was also interpreted by some women as not sharing information between different research groups which can lead to a lack of learning outputs. The information exchange can be in relation to new techniques, functioning of equipment or new research papers. The lack of learning opportunities can be determinant for career development in Science where the focus of a scientific career is on knowledge generation.

The Athena Swan gold action plans of the department referred to the collaborations resulting from the departmental structure. It shows that the departmental structure consists of around nine research foci affiliated to research institutions to present opportunities for the researchers to collaborate. This mainly focuses on the collaborative opportunities presented between different structural divisions in the department. However, the ideal scientist behaviour focused on the lonely, independent, competitive, job-focused behaviour and impersonal behavioural identified in Subculture B may keep women within their group zones or boundaries. While the PIs may be presented with further opportunities to socialise with other PIs and staff groups, the postdoctoral

population, who are mostly confined within their corridor spaces, might not be presented with such opportunities for collaboration.

Moreover, despite the collaborative and learning opportunities at the postdoctoral career stages being identified by the participants, the Subculture B norms may have prevented any such opportunities for them. However, this is not addressed by the department resulting in the women from Subculture B reporting a lack of opportunities to collaborate, share information or get a second opinion within their corridor space. The ideal scientist image and the resultant pressure to obtain good experimental results for publication were further found to be disadvantaging women with caring responsibilities.

Impact of Hegemonic Practices on Women with Children

The behavioural patterns towards women with childcare responsibilities in Subculture B were in sharp contrast to Subculture A in relation to flexibility and supportive culture. Among the 24 women from Corridors One to Nine, only six women had childcare responsibilities. This included two PIs and four postdocs and one postdoc said she had just returned from maternity leave and had yet to have experience as a mother in Science. P22 is an international postdoc who joined Corridor Nine two years back and she explained anxiety over managing scientific work with childcare.

According to P22,

'*Some pressures are already kind of know, what we should be doing. um… I still don't know. And also, everything with nursery and X [baby's name removed], like you know, I'm kind of worried that even if I try to get work done, it's just going to be foiled*' (P22, Corridor Nine).

Similar to P22, the majority of mothers in Subculture B associated expectations of scientific work and motherhood with negative feelings of *pressure/worry* and explained the lack of understanding of their colleagues about their additional responsibilities. They reported that the male colleagues and women without children were not *understanding* the career struggle of women with children.

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The majority of women from these corridors, irrespective of their motherhood status, explained that they work long hours which they considered essential for a scientific career.

For instance, P8 from Corridor Eight explained that flexible working hours are

'*quid pro quo like… oh, you're here many hours all the time; oh, if you leave at 3 pm every now and then it's not that bad*'. (P8, Corridor 8)

She associated working long hours with the *hard-working* culture in the corridor where it is necessary to demonstrate such behaviours to survive. The long working hours symbolised commitment and hard work which was considered a requirement for an ideal scientist in these corridors. However, women with children who were unable to demonstrate such practices explained that they could be less successful than their colleagues due to their inability to follow these practices.

According to P23,

'*So, when I started working here, I was working long hours. So, when I was working long hours, I was spinning my [??] hours. So, I was coming home, let's say eight o'clock, which is quite late. I will start 9 and leave at half 7, come home 8, sometimes I stay up late at night and I come weekends as well… And and then it was so much pressure that I was actually struggling with my mental health with me being with my daughter*' (P23, Corridor Seven).

'*I need to be, I need to pick up my kids at a certain time. There's, there's no. umm… for example, at one of the meetings, I said, "Oh could could another postdoc go first" because I wanted to hear her talk and leave and not hear the second talk. And the person who had the second talk said no, so there was no, you know, flexibility in in that respect*' (P29, Corridor Two).

P29 has two children and she described that the behavioural patterns in Corridor Two include meetings which sometimes happen after 4 o'clock which disrupts her from picking the children up from school. This was reported in relation to a lack of collegial relations in the corridor where women explained such inflexible hours to be a reason for them experiencing pressure managing

their work and family responsibilities. Similarly, as a single mother, P23 explained her struggles with managing childcare and working hours, which had a negative impact on her mental health. Despite the AS departmental gold action plans showing the core working hours and meeting times to be from 10 am to 12 pm and from 2 pm to 4 pm, the interview extracts showed no such practices being followed in Subculture B.

While the departmental policies are claimed to improve an inclusive culture for women with children in the AS departmental documents, the long working hour practices in Subculture B were found to be negatively affecting women, especially those with childcare responsibilities. The general belief of the ideal scientific norm as involving long working hours with complete dedication to the work resulted in women's interpretation of having children as incompatible with a postdoc career. The long working hours and the Athena Swan core hour policy of the department not being followed in the majority of the corridors in the UA department were problematic. Similarly, women with children in this corridor reported that having children or being a single parent was considered as a lack of commitment by their colleagues.

'*If you don't want to have children, it's quite easy to do lots of postdocs*' (P20, senior lecturer).

'*There's also probably group... group of women that are not having children because they can't see hard work so they can't see how they could maintain their career*' (P1, Corridor Five).

'*I wasn't very comfortable because she was making me feeling uncomfortable and always kind of comment about whether you know having being a single parent is kind of distracting me from work*' (P23, Corridor Seven).

The majority of women from Subculture B explained that having children is not compatible for women in postdoc positions. However, such bias was not directed at men whom they considered do not have considerable domestic responsibilities. Women without children explained being advised against having children during postdoc stages as it can ruin someone's career since a postdoc career requires hard work. Women's opinions on the incompatibility of postdoc positions

and having children were also due to the factors of temporary contractual positions, long working hours and the lack of communal support believed to be associated with a scientific career. Participants explained that having a family without stability in contractual status was considered to be unsuitable for postdocs.

Similarly, women explained that the long working hours and the lack of flexibility arising from the nature of experimental work can hinder people in terms of childcare responsibilities. The lack of flexibility mainly stemmed from women's views that they do not have support from their colleagues. This would mean they would need to stay in the corridor for longer hours for experiments and are not able to ask for support from other corridor members. The AS approach of the department claims to support pregnant and new mothers by offering policies to work from home or reduce working hours. However, the new mother in this study shared feeling anxious to return to work rather than continue working from home since the nature of the scientific job requires them to be present at the lab.

Others explained the nature of the scientific career including unpredictable lab work and experiments which require them to be at the lab for long hours. Moreover, as mentioned earlier, in terms of competing for better experiments or the projects, the pressure to prove themselves by showing successful experiments and publication records in Subculture B would disadvantage women who prefer to reduce their working hours. Therefore, despite the policies being in place, the working practices in these corridors do not support women who want to reduce their working hours.

P23 was the only single mother in this study and further explained her experiences as a single mother in this study, whereby her PI constantly made her aware of her single parenthood as not being suitable for her career. She explained the difficult experiences of managing her child and work in a space where her being verbally penalised by her PI resulted her in '*hiding in the bathroom and crying all the time*'. This also related to the theme of several interviews where

women explained that they do not express emotions in their corridors since it is not professional. Particular reference related to the occasions when experiments failed, negative reviews or during conflicts when women restrained themselves from showing emotions out of fear of appearing unprofessional for a scientist.

There was a general belief that emotionality was not ideal for the intellectual scientist in these corridors. Therefore, P23 explained her *hiding her tears* and emotionality in the bathroom, thereby not expressing emotions and disrupting the corridor norms. She further commented on how two other postdocs in the corridor left the department due to the PI's negative attitude towards pregnancy and new motherhood and the lack of collegial understanding of women on maternity leave in the corridor. Therefore, the beliefs in the corridor of the incompatibility of motherhood and a scientific career may further diminish the confidence of women who want to have a family along with a scientific career.

The corridor spaces were also not supportive of the requirements of the new mother in terms of nursing and baby changing spaces in Subculture B. In sharp contrast to the nursing mother's experiences in Subculture A, the new mother in Subculture B explained the masculine spaces in her corridor not recognising the needs of nursing mothers.

According to P22,

'*umm... so I'll need to be like pumping to keep, to keep the breast milk going, and they don't have any like dedicated space for pumping here, which I just think is really strange like even in X [participant's previous institution], they had a room… for women who needed to pump, and it's just weird*' (P22, Corridor Nine).

She continued her struggle when she brought her baby to the corridor and there was no space to change the new-born.

'*So, we're having to change her here. umm… And it was before, I was like a little more comfortable with things; she was like maybe two months old. And I remember telling X [participants PI] like*

"I don't know where to change her" and he was like "in the bathroom" and I was like "on the floor?" He's like, "Okay, just just use the table in my in my office". So, I changed her in his office. So yeah, I'm just surprised that they don't have, you know, with all this Athena Swan stuff like they don't have the facilities'. (P29, corridor nine)

For the new mother in Corridor Nine, the lack of breast pumping and baby changing spaces in the corridor symbolised the lack of inclusive spaces for new mothers in corridor subculture. She shared her anxiety and fear of coming back to work in the department where the facilities did not support her child's requirement. P22 was the only new mother in this study and she shared her experience of once having to return to the corridor with the baby and the naïve expectations of her male PI that she could change the baby on the toilet floor. She compared her experiences with her previous institution where she explained how it had more inclusive spaces.

The corridor spaces which did not support new mothers symbolised a lack of acceptance of new mothers for P22 and also contributed to her perception of the Athena Swan practices in the department. The department shows that it creates inclusive spaces for new mothers through the facilities in the main departmental space for nursing mothers with a fridge and washing facilities. However, P22 was not aware of any such spaces, therefore expressed her anxiety about returning to work with a nursing body. As the above interview extracts show, the corridor behaviours did not proclaim inclusive values for women in contrast to the departmental claims of inclusivity embedded in the departmental culture.

6.3. Impact of Masculine Behavioural Patterns on the Corridor Leaky Pipeline

The masculine behavioural practices in Subculture B resulted in several women losing confidence about their career progress while three women reported that they did not want to continue working in the department.

As P31 explained,

'*well, I'll do my three years and I'll get the hell out of here, if it doesn't get any better*' (P31, Corridor Two).

'*I don't want to stay in this group because I think it's not for me. I don't feel comfortable to work here*' (P28, Corridor Six).

'*I feel like maybe I have to look outside academia because, you know, sometimes you don't feel very supportive and maybe because I'm in this group but maybe if I was in a lab, a different lab, I will have different views*' (P23, Corridor Seven).

P31 joined Corridor Two on a fellowship and worried about the lack of collaborative practices having a negative learning impact on her career. Similarly, P23 feared that she might have lost her career possibilities due to spending her years on a corridor where she did not find any collaborative opportunities. However, she explained that she might have to look outside academia altogether since her experiences working in Corridor Seven had not been positive. She also explained that several of her colleagues had already left the department over the years due to the feelings of exclusion in the corridor. Such experiences and opinions were found to be in extreme contrast to Subculture A where women stayed longer in response to the supportive and inclusive practices.

Thus, the corridor behavioural practices in Subculture B result in women's fear of losing opportunities, adversely resulting their career and losing confidence about working in academia which may result in them leaving academia altogether. The findings have significance for the UA department's continuing concerns of a leaky career pipeline at the postdoctoral career stage which they further recognise to be the crucial career stage. It shows that the departmental gold actions may need to understand that the impact of the interactions and communal relations in an organisational space have a great impact on the way the lived experiences of academic women are shaped.

While the equality charters like Athena Swan can attempt to improve the experiences at a departmental level, women's experiences in these subcultures seem overlooked. In short, while

attempting to address the career leak of women at postdoctoral stages, the Athena Swan departmental action plans need to address the fact that the impact of spatial performativity in relation to competitive practices may result in negative career prospects for women.

6.4. Socialisation Rituals

Similar to the social practices in Subculture A, participants identified the ritualistic practices of annual Christmas meetings in Subculture B. However, the lab maintenance was assured through corridor meetings which were also organised at certain intervals. While the socialisation rituals shared some of the homogenous structure of Corridors One and Ten, the behavioural practices communicated different cultural values for women in Subculture B. The socialisation rituals in the corridor spaces in Two to Nine confirmed the theme of a lack of inclusive behavioural practices in Subculture B.

The common socialisation rituals in Corridors Two to Nine involved a

1. Lab maintenance rotation system

2. Christmas dinner

6.4.1. Lab Maintenance Observed through Rota System and Honorary System

Similar to Subculture A members, members from Corridors Two to Nine generally identified the significance of a clean lab for their daily lives on the corridor and its impact on the corridor relations. The interviews with the two participants from Corridor Five were conducted during the pilot stage of the research and hence adequate information was not provided to understand the lab cleaning ritual practice; hence, the data presented are from the rest of the corridors in Subculture B. Two types of behavioural practices for lab maintenance were observed in Subculture B.

1. A rotation system of lab cleaning and maintenance was observed in Corridors Two, Three, Six, Seven and Eight

2. Cleaning after themselves or an *honorary* system of cleaning was observed in Corridors Four and Nine

Rotation System

The rotation system was identified as systematic cleaning and maintenance of the lab area and the products used by different groups in the corridor.

'*So, there is a rota [laughs]. Because I think they all, you know they have their own jobs for cleaning the lab… I think it's as a corridor rota*' (P25, Corridor Seven).

'*We have a rota and people will do*' (P31, Corridor Two).

The cleaning or rota is shared between the corridor groups who are assigned to clean the laboratory tools, equipment, empty the waste and sometimes order the lab products which the whole lab shares. There was emphasis given to the rota being properly maintained and completed since it was important for the smooth functioning of the experiments. The rota system was considered a group ritual by P23 from Corridor Seven who described that they do the lab cleaning together as a group ritual rather than as a corridor. She mentioned it as the ritual where '*Everyone has their own cleaning tasks and we just do it*', explaining the structure of the corridor rota followed by their groups. The rota does not lead to group interaction or corridor socialisation, rather it is an empty or hollow ritual which does not improve the interaction among the members. However, the rota offers stability across the corridor in keeping a clean workspace which is important for the scientific nature of the job. The groups are meant to follow the systematic rota in the corridor and the failure to follow the rota can create conflicts between the groups.

'*And then, you know, sometimes when, when a certain lab has some students, and they are not very experienced with what's going on, they don't understand how the rota works. So sometimes, you know, things can fall out of sync*' (P21, Corridor Three).

'Yeah, so in the old lab [Corridor Two], they always have been some… like these passive-aggressive notes, where they just please clean the [??] after you used it, and things like this' (P7, about Corridor Two).

The theme which emerged from the maintenance of the lab space and equipment in Subculture B was confrontation, passive aggression and conflicts between the corridor members. In general, the rota system is not a fair practice when some groups ignore it which leads to others cleaning the mess after them. The participants from those corridors which observed the rotas generally described the corridor spaces as *messy* and *dirty* where members sometimes did not *honour* the rota norms. According to P29 from Corridor Two, the lack of coordination and the cooperation between corridor members results in wastage of time and resources.

'freezers get out of condition, you know, umm… materials get wasted, and solutions get destroyed, you know, things, you know, if your group aren't working together, in that respect' (P29, Corridor Two).

The impersonal nature of the rotation system, where the groups are assigned the task of maintaining the lab, can create arguments and conflicts in corridors. Participants described some group members' failure to fulfil their lab cleaning and maintenance tasks which can lead to deterioration of the group relations in the corridors. This was interpreted as lack of commitment and disrespect of the corridor workspace norms which can sometimes result in disruption of scheduled experiments. Certain groups and individuals were explained to be making consistent efforts to keep the lab tidy and ready for use for the experiments while some other members from certain groups ignored the rota schedule. The issues about maintaining the lab spaces and reviewing the rota are discussed in the timely corridor meetings which are attended by the groups. According to the corridor members,

'*we get together and we chat about it and say, Look, you know, it's people from your students keeping stuff that way*' (P21, Corridor Three).

'*every three months, two to three months where we just try to talk about things that happened in the communal areas of the lab… just something to try to get some agreement between groups in terms to how we use those areas how to keep functioning hmm...*' (P15, Corridor Six).

The periodic corridor meetings result in formal confrontations between the group members further unfolding the non-communal relations across the corridor. The interactions are formal, and discussion is task-oriented representing a goal-oriented approach where the responsibility is divided between groups or individuals from groups. However, the meetings are reported to be functional rather than encouraging cooperation and supportive relations among the corridor members. Thus, the actions are specifically connected to the goals of maintaining a functional lab space where experimental work is not interpreted.

However, Corridors Four and Nine participants explained them following an *honorary system* where the practice was associated with everyone cleaning their own bench area, equipment and tools after use. However, several members did not follow the *honorary system* and the aftermath was described as '*wild wild west. It's just not great*' by P22 from Corridor Nine who explained the lack of cleaning days results in messy lab spaces. Similarly, P27 from Corridor Four explained the *communal stuff* which should be cleaned after use can be left uncleaned sometimes leading to confrontation with the person who has not cleaned. The majority of women agreed that there is a behavioural pattern of confrontation where they find the person who made the *mess* on the bench leading to a *passive aggressive* verbal confrontation.

However, the *messy and dirty labs* were mostly those which lacked a rota structure which compounded the conflicts arising in the management of the corridor spaces. In general, the conflicts, due to the lack of coordination and cooperation relating to the maintenance of the corridor space contributed to a general tension across Corridors Two to Nine. Also, two women

further identified the gendered nature of the cleaning tasks in their corridors, where women generally clean after the men.

'*I found I was doing a lot of cleaning um… after other people*' (P22, Corridor Nine).

'*Because boys in the group won't do any cleaning. And they don't, but they don't see it as a woman's job. They just don't see it as their job. Which is, I don't know, which is. Yeah, they're just a bit useless in that respect*' (P29, Corridor Two).

In general, the majority of the participants from Corridors Two to Nine explained that the lack of coordination and cooperation across the corridor members increased their workload in terms of corridor maintenance. For P29 and P22 this offered a gendered perspective where they explained the labour of women involved an expectation that they would clean up after the men in the corridors. It was supposed to be common in the corridor that the *boys* would leave the space *untidy* for women to manage the cleaning tasks. The labour was gendered and the women explained that they took responsibility for cleaning the sink and taking care of the *glassware* when these duties remained undone.

This was identified as *boys* lacking responsibility, resulting in women performing additional labour which could take their time and effort which otherwise they could put into productive lab or publication work. While the majority of women in Subculture B described them confronting the behaviour of anyone not honouring the practice of cleaning after themselves, the two women normalised the behaviour as the boys being messy. In short, the *honorary system* and the rota in managing the corridor duties was generally viewed to have failed to ensure equal participation in the lab in terms of labour in the subculture.

The AS departmental documents claim to have allocated the workload model to ensure gender parity in managing the work for the departmental members. However, the workload model seems to have no impact on the majority of participants in this study since the focus is on mid-level to senior-level academic staff. The workload model is explained to be a departmental practice to

maintain parity in terms of teaching, administrative and marking workloads as well as academic citizenship roles including chairing the committees and outreach activity roles.

The academic citizenship roles are circulated across the department and academics can express their interest after which the work is allocated. These roles rotate to ensure the participation of interested applicants and to avoid overworked citizens. In general, the workload model seems not to focus on or recognise the requirements of the postdoc populations whose work focuses on scientific experiments and publications in their corridor spaces. Moreover, as the above interview extract shows, some of the lab work includes gendered tasks of cleaning the lab which often might fall on women's shoulders. Such gendered division of labour which happens in the lab spaces are not considered in the workload model.

Therefore, as I have illustrated in the previous chapter, the early-career academics, confined to life within their corridor spaces, are not considered in the Athena Swan actions of the department. To have an impact on postdoc life, their workload in relation to their corridor spaces needs to be understood and the practices need to be implemented to have a positive impact on their daily lives.

6.4.2. Christmas Dinners

As mentioned earlier, the socialisation rituals factored in the interpretation by women of their lived workspace experiences. When participants were asked about what they do as a corridor together, the majority of them explained the yearly Christmas dinner organised outside their workspace in a restaurant.

'*We do Christmas dinners together*' (P21, Corridor Three).

The majority of participants from Subculture B identified Christmas dinners where groups across the corridor are invited. The structure of the Christmas dinner in these corridors was similar to those in Corridors One and Ten (identified as Subculture A) where the yearly dinner is organised outside in a restaurant where the corridor members meet for dinner or lunch. In comparison to the

corridor Christmas dinners, in Corridors One and Ten, the yearly meal was explained with less enthusiasm by participants from these corridors. P21 explained the Christmas dinner as a yearly ritual which some of the members attended in the corridor; however, she did not describe any socialisation process during the event. The ritual was expressed as another functional event in the corridor which did not produce much interaction among the corridor members. P23 from Corridor Seven, however, gave a detailed explanation of the ritual:

 '*Christmas meal is, everyone invited… this end doesn't really interact with this end much [participant gestures] on the Christmas. So usually this end is always with themselves and this end is always with themselves…because even though we're all there, we all tend to stick to our groups [laughs] and sit in groups within our group*' (P23, Corridor Seven).

The ritualistic behaviour of the Christmas meal did not improve the corridor socialisation, rather it communicated the values of exclusion and isolation of certain groups in the corridor. P23 explained the unsuccessful interactive rituals resulting in a lack of interaction between groups where isolated groups are excluded from the gangs in the corridor. While the isolated groups are given an invitation, the lack of any meaningful engagement between groups results in them feeling excluded and reproduces their outsider status within the corridor. The Christmas celebrations were interpreted as just a formal dining experience which lacked any networking opportunities for members from Corridor Seven. There was a similar narrative for the majority of participants from the corridors which observed the yearly dinner, for whom it represented a formal event which they attended. The yearly Christmas dinner or the farewells which corridor members could join did not increase the solidarity or engagement among the corridor members.

However, P24 who identified herself as being from Corridor Four explained that they celebrate the Christmas dinner as a group rather than as a whole corridor. P27 from the same corridor confirmed this,

'*We have Christmas dinners, Just a group, not the corridor*' (P27, Corridor Four).

P27 explained the Christmas dinners within the group to be friendly events where they did not talk about work. While the Christmas dinner appears to be a closed ritual within the group, she further explained the farewell celebrations sometimes happening in the corridor which some corridor members may join if they know the person who is leaving. Similarly, P24 noticed that some groups engage in socialisation rituals where they go for lunch together. However, the rituals appeared to be limited to within groups rather than as a whole corridor, thus limiting any networking opportunities across different groups in the corridor. This further substantiated the group zone behaviour explained previously, where the members tend to stick together within their group rather than socialise across their corridors resulting in isolated mini-bubbles.

The general behavioural pattern in the corridors from Subculture B was such that they tended to remain within their groups and the socialisation rituals were empty and hollow, not producing corridor solidarity, where the members felt unaffected by the rituals. Moreover, the rituals were explained to be formal where members followed the format of being together, rather than creating any positive emotions for the corridor members. Even the ceremonial Christmas dinner was reproducing the formal impersonal scientist behaviour where some members felt excluded and isolated.

While the communal relations in Subculture A resulted in better experiences for women, women from Subculture B explained their survival by fitting in with the masculine notion of the ideal scientist role in their corridors. Therefore, the department's effort to embed the inclusive principles into the departmental culture was not evident in the experiences of the participants from Subculture B. Moreover, the experiences reflected lonely, secluded and outsider feelings in contrast to the departmental claims of collegial and friendly culture in the department. The findings showed some similarity in terms of the experiences and opinions of women from Subcultures A and B in relation to the Athena Swan departmental initiatives as illustrated below.

6.5. Negative Experiences and Opinions in Relation to the Athena Swan Departmental Initiatives

 Similar to the participants from Subculture A, the majority of women from Corridors Two to Nine presented negative experiences and opinions in relation to Athena Swan departmental initiatives. The categories under the theme of women losing faith in the Athena Swan departmental awards were:

1. Feelings of exclusion from departmental committees

2. The lack of inclusion and support in corridor spaces

3. Experiences of lack of gender equality practices in the corridor spaces

6.5.1. Feelings of Outsiders: Excluded from Athena Swan Departmental Spaces

While the department emphasises the equal participation of academics in the service roles and committees, one of the three PIs in the study described her experience of being excluded from Athena Swan committees. When she was asked about Athena Swan departmental participation she replied,

'*so, I have volunteered to assist [on the AS committee] and I've been contacted by the heads of Athena Swan at other universities asking about how we do this and I have volunteered that it's something that I would be interested in but I have not been moved on to any Athena Swan committee… And it's because maybe because [hesitant] I don't know, I don't want to hazard a guess, but I have made it clear that I want to do…*' (P2, PI).

P2 explained her being passionate about gender issues which was the reason for her applying for the Athena Swan committee membership. Also, she recognised serving on committees to be important for career development along with doing other departmental activities. The UA department promotion criteria document also illustrates that 'academic citizenship' activities

include service on gender and diversity committees. However, she described being denied an opportunity to be a part of the Athena Swan committee. According to P2,

'They [the departmental leaders] can assign all of the roles for committees and all of the leadership roles and often do assign them to people who they feel that they agree with; they don't have to give any reasoning for it, they just say "Oh, well I think that person would be good in that role" and they use it as a reward or as a penalty for people' (P2, PI).

The above allegation identifies the power relations in the department which results in women being denied meaningful participation and representation on decision-making committees. According to UA departmental Athena Swan gold award documents, the Athena Swan committee consists of 21 members who are selected by sending invites to academics, administrative staff and students in the department chosen to represent diversity and different career stages. This provides an opportunity for them to contribute towards decision-making policies and practices which can ensure an inclusive culture in the department.

However, the selection process itself is considered to be biased by P2 who believes the reason for her rejection was due to her raising her voice on other committees. The opinion was also found to be the result of her not being provided with a reply about why she was excluded from the Athena Swan committee. Despite this being a single incident, it may reflect that the power relations in the department can play a role in denying participation for women who deflect the gender performativity. This may result in negative career prospects for those denied opportunities to participate as well as them questioning the sincerity of the gender equality attempts of the department.

While the experience of not being accepted on the AS committee without being given a reason was a reason for the negative perception of departmental initiatives by P2, the theme of negative opinions about the AS departmental initiatives was recurring in several interviews. For instance, when asked about the department's accreditation of the Athena Swan and their feelings regarding

being a member of the gold-awarded department, the majority of women from Corridors Two to Ten expressed disappointment at not having any positive experiences in their workspace despite the department's Athena Swan gold awarded status. This resulted in them further questioning the department's Athena Swan accreditation and the Athena Swan programme itself. For instance, the PI from Corridor Six described her disappointment at the lack of impact of gender equality practices despite the department's accreditation to Athena Swan:

'*I don't know really...I don't know if it really affects some people. So, umm… So, for instance, I used to run the seminars for Corridor Seven. Someone else has taken over that. And that, you know, it tends to be men (speakers) who are invited, or these men that are giving the talks*' (P17, Corridor Six).

Similarly, a postdoc from Corridor Nine questioned the Athena Swan gold award of the department, despite it having inclusive spaces for new mothers:

'*So yeah, I'm just surprised that they don't have, you know, with all this Athena Swan stuff like they don't have the facilities*' (P22, Corridor Nine).

As P17 noted, her earlier experiences as a postdoc in the lab required her to organise seminars which were later passed on to other members. However, the corridor practice of recruiting male speakers was identified as a biased decision in the corridor. There appears to be no implementation of universal gender equality practices across the department to minimise such negative bias. In a similar tone, a new mother questioned the department's Athena award in the light of the lack of inclusive spaces and facilities for new mothers. In general, the lack of supportive and inclusive practices in Subculture B have resulted in women's negative bias towards the Athena Swan departmental award. This was further reiterated by a senior postdoc who explained that, despite having policies, the department has failed to implement them universally across the corridor subcultures.

According to P1,

'*there can be overall policies or overall recommendations but within each lab, individual lab, there's always like a little mini culture within those Labs. So, you know, you might be working with the professor who, maybe there's six people on your lab, maybe there is 20 people in your lab, but there's this mini culture that doesn't necessarily adopt all of the recommendations on all of the sort of guidelines… from the likes of Athena Swan*' (P1, senior postdoc).

As P1 explained, Subculture B does not have inclusive or supportive practices to promote gender equality. The common practices and behaviours in Subculture B were found to be obstructing women's career development in contrast to the Athena Swan principles which recommend that the departmental culture tackle the obstacles to improve women's careers. In this context, the practices in Subculture B were found to be having a negative impact on women's experiences such that some women explained their desire to leave academia altogether. This further contradicts the AS principles of retaining women in Science, thereby benefitting by their talent and helping academia reach its full potential. AS P1 commented, Subculture B clearly shows practices of exclusion, devaluation and marginalisation of some groups and individuals.

Some women remained sceptical of the UA departmental gold award itself over their lack of positive experiences in their corridor. For instance, P31 from Corridor Two explained her having better experiences in her previous institution which holds an Athena Swan bronze award rather than in the UA department which holds gold.

'*I know what Athena Swan is. Does it do anything for me? It doesn't do anything. We have a Gold Award. Wow. I feel very well [sarcastic tone]. We had a bronze award where I came from and I even felt more respected. So, what might this Gold Award do for me. So, it's it's good. They have their medal; well, we are Athena Swan! Does it change anything in reality? Not a single thing [stress]*' (P31, Corridor Two).

'*A lot of people will still approach it like it's a box ticking exercise … how do we make it look so we look good but we don't really change anything*' (P2, Corridor Two).

The corridor spatial experiences play a major role in determining the opinion of the participants in terms of the credibility of the departmental AS award. As previously mentioned, the lack of a supportive environment and the feelings of exclusion within their corridor spaces results in women's distrust towards the programme itself. The informal marginalisation, devaluation and exclusion of the groups and some individuals in the corridor can, therefore, strike at the very motives of the Athena Swan principles. Another interesting interview quote is presented below, about an Athena Swan case study, where the person remained sceptical about the Athena Swan accreditation of the department.

According to her,

'*I don't think Athena Swan has had any [stress] impact at all*' (P3, postdoc).

When asked about her reason for writing the testimonial case study, she replied that she went to the management for some guidance for a mock interview. During the meeting she was asked to write for the Athena Swan case study.

'*So, then then they became aware of my existence in the department because before then I was just there with my colleague [details removed]. So, when XX was aware XX said, XX could use my case study for the Athena Swan application. So, yaa, I was used in the Athena Swan application as a case study … I did it just because she asked me [smile]*' (P3, postdoc).

The participant talked about the senior academic who was involved with Athena Swan recognising her only when she approached her for support for which she further had to write the case study. She described her experience of writing the case study only because she was asked to rather than the departmental practices positively having an impact on her experience.

The postdoc population in general expressed experiences of not being recognised and treated like outsiders in the department. This was reflected in the sentiment shared by P3 who explained her

experience of being recognised when she approached management for support on a mock interview and then being asked to be the part of Athena Swan case study. The power relations in the context further imply that some women might not be able to deny participation in the AS process for the refusal to participate can indicate a lack of loyalty and refuting the academic citizenship behaviour expected of women.

In short, only four women reported their experiences in relation to the Athena Swan departmental activities. This included one PI, two senior postdocs and a postdoc who explained the Athena Swan itself to be performative for them. Both the senior postdocs explained that their involvement with the AS activities happened during the beginning stages of the departmental accreditation with the AS programme. It was noticed that there was no active involvement other than for a single postdoc who explained being a part of the AS committee where she maintained that she was an observer and the other explained that while she was involved in the departmental activities of Athena Swan earlier, she had felt that she was not really part of the academic club. Similar feelings were explored by a postdoc who explained her role as a case study where she agreed to become one upon being asked. One of the main themes reflected while analysing the experiences of the women who were engaged with AS was them being voiceless and feeling invisible within the department. Thus, Athena Swan is a symbolic space for women's invisible status, exclusion and voicelessness in the UA department.

6.6. Lack of Awareness of Athena Swan Activities

When the participants were asked about the Athena Swan accreditation and their awareness of any Athena Swan actions, the majority of women explained that they were not aware of the AS gender equality practices of the UA department. This results in their opinion of the Athena Swan accreditation as something that the department advertises on their website rather than something that makes a real impact on their academic life.

'Well, I've seen them advertise it on the website. And it's always saying, "it's a good thing. We have this and it's gold" [laughs]' (P25, Corridor Seven).

'I have more experience of this (AS) from my previous employment than at UA' (P14, Corridor Seven).

'When I was in X [previous university]… I was aware at X university I was aware of the Athena Swan initiative and there was the scheme set up there called XXX' (P6, Corridor Eight).

'I know… I know UA department got gold; I don't know how or why. Just that things are on place hmm…' (P11, PI, Corridor Three).

In general, the majority of the participants were largely unaware of the departmental policies or practices to improve gender equality. There was no indication that women on postdoctoral contracts were aware of the inter-departmental mentoring opportunities which mainly aimed to improve their career prospects as a part of the Athena Swan departmental action plan. Most of them were unable to comment on the AS actions of the department or to describe any improvement they had noticed over the time they had worked in the department. While the departmental gold application shows their efforts to improve awareness on the Athena Swan work done in the department, this was not reflected in the experiences shared by the participants. This was evident from the beginning of the study when I started receiving responses from prospective participants. Several participants commented that they were unable to comment on Athena Swan departmental initiatives in their email agreeing to participate in the study. For example, P25 and P18 wrote that with regard to AS questions,

'I am not sure I will have useful answers' (P25, postdoc).

'I am not sure I will be of much help' (P18, postdoc).

The majority of the responses in this study suggest that despite the department holding an Athena Swan gold award, there has been a failure to raise awareness about the Athena Swan actions and the opportunities raised by the department to improve the career opportunities of the participants. This includes the majority of postdocs and the PI from Corridor Three in this study who explained the corridor is not aware of or involved with AS departmental initiatives. Also, the findings were similar to that of the experiences of the women in Subculture A who were largely unaware of the Athena Swan action plans regarding grant writing workshops and the departmental socialisation events. The Athena Swan gold application document shows one of the key success criteria in relation to the department's gender equality initiatives to be achievement in improving the postdoctoral researchers' awareness of the career opportunities. However, as the above interview extracts show, the evidence from the current study contradicts such claims where the department is criticised by the early career researchers in both Subcultures A and B to have failed in raising awareness about the opportunities available for postdoctoral researchers within the department.

However, one postdoc explained that the email communication could be a problem when probed about awareness of the Athena Swan departmental action plans,

'*I suppose it have to get through to people who aren't aware… somehow. That doesn't mean emails, because there are just too many emails…*' (P8, postdoc).

P8 from Corridor Eight explained that since the postdocs get a lot of emails, such communication cannot always be effective. The line managers' engagement with the postdocs and the PIs can be important at this level to improve the members' awareness of the Athena Swan departmental action plans in place for them to improve their experiences. There needs to be person-to-person engagement in corridors to educate the corridor members to inform them of the opportunities available to them. However, the general lack of awareness among the participants on the Athena Swan gender equality initiatives of the department results in them failing to avail of them.

Conclusion

In comparison to Subculture A, the behavioural practices in Subculture B were gendered, disadvantaging women, especially those with childcare responsibilities. Women explained negative expectations regarding their career growth in relation to the exclusive and isolating practices across these corridors, and, in comparison to Subculture A, the experiences of women in Subculture B indicated a pattern of the leaky pipeline. While the lived experiences in their corridor spaces differed for the members of Subcultures A and B, there were general negative opinions from both subcultures about the Athena Swan departmental initiatives.

While the subcultures showed similarities in terms of the view of departmental initiatives to promote gender equality, the reasons for the opinions differed. For the members of Subculture A, they felt like outsiders in the department and not being informed about the Athena Swan and other departmental inclusive practices resulted in them being suspicious of the Athena Swan departmental awards.

However, the Subculture B members expressed disdain for the department due to the lack of inclusive and supportive practices within their corridor spaces. There was also agreement among all the corridor spaces on the postdocs being considered as *outsiders* and not informed of the Athena Swan departmental initiatives or the opportunities available for them due to the AS gold-awarded membership. While there were differences in Subcultures A and B, there were general sentiments against the department's lack of inclusive practices for the participants, especially among early-career academics. This concludes the empirical findings of this thesis. In the next chapter, the findings presented in the two chapters will be discussed in detail.

Type	Interactive behaviour	Implications for OC theory	Implications for organisation	Experience of AS departmental initiatives	Implications for AS
Subculture A – supportive	Supportive collaborative	Maternal bodies	Women stay longer	Feelings of invisibility/outsiders	Women have lost faith in the

		accepted and supported in the corridor spaces	Experiences reflect confident employees	within the department	AS awards since they have no positive experience as a part of an AS gold-awarded institution
				No faith in AS programme	
Subculture B - unsupportive	Ideal scientist model	Gender performativity where maternal bodies are spatially performative	Women want to leave organisation	Struggling in the corridor to survive hence no faith in AS programme	Women have lost faith in the AS awards since they have no positive experience as a part of an AS gold-awarded institution
			Lonely and isolated experiences		

Table 8. Characteristics of Subcultures A and B

Chapter 7. Discussion: The Impact of Athena Swan Gender Initiatives on the Performative Spaces in Organisational Subcultures

Introduction

This chapter articulates the findings of this research in a culminating discussion where I relate the Athena Swan principles to the subcultural spaces in the UA department which become performative for women. It argues that being a part of an Athena Swan gold-awarded department does not necessarily mean that the departmental culture is inclusive and supportive for early- and mid-career researchers as aimed for by the Athena Swan charter principles.

The discussion will unfold the performative dimension in the subcultural spaces by arguing that the role of perimeters of space in the formations of subcultures have differential cultural characteristics resulting in differential experiences for early- and mid-career researchers. Firstly, I will discuss some homogenous practices identified across the subcultures and their impact on the lived experiences of early- and mid-career researchers. These include gender inequality materialising through spatial arrangements and lack of inclusive spaces for mothers. It further discusses how departmental status may result in postdoctoral researchers' feelings of *outsiders* and exclusion from the departmental events and Athena Swan activities.

Secondly, the discussion focuses on the significance of the subcultural norms in influencing the lived experiences of women and their opinions about being a part of an AS gold-awarded department. It argues that the dominant subculture norms in the department to have hegemonic values associated with competition, assertiveness and independence (Connell, and Messerschmidt, 2005) results in women needing to perform ideal scientist behaviour which is results-driven and performance-oriented. The discussion highlights that failure to perform the ideal scientist subcultural norm may have negative career implications for women. Therefore, the departmental culture is viewed to be weak in promoting inclusive and supportive practices universally across different subcultures which has resulted in women losing faith in gender equality monitors like the

Athena Swan programme in the HE sectors. The discussion also unfolds that some positive outcomes identified in this research may be resultant of subcultural practices rather than Athena Swan actions of the department.

Below is the conceptual model derived from this research which shows the impact of the Athena Swan action plans in the departmental document in relation to the lived experiences of early- and mid-career researchers.

departmental version of AS impact

Engaged with all departmental staff in Athena Swan gender equality initiatives

Improved engagement with Athena Swan for all departmental staff, better socialisation in the department, improved opportunities for staff to raise the voice, reduced unconscious bias, Improved awareness of postdoctoral researchers on their career opportunities including better mentoring schemes for postdocs

Progressed in removing barriers for gender equality

Department listen to the issues of the staff, Postdocs can raise their voice and their concerns are heard, Postdocs have improved visibility and reduced insecurity in terms of their career

Enhanced gender equality activities

Staff are better informed of their career opportunities, mentoring sections enhance career prospects, improved inclusivity in the AS activities

Sustained the supportive and inclusive culture

Better role models for the postdoctoral researchers in the website, the workload model helps with the fair allocation of work, improved socialisation between the staff

Inspired others to accomplish the Athena Swan principles

Sharing the good practices as beacons of achievement of Athena Swan gold

lived experiences of early and mid-career researchers

Lack of socialisation

Feeling invisible

Lonely

Isolation

Lack of collaborative opportunities

Lack of mentoring opportunities

Lack of flexibility

Athena Swan activities

Lack of voice in the departmental Athena Swan activities

Lack of awareness of departmental Athena Swan activities

Ideal academic behaviour

Competition

Passive aggression

Gendered division of labour

Lack of inclusive spaces for new mothers

Fig. 9. Conceptual model of Athena Swan departmental portrait in relation to the sphere of the lived experiences of the early- and mid-career researchers

As shown in Fig. 9, the departmental gold action plans show AS departmental initiatives to have resulted in improvement mainly in five areas. These include greater engagement of the staff in the Athena Swan activities as well as improved socialisation across the department and greater awareness of postdocs on their career opportunities. In contrast, the findings in this thesis showed the early- and mid-career researchers, especially the postdoctoral researchers, to be lonely and isolated and feel like outsiders in the department. While the department further shows to have raised the platforms so as to listen to the postdoctoral researcher's concern, women explained feelings of invisibility within the department and sometimes within their corridor spaces. Moreover, the improvement of the supportive culture for the women with workload models and the core working hour practice has no significance on the early- and mid-career researchers, especially those on postdoctoral contracts who were required to perform the ideal scientist norms in their corridor spaces. As shown in the figure, the findings highlighted the corridor spaces involving a performative dimension for women who appear to be struggling with performing as the ideal scientist in addition to their gendered scientific performance, resulting in their feelings of being stuck and frustrated.

I will now discuss these in detail.

7.1. Athena Swan Principles in Relation to the Organisational Spaces which Become Performative for Women

The findings from this thesis show that the Athena Swan departmental gold initiatives have not challenged the masculine norms of the ideal scientist in a department where scientific norms become performative for women resulting in a gendered division of labour, outsider status of ECRs from departmental life and the dominant cultural norm of the ideal scientist being legitimised through exclusionary practices in subcultures.

The performativity dimension in this study mainly related to the perimeters of the work spaces which influenced the everyday experiences of early- and mid-career academics. The workspaces were described as physical spaces where participants perform scientific work resulting in identity formation and relationships resulting in the concept of '*corridor identity*'. Thus, early- and mid-career researchers defined their workspaces in terms of their corridors, where the scientific work was mainly produced and relationships were maintained. Women's collective identity in relation to their physical spaces relates to the concept of identity formation in physical settings shown in the earlier works of van Mannen and Barley (1985), where it is argued that the identities of organisational members are formed historically around the physical setting where the group operates. Recently, the case study by Vålanda and Georg (2019), on a Danish organisation, elaborates the concept of organisational spaces as creating collective identities for organisations. They concluded that it is '*the continuous engagement with the spatial-material formatting of the work and the workspace that brings peoples' sense of identity into being*' (p. 9). In this sense, the women in this study were found to be enacting a collective sense of identity belonging to the corridor space. Their identification as part of a collective group was recognised throughout the interviews. Furthermore, they demonstrated their collective identity by using '*we*', '*us*' and '*our*' which researchers refer to as inclusive pronouns, showing their identification as a unique group within the organisation (Barrett and Davidson, 2006).

Additionally, the experiences of women from the same corridors appeared to be similar and the analysis showed *mini cultures* across the corridors which were identified as being characterised by differential spatial performative norms. Thus, the selective coding phase involved understanding the core category in this study to be corridor subcultures indicating the differential experiences in organisational spaces which become performative for postdocs.

This was due to them avoiding socialisation outside their corridor spaces and confining their movements within the corridor spaces. Thus, the data indicate the spaces to be performative for

women in that they seemed bound to their corridors or group spaces where they derived meanings for their daily workspace experiences. The emergent theme of women inhibiting and maintaining socialisation within the constraint of their corridor spaces relates to Tyler and Cohen's (2010) participants' narration of *spatial constraint* where women described their experiences of containment in their organisation. Tyler and Cohen (2010: 193) argue the workspaces to be gendered and illustrated women being *trapped* in their workspaces confirming '*materialization of the cultural norms according to which particular gender performances are enacted*'. Developing Butler's performativity and linking it to Lefebvre's spatial theory, they describe the lived experiences of academic women in these spaces to be self-restrictive, whereby they restrict their movement within these spaces in accordance with the culturally accepted gendered norms (Young, 1985). Therefore, the workspace itself reproduces the gender performative norms where women enacted the *normal women's* behaviour by constraining their movement within their spaces.

Women's confined spaces emerged as a theme in the current research where they explained self-constraining their movements within the corridor. The constrained spaces were explained using metaphors of bubbles, caves, zones and circles and they described their controlled movement around and within these spaces. While the data from my research support the spatial performativity described by Tyler and Cohen (2010), my findings extend the study by arguing that experiences within these constrained spaces can be different according to the cultural norms in these subcultural spaces. Thus, the symbolic meaning associated with these spaces were interpreted differently by the members of different subcultures, which I will discuss in Section Three.

The performative notion in this study emerged in two sections: firstly, the general experiences of early- and mid-career researchers in relation to the performativity in the departmental spaces resulting in their negative opinion relating to the department's commitment to the Athena Swan programme - this was found to have resulted in them losing faith in the Athena Swan programme itself; secondly, cultural performativity in relation to subcultures resulting in isolation and

exclusion for women rather than inclusive and supportive experiences resulting in some women deciding to leave academia. This is contrast to the aim of the Athena Swan charter in addressing loss of women in Science at various points on the career ladder (ECU, 2020a).

I will now discuss the general experiences of the early- and mid-career researchers showing that the dominant practices in the department may have resulted in their feelings as *outsiders* and their loss of faith in the Athena Swan programme itself.

7.1.1. Losing Faith in the Athena Swan Programme

This thesis identified that the early- and mid-career researchers, especially postdoctoral researchers, may have lost faith in the Athena Swan programme itself due to their lack of positive experiences as members of an Athena Swan department awarded gold for its gender equality initiatives. The Athena Swan principles of inclusion and a supportive culture were not experienced by the majority of women in the study, causing them to challenge the meaning of the AS gold awards. This was mainly in relation to their feelings of *outsider status* in relation to:

1. Visible spatial arrangements symbolising gendered hierarchies

2. Lack of awareness of the Athena Swan departmental initiatives

3. Athena Swan itself legitimising performativity

7.1.1.1 Spatial Arrangements Symbolising Women's Lower Status in the Organisation

The postdoctoral researchers in this study explained their lost faith in Athena Swan in relation to the visible segregated status of women in junior positions in their corridor spaces. The research suggested that gender inequality materialised through the spaces which shows the hierarchically arranged spaces symbolising gender segregation and gendered power relations within these spaces. These gendered spatial arrangements become highly visible for women in early-career positions, especially in female-dominated spaces further resulting in their feelings of their *outsider* status

where they felt an academic career might not always be ideal for women. Thus, contrary to the findings of the previous research on Athena Swan showing the inclusive spaces for women in an Athena Swan accredited department (Ovseiko et al., 2019), this study suggests that the corridor spaces themselves represented the lower status of women in academia resulting in them questioning the legitimacy of gender equality initiatives like Athena Swan.

Therefore, the spatial arrangements in organisations became an important dimension in this study which required me to understand the literature on spaces and how it relates to the hierarchical spaces in this research. The literature on spatial theory showed that the scholars from different theoretical perspectives generally engaged with Henry Lefebvre's (1971) concept of space in maintaining and constructing gender inequalities (Wasserman and Frenkel, 2015). Lefebvre theorised space by challenging the notion of space as a neutral medium and argued that space is a social process producing social relations. In this approach, spatiality is produced through three notions: 1. conceived space which denotes the planned space designed by managerial or architectural discourse; 2. perceived space which is materialised through routine embodied practices; and 3. lived space referring to the interpretation of these spaces though the symbolic meanings associated with them. In the current research, the findings highlight the implications of lived spaces on the experiences of early- and mid-career academic women for whom the spatial arrangements in their workspaces symbolised women's lower status in academia.

It also highlighted that the gender performativity in relation to organisational spatial arrangements as shown in Tyler and Cohen's (2010) research where they use Sophia Hulten's artwork *Grey Area* as a methodological tool to investigate lived spaces and illustrate the materialisations of power relations. Through the illustrations of spatial arrangements of women academics, they argue that crammed office spaces symbolically represent a symbol of status for them. Broadly, the data from the current research also indicate the significant role of spatial arrangements in illustrating organisational power relations for women.

While Tylor and Cohen (2010) highlighted the cramped spaces for women who shared their workspaces explaining spatial performativity, the data from my research illustrate the significance of spatial arrangements themselves for women, symbolising the lack of impact of Athena Swan initiatives on structural inequality. This was reflected in the data where the hierarchically divided individual offices were occupied by PIs, the senior role in the corridor, while the junior members shared office benches. This resulted in the men, who have historically dominated the senior positions in academic Science, holding individual offices while women were segregated in junior positions sharing office benches. Such segregation offered visibility to the structural inequality which reminded women of their lower status within their workspaces. Thus, the spatial arrangement of the individual offices and the segregated office benches symbolically constructed gendered hierarchies in the corridor spaces.

Recently, the meanings of the spatial layouts in creating social relations were empirically investigated by Wasserman and Frankel (2015) who related Lefebvre's concept of spatiality to Acker's (2006) inequality regimes and argued that the organisational structure itself results in reproducing gendered cultural norms. Their study on an Israeli organisational structure indicates the perceived spaces as inequality regimes through which gender inequality is reproduced when the spaces impose a hierarchical order. Taking an aesthetic turn, they conceptualise the spatial work performed by the organisations in reproducing gender inequalities and demonstrate the structure of the organisational spaces to be gendered.

In the current study, the analysis of the lived space or the spatial user's interpretation of the space agree with the finding of Wasserman and Frankel's (2015) study that the spatial arrangements can symbolise women's lower status in the context of academic organisations. While Wasserman and Frankel (2015) are more engaged with archaeological construction in reproducing gendered hierarchical relations, the current study shows how the symbolic arrangement of hierarchical spaces leads to spaces representing low status for women. Thus, for women, these spaces become

the symbols of the cultural barrier they face when trying to climb the career ladder, reminding them of their underprivileged status in academia. The impact of such gendered spatial arrangements, therefore, can be that women lose faith in the AS gender equality efforts since they symbolise the continuing unequal status women hold in academia.

Recent studies engaging with the impact of spatial arrangements in reproducing inequalities have rarely understood how such symbolic arrangements impact women's negative opinions of gender equality initiatives like Athena Swan. Therefore, the findings of this research, where the spatial arrangement becomes symbolic for women representing their lower status and lack of career progression in academic Science have further significance in relation to the recent quantitative reports showing women losing faith in Athena Swan initiatives (McKie, 2020). This adds to the empirical evidence that the spatial arrangements themselves become symbolic in terms of the exclusion of women in academic career ladders resulting in women questioning the meaning of the Athena Swan programme itself.

Also, the current studies understanding the impact of Athena Swan have rarely reflected the context of the hierarchical spaces which can have negative implications for the career perceptions of academic women. While the Athena Swan principles aspire to remove any obstacles to women's career development, this thesis argues that the spatial arrangements symbolising gendered power relations may be an obstacle to women's career aspirations. While the studies investigating the significance of role models among scientists show success in scientific careers is achievable despite gender (Howe-Walsh and Turnbull, 2016), the current study understands that the spatial arrangements in the corridor spaces themselves symbolise unachievable career aspects for women researchers. Such spatial arrangements reflecting an unequal proportion of women in senior positions can be detrimental to women's confidence about being successful in academic Science.

In short, this thesis argues that the lack of role models within the corridor spaces and the visibility of gender inequality through spatial arrangements within these spaces impact on a lack of confidence with regard to early- and mid-career researchers' career development. However, previous studies examining the impact of the Athena Swan have emphasised the departmental interventions in improving the visibility of the role models on the departmental website (for example, Bryant et al., 2017; Tsouroufli, 2019). While the UA departmental action plans to sustain the inclusive departmental culture also explain the increased visibility of the role models on the departmental website, this alone is not found to be sufficient to improve the confidence of women in their early- and mid-career positions. Bryant et al. (2017), examining the impact of the Athena Swan in a UK university, address the visibility of role models on the departmental websites to be a lowest priority intervention nevertheless raising the profile and visibility of role models for academic women. However, the findings from my research suggest that the visibility of role models on the website has little impact on early- and mid-career researchers whose workspaces show hierarchically arranged workspaces with limited role models, thereby symbolising unachievable senior positions for academic researchers.

The interpretation of spatial arrangements was also compounded by the participants' lack of awareness of Athena Swan departmental activities resulting in them questioning the Athena Swan programme and the departmental gold award.

7.1.1.2. The Lack of Awareness of Athena Swan causing negative opinions towards departmental efforts

Another factor which influenced postdoctoral researchers to lose faith in the AS programme was not being aware of the Athena Swan departmental activities or the departmental efforts to gain the award. This is relevant especially since the postdocs make up almost 31% of all departmental staff and among the total postdoc population, almost 48% are women. For postdocs in the current study,

their lack of being informed about the Athena Swan departmental activities itself contributed to their feelings as *outsiders* within the department. While one of the aims of the Athena Swan programme is to promote an inclusive culture for women academics at all stages of their career, the postdocs' experiences of not being made aware of the Athena Swan activities thus resulted in their feelings of exclusion.

This was in spite of the UA departmental gold action plans which claimed to focus on awareness initiatives for early-career researchers since it is recognised to be significant for their career development. The gold action plans, which were similar to the action plans identified in the gold departments by Barnard (2017), showed departmental efforts towards improving awareness of the Athena Swan departmental activities so women can utilise such opportunities for networking opportunities and career development. This was mainly in relation to informing women of career options, promotion opportunities, and the formal and informal AS departmental socialisation events. However, contrary to its claim of raising awareness of Athena Swan activities among academics, these action plans have not translated into the lived experiences of the early and mid-career researchers who remained largely unaware of these activities. Therefore, I will argue that the departmental failure to improve awareness of the department members about their career opportunities in relation to the Athena Swan action may contribute towards early- and mid-career researchers' feelings of exclusion in the department.

Also, the finding shows sharp contrast with recent Athena Swan impact studies claiming that Athena Swan accredited departments have successfully raised awareness among women about their opportunities compared to women from unaccredited universities (for example, Munir et al., 2013; Ovseiko et al., 2017b; Ovseiko, 2019). Most of the postdocs in this study commented that they are only familiar with the Athena Swan accreditation of the department from the display on the departmental website. While the departmental website display of the AS award is considered to demonstrate departmental commitment to gender equality initiatives and inclusive spaces for

women, the early- and mid-career researchers believed the department had made no genuine effort to improve awareness of Athena Swan actions in the department. Therefore, women remained largely critical of AS departmental initiatives as something they '*see on the departmental website*' which showed similarity with women's attitudes in Bryant's (2017) study where the participants explained individually focused gender equality interventions to be 'window dressing' (p.5) activities with no impact on their working experience.

Furthermore, in the light of them lacking awareness of Athena Swan departmental activities, there was a general opinion among women of departmental failure to effectively communicate such initiatives to the participants. However, the lack of communication of Athena Swan opportunities also resulted in women's belief that they were the *outsiders* within the department. Therefore, this thesis understands that the failure to effectively communicate the Athena Swan opportunities may result in women's feelings of invisibility due to their lower status in the department.

7.1.1.3. Lost Faith in the Department's Commitment to the Athena Swan Initiatives: Athena Swan Becoming Performative

The performative notion of the Athena Swan in this research was understood through women's feeling of invisibility relating to the Athena Swan departmental activities together with their feelings of hypervisibility in the departmental website and documents. Hypervisibility was in relation to women performing the good citizenship role by writing the case studies for the AS application and women's images being displayed in the departmental website as evidence of departments gender equality initiatives.

The performativity in relation to the Athena Swan in the UK HEI has been discussed by some empirical researchers in relation to the implementation of the Athena Swan programme in AS accredited universities. This is discussed mainly in relation to the performativity notions of gendered labour for the Self-Assessment Team (for example, Caffrey et al., 2016; Ovseiko et al.,

2017; Tzanakou and Pearce, 2019) for Athena Swan where they found women involved in Athena Swan, particularly SAT members and institutional and departmental champions, were found to be burdened with the workload. However, the studies did not intend to focus beyond the SAT committee members, therefore are limited in their understanding of the women who are not directly involved in the SAT committee.

The performativity dimension of Athena Swan in the current research showed women's feelings of being invisible in the AS departmental celebrations and decision making at the same time as feeling hyper visible in the Athena application documents and website. Contrary to the studies which illuminate AS accreditation as improving women's experiences, the women in general explained feelings not being considered as the departmental members and being ignored in terms of the departmental AS activities. The findings suggested that most of the postdocs felt their contractual status and their lower status fostered invisibility when it came to being invited to the departmental AS activities. Recently, O'Meara's (2018) research to understand the inclusive culture in a research-intensive university in the United States, by examining the interactions between the academic staff, argues that research universities with their hierarchical structure, may associate senior positions or ranks with '*expertise, competence and authority which can lead to bias against those in lower ranked positions*' (p.8). Similarly, feeling like *outsiders* in the department due to their lower status was prominent for women in this research, further strengthening their belief of being outcast from the AS process due to their postdoc status.

In general, one of the implications of their experiences was their feelings of 'Othering' where they felt they were invisible and voiceless when it came to the Athena Swan implementation process itself. This corelated with the departmental action plans for postdoctoral researchers which was shown to have little relevance to the concerns raised by the postdocs in this study. The invisibility experienced by the postdoctoral researchers in terms of the being ignored in relation to the departmental Athena Swan celebrations and activities showed the Athena Swan space itself

represented their lower status. This suggested the gender performativity being reproduced through spaces which may render symbolic representations of the lower status of women who are mostly represented in the lower spectrum of the career ladder. The findings can be related to Fotaki's (2013) notion of gender performativity in academia whereby women face abject outsider status. Like the women academics in Fotaki's (2013) research, the women in the current study described not being heard or seen in Athena Swan departmental activities and not being provided with spaces of representation. One possible reason for these feelings could be the lack of effectively communicating Athena Swan activities to the postdoctoral population.

Secondly, the Athena Swan requirement for the departments to demonstrate excellence using case studies in the application documents and the website itself may indicate the performativity dimension of the Athena Swan process. The postdoctoral researchers become hyper visible in the Athena Swan departmental award applications, action points and the website pictorial representation which advantages the department through a display of their commitment to gender equality. Though this might not be intentional by the department, the dual aspect of visibility and invisibility is a factor for postdoctoral researchers questioning their belongingness within the department, reflecting on their lived experiences of organisational 'Otherness'. Their experiences related to the performative notion of the AS in the department itself where women become the embodied 'Other' owing to their outsider status while also being highly visible for the Athena Swan documental process. This suggested that women may be displayed as evidence of excellence of gender equality initiatives of the departmental Athena Swan actions, despite their feelings of being invisible and voiceless in the departmental Athena Swan process.

Finally, the performative dimension of the Athena Swan process in this research was compounded by the experiences of the three women who explained having some engagement with the Athena Swan process. It illustrated that women may remain mere observers of the SAT process, be denied participation in the SAT process or write case studies for the Athena Swan process to demonstrate

their good citizenship role. Macfarlane (2005) uses Marshall and Bottomore's (1992) three-dimensional model of academic citizenship to explain the significance of the service roles in being the '*"glue" that keeps academic communities and the universities they work in going and connected to the world around them*' (p. 299). The narratives of the woman who participated in the case study document may suggest the performative dimension in the current context where women may be required to perform academic good citizenship by writing case studies for the department which benefit the department in gaining the award. Also, the lecturer who believed she had been denied SAT committee membership due to her raising her voice at a previous committee may also explain how women may be overlooked in the SAT committees over their *reputation* for raising their voices in committees. However, more studies need to be conducted to understand this further since the findings are derived from the few participants who engaged or attempted to engage with the Athena Swan departmental activities.

In short, the experiences of women in the current study reflected the socio-symbolic status of women in academia resulting in high visibility in terms of performing the Athena Swan good citizenship role wherein they become visible during the AS documentation process. On the other hand, they became invisible and voiceless due to their lower status when it comes to AS celebrations and activities resulting in women's beliefs of their outsider status within the departmental spaces. Therefore, the current study presents the performative notion of the Athena Swan, resulting in embodied experiences for women where they feel hypervisibility on the website which is being shown as evidence of *excellence* of departmental equality performance. On the other hand, they feel excluded, invisible and voiceless in the department and the Athena Swan process itself.

While, in general, it is understood that early- and mid-career researchers have feelings of exclusion from departmental life and Athena Swan activities, the current research also finds that the experiences are spatially relevant. Thus, the second significant finding in this research adds to the

spatially performative notion of Tyler and Cohen (2010) where I will argue that spatial constraint can be different according to the cultural norms in these spaces.

7.2. Departmental Subcultures: Performative Notions of Subcultural Spaces

The second significant finding in this thesis is that the inclusive and supportive practices in the subcultural spaces might not be the reflection of the Athena Swan accreditation of the department. This may answer the concern raised in recent studies that the impact reported by the Athena Swan participating institutions may be due to the Athena Swan actions of the department itself (Laver, 2018). Contrary to the previous studies claiming a positive cultural impact on the Athena Swan accredited organisations (Ovseiko, 2019), this research found that the case study department which is classified as demonstrating *excellence* in gender equality practices was found to have no unified, clear, consistent practices across the subcultures to improve equality practices mentioned in the Athena Swan departmental action plan. Therefore, the departmental culture is found to be *weak* since there is a lack of clarity and uniformity in terms of the supportive and uniformity practices throughout the department (Warrick, 2017). Instead, the behavioural patterns in these subcultures were found to be significantly different resulting in differential experiences for its women. Though Subculture A incorporated feminine values of cooperation, communal relations and supportive behaviour, this was the minority subculture. Moreover, the evidence suggests the characteristics of Subculture A, which is helpful towards women's survival in the spaces, were not the result of the Athena Swan action plans.

In contrast, the major theme emerging in Subculture B was that of the 'ideal scientist' which was identified to align with gendered behavioural patterns based on hegemonic masculine values of competition, assertiveness and independence, which women described as having negative consequences for their career development (Connell and Messerschmidt, 2015). Specifically, the spaces become performative when women tend to succumb to the gendered norms to survive in

these spaces. However, those women who do not embody the masculine norms are cast as the 'Other' even among their female colleagues. The Athena Swan had failed to challenge the ideal scientist norm behaviour in these corridors resulting in the subcultural spaces becoming lonely and isolated spaces for women.

In general, the lived experiences in the corridor subcultures suggest these spaces have become performative for women and the gendered norms can be different in these subcultures resulting in differential performativity for women within the same departmental space. This has implications for the Athena Swan actions of the department which mainly uses a unilateral approach to the organisational cultures without considering the significance of the spatial parameters in the mini cultures. Moreover, the majority of the women described their corridors as having characteristics of B, promoting stereotypically masculine behavioural practices. This suggests that the inclusive and supportive culture reported in the AS departmental document was not reflected in the lived experiences of the women in this study.

First, I will discuss the homogenous practices identified in both subcultures followed by discussion on the differentially valued behavioural practices and their impact on the lived experiences of women.

7.2.1. Homogenous Practices in Subcultures A and B

The corridor subcultures were identified to mostly encompass heterogenous practices which might or might not promote gender equality practices supporting women. As mentioned in the findings chapter, the corridors were categories A and B in relation to the behavioural practices identified in these spaces. While mostly heterogenous in nature, the findings illustrated some general behavioural patterns in these subcultures. This is contrary to the general argument in classical subcultural theory, which assumes a heterogenous nature across the subcultures. As Chandler's (2020) secondary analysis of empirical studies on higher education subcultures claims, the

subcultures cannot be viewed as purely heterogenous in nature since they can still show the core values of the organisation. Similarly, the current thesis identified that the core values of the organisation continued to be gendered and the scientific labour in the labs became performative for women researchers in these spaces. It suggested the nature of subcultures to be performative, showing the gendered aspects of scientific labour in these spaces reproducing gendered relations. The theme of gender performative spaces was related to the workspaces which became embodied for women, requiring them to become performative in terms of the scientific mothering role while becoming invisible in terms of tasks which may be associated with masculinity. The female embodiment in the lab spaces were evident where women's bodies became highly visible when it came to doing the lab cleaning and maintenance work. They similarly became invisible when it came to performing jobs which require skills associated with masculine strength and toughness for which men were preferred (Connell and Messerschmidt, 2015). Such gendered division of labour in the lab spaces challenges women in negotiating their workload in these contexts.

While concerns were raised over early- and mid-career researchers having to negotiate their work in relation to gender, the mothering role was considered to be particularly challenging for some. Women's mothering role in scientific workspaces relates to the literature on academic housework on the undervalued academic chores expected of women including teaching, supervising and administrative work. Previous studies have recognised the mother's role to be stereotypically in line with the feminine role of caring where academic women are required to show interest in others in the organisation (Heijstra et al., 2017). Similarly, Fotaki (2013) argues that embodiment results in idealised maternal care in academia where women's academic work sometimes becomes gender performative. Recent research by Macfarlane and Burg (2019), on women professors, addresses the academic house chores as a trap for women academics and considers them to be a barrier for women's advancement in UK academia.

While, in general, the academic housework is described in terms of teaching, administrative and pastoral care, women scientists in the current study were required to do the cleaning and maintenance work in their workspaces which I term as *scientific mothering*. The women in the current context explained how the role of having to cleaning after others, emptying the bins and keeping the lab space maintained, was expected of them. This further symbolises unpaid domestic labour at home where women perform certain tasks which are invisible and underappreciated. The findings thus reflect the gendered tasks women are required to perform in academia, which the literature suggests can have serious implications for women academics. As mentioned earlier in the preliminary literature review, Macfarlane and Burg's (2018) empirical research of UK professors across nine universities suggests women's greater belief in additional responsibility to perform the teaching, mentoring and pastoral duties. While the postdoctoral researchers from the current study did not show any such beliefs and recognised it to be an unfair work load, it was explained to be essential for the smooth functioning of the workspaces

The performance of gendered labour in the current research therefore provides an additional dimension with regard to caring for the workspaces themselves. Similar to the previous studies which addresses the unpaid, unrecognised, poorly regarded and time-consuming nature of academic house work (Herman, 2018), this study identified scientific mothering of cleaning after others and maintaining the lab generally to be time-consuming service work in these spaces. Additionally, it is found that such time-consuming service work may take women away from actual rewarding research work which might hinder their career advancement opportunities (Macfarlane and Burg, 2019; Misra et al., 2017). This becomes significant in the light of the slow progress level from postdocs to the lecturer level being recognised by the Athena Swan charter where supporting early career academics is considered significant for gender equality initiatives.

The Athena Swan gold action plans of the department claim to improve the gendered labour in the department using a workload model towards fair workload allocation for academics. Recently,

Tsouroufli's (2019) examination of the Athena Swan award concludes that the AS gold institutions result in significant improvements for the careers of ECRs by carefully '*monitoring and reviewing workloads aiming to achieve gender equity*' (p. 40). Similarly, the department recognising the unequal division of labour to be hindering the career development for women introduced the workload model with the aim to embed equality practices to ensure the fair allocation of work for women academics. While it is designed to ensure fairness and transparency on how work is being allocated, the workload model focuses on the teaching, marking, supervision and committee representations which are generally identified in the literature on the gendered division of labour in academia.

However, the workload model had no implication for the postdoctoral researchers since it did not address the gendered division of labour related to the scientific work in the labs. Therefore, it is not surprising that postdocs generally believed that their requirements are not understood or addressed by AS departmental initiatives. This suggests that the Athena Swan departmental initiatives have not been effective in recognising and challenging the nature of the gendered division of labour within the lab spaces; therefore, women were unable to negotiate workloads.

While the findings from my research agree that there can be some homogeneity in gendered cultural norms within the organisational spaces, they also suggest that the organisational spaces can have differential cultural norms within their subcultural spaces. The findings illustrate how the cultural norms of performativity vary in different spaces within the same department regardless of the similar functionality and the structure of the spaces. Thus, the findings reflect that the Athena Swan monitoring in promoting values of inclusion and support, claimed by the department, was not uniformly viewed in these subcultures.

7.2.2. Impact of AS Accreditation on Improving the Inclusive Culture in the Department

Studies investigating the impact of AS accreditation have reported that there is an increase in the inclusive and supportive practices in Athena Swan accredited departments (Barnard, 2017; Schmidt et al., 2020). The departmental initiatives to improve the inclusive culture are generally reported in terms of making the staff meetings at core hours, actively organising the departmental socialisation activities and adequately communicating these formal and informal activities to the staff. These activities can be considered as ritualistic practices which most studies agree to be '*repetitive acts which confer symbolic meaning when performed in specific, pre-determined contexts with the ambition of achieving specific objectives*' (Smith and Stewart, 2011: 117). In this research, the ritualistic practices and celebrations in the context of socialisation events, lunch seminars and meetings arranged by the department to improve collegiality and inclusive feelings of the departmental members were found to have no impact on the experiences of the postdoctoral researchers who mainly felt excluded from the departmental activities. As mentioned in the previous section, it was likely due to them having no engagement with these events and being confined within their corridor spaces.

However, the postdocs' explanations about their engagement with the rituals and celebrations in their corridors were understood to be a significant factor in contributing to their feelings of exclusion or inclusion within their workspaces. This will be discussed in detail in the next section which will discuss the significance of the subcultural spaces in contributing to the feelings of inclusivity for postdoctoral researchers in relation to the role of the Athena Swan departmental action plans towards promoting inclusive practices. The discussion will also illustrate my findings which contrast with the previous studies, arguing that there is a positive impact on inclusive culture in Athena Swan accredited departments. I will discuss the findings showing the departmental culture as weak in promoting inclusive values through ritualistic practices within the subcultural spaces for postdoctoral researchers in this study.

7.2.2.1. Role of Athena Swan in Generating Relational and Emotional Inclusivity within Subcultures

This study showed the ritualistic practices and celebrations within the subcultures included both formal and informal events. This included group meetings, Christmas dinners, birthday celebrations, and similar events which reinforced and communicated the subcultural values (Anand and Jones, 2008). These corridor ritualistic practices and celebrations were significant for corridor members in terms of the symbolic meanings of inclusion and exclusion associated with them. However, this research showed that despite the similarity in the rituals and celebrations, the symbolic meanings associated with them varied in both subcultures. For instance, the social practices in these subcultural spaces were found to invoke different emotional energy, thereby determining the success or the failure of the rituals and celebrations. Collins (2005) uses the term collective energy to describe the emotional feelings which evolve during these rituals which are argued to motivate individuals to participate in them. Similar to Collins's argument, the corridor members shared a purpose and emotional experiences which are reproduced through the interactions which are an integral part of determining the success of the organisational rituals. It was noted that these emotional feelings evoked by the ritualistic practices and celebrations across the subcultures were largely dependent on the nature of the subcultural spaces.

For instance, despite the similarity in the ritualistic practices in Subcultures A and B, they were found to derive spatially significant emotional feelings for women. For women in Subculture A, the ritualistic practices symbolised inclusion, connection and socialisation, thereby reinforcing the group's social bond and solidarity (Smith and Stewart, 2011). The ritualistic practices in Subculture A resulted in friendly engagement and cooperation in the spaces, causing women to feel emotionally involved and to give them a sense of belonging. This showed a sense of relational and emotional inclusivity among the Subculture A members which, according to Clark et al.'s (2018) investigation on inclusivity through organisational rituals, explains an important dimension

for successful organisational ritual. Though the minority in this study, the Subculture A members explained relational inclusivity in terms of their routine engagement with one another and emotional inclusivity in terms of feeling included and belongingness.

Thus, the inclusivity within Subculture A is maintained through routine interactive ritualistic practices in the corridor which resulted in emotional engagement where the participants felt '*recognized, valued, and included in group routines and rituals*' (Clark et al., 2018: 244). This further created positive emotions for employees when they felt valued and accepted in these spaces creating successful rituals. Despite external pressures and the feelings of exclusion from departmental life, women from Subculture A reported that the friendly interactions within their corridor spaces helped them to have positive work place engagement and experiences. These rituals were found to derive feelings of comradeship and community feelings in Subculture A and, according to Collins (2005), can be considered successful in creating positive emotions for women. However, the analysis suggested that the inclusive culture in Subculture A is not an outcome of the AS efforts since women who had worked on the corridor for a long time identified it to be historically the same without any departmental interventions.

This was also evident in the departmental Athena Swan action plan which showed that the focus to improve inclusivity was mainly on departmental activities with little attention given to the corridor workspaces. As mentioned earlier, the Athena Swan gold application has considered the department as a whole, while the findings in this research show that the labs come with their own set of (separate) cultures. The findings show the possibility that the inclusive culture reported in the previous studies including Barnard's (2017) on AS gold-awarded departments, which mainly relied on AS gold action plans to measure the impact of the AS accreditation on the departmental members, might not be necessarily be an impact of the Athena Swan accreditation or the organisation itself. For instance, the inclusion which is mainly shown to '*enhance community aspects and promote a "family friendly" culture through formal and informal social and*

professional events' (Barnard, 2017; 161) has limited impact on the early- and mid-career researchers who are confined within their corridors and limit their socialisation activities within these mini cultures. The main drawback of the previous studies is that they have mostly considered the organisational culture as a whole, and overlooked the possibilities of the impact of the Athena Swan on the experiences of women working in mini-corridor cultures.

The argument that the inclusivity reported in the previous studies may not be a result of the Athena Swan accreditation of the department is further supported by evidence showing the inclusivity limited to only two corridor spaces classified as Subculture A, while the majority of the corridors classified as Subculture B showed a lack of inclusive experiences within their workspaces. However, it should be noted that the inclusivity described by the early- and mid-career researchers in Subculture A were mainly in relation to their corridor experiences while, in general, they explained feelings of being ignored and outsiders in the department.

In terms of Subculture B, the corridor rituals were found to be mere performances which did not generate any inclusive feelings for women. The symbolic meanings associated with the ritualistic practices in Subculture B created superficial performances which Collins (2005) refers to as characteristics of '*empty rituals*' which do not result in any positive emotional response from women (Waring and Bishop, 2010; Clarke et al., 2015). As mentioned earlier, despite the claims of previous studies about the Athena Swan accreditation that it improves inclusivity, the routine ritualistic practices in Subculture B were found to be lacking in any friendly interaction and rather created a sense of empty emotions among the members (Collins, 2005). The routines themselves symbolised events reinforcing the isolated and excluded status of women resulting in emotional feelings of sadness and loneliness. Therefore, these spaces were interpreted as weird, sad and lonely in relation to the feelings women shared when working in Subculture B. Thus, the ritualistic practices in Subculture B were identified as impersonal and lacking socialisation and while rituals were relationally inclusive, they resulted in no emotional inclusivity.

The rituals further communicated the stereotypically masculine values of independence and separation reinstating ideal ECRs as lonely heroes or heroines (Murgio and Poggio, 2019). In short, compared to Subculture A, women from Subculture B identified the corridors to be lacking emotional inclusivity and they explained their feelings as outsiders in the corridor routine celebrations and other socialisation practices. Therefore, despite the corridor social practices showing similarity in their functionality, these ritualistic performances created differential symbolic meanings in the subcultures. In particular, this research found that the ritualistic practices and celebrations in the subcultures showed lack of uniformity in communicating inclusive values and collective emotions across the corridors (Smith and Stewart, 2011). This further suggests the departmental inclusive culture to be weak, whereby the inclusive values and practices are not uniformly shared across the departmental subcultures.

In short, the findings showed that the Athena Swan departmental action plan to improve inclusive departmental culture through rituals and celebrations, which focused on formal and informal social and professional events, had no impact on postdoctoral researchers. The department has not considered the implications of rituals and celebrations within the corridor subcultures, which may impact on the lived experiences of postdoctoral researchers. The findings reflected that the rituals and celebrations in the majority of the corridors classified as Subculture B failed to communicate inclusive values to the corridor members.

Instead, the experiences of women from Subculture B were in relation to the masculine values resulting in these spaces symbolising exclusion and isolation for women. Hence the findings in this research suggest that the Athena Swan accreditation of the department has been not sufficient in implementing an inclusive culture within its subcultures. Despite the studies arguing that the Athena Swan accreditation has a positive impact on the inclusive culture in universities, the ritualistic practices identified in the majority of the corridors did not promote inclusive practices which shows *weak culture* in terms of inclusion.
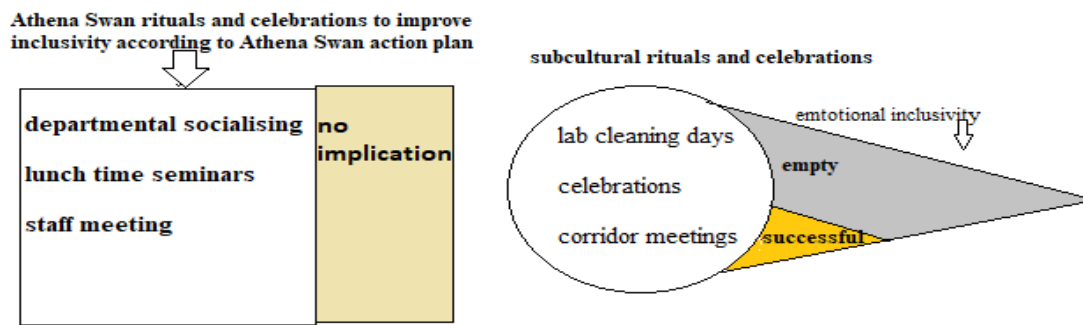
Fig. 10. Athena Swan action plans showing inclusive culture through departmental ritualistic practices and celebrations in relation to the impact of corridor subcultural ritualistic practices on the participants' experiences

Fig. 13 shows the impact of the Athena Swan gold action plans to improve feelings of inclusivity for the departmental members. As shown in the figure, the department has focused on improving the inclusive culture by organising informal events in the form of family friendly socialisation events as well as managing the time of formal departmental meetings and seminars. These rituals which focused on improving inclusive feelings, had no implications for the early- and mid-career researchers whose working lives mostly focused on the corridors. However, these corridor mini cultures were found to have their own formal and informal rituals, for christmas celebrations, lab cleaning days and corridor meetings, which were found to be significant in terms of how people interpreted their working lives. However, for the majority of the corridors which were identified to be Subcultre B, these rituals did not promote emotional inclusivity for the members.

While several studies investigating the impact of Athena Swan accreditation on academic departments claim Athena Swan action plans to be the key to improving the inclusive culture in those institutions (Graves et al., 2019), the findings from the current study undermine such claims, instead finding that the Athena Swan has little impact on eliminating the ideal scientist norm,

causing women to feel like outsiders within their own workspaces. This will be discussed in the next session.

7.3. Ideal Scientist Norm

Another major finding in the current study suggests that the Athena Swan action plans may have had little influence in terms of challenging the *ideal scientist norm* which is based on masculine values and practices resulting in the corridor spaces becoming performative for women. This study has recognised the significance of subcultural norms reproducing the performativity dimension of the ideal scientist; therefore, this issue needs to be addressed in Athena Swan actions to improve supportive and inclusive cultures as well as for the career development of the subcultural members. I argue that the performativity related to the ideal scientist norm depends on the subcultural norms, values and socialisation practices, placing the scientists in the masculine discourse of the rational, instrumental and disembodied mind. Therefore, the masculine model of the ideal scientist norm in subcultures results in women performing the intellectual man who does not engage in communal relations or anything that might associate them with feminine norms in the corridors. This relates to some studies which have identified the behaviours of building communal relationships to be feminine, which are not valued in masculine organisational culture (Barrett and Davidson, 2006; Heilman and Caleo, 2018).

Furthermore, the image of the ideal scientist showed similarity to the constructions of the *ideal academic* image associated with *intelligence and success* (Bailyn, 2003) related to the competitive practices in Subculture B where academic excellence is demonstrated through increased publication outputs and research funding. This study further identified that the positive results obtained in the experiments may also be required to demonstrate academic success in the scientific spaces which may further result in early- and mid-career researchers being under immense pressure to display their competence. Therefore, the ideal scientist model is performance-driven where *success* is demonstrated by publication records and scientific productivity resulting in women

working long and inflexible hours to demonstrate their competency in their workspaces. This was similar to Murgio and Poggio's (2019) analysis of ECRs which suggested that to be successful, the performativity notions required embodying the masculine norms of competitiveness requiring the scientists to '*show off how hard they work*' (p. 34), sometimes spending weekends and holidays in the lab. Women in this study were also required to demonstrate *working hard* by constantly publishing, working longer at weekends and succeeding in experiments which were recognised and rewarded in the subculture. This may result in women who are segregated in the postdoc positions to compete against each other to secure nice experiments to fit in with the ideal scientist subcultural norm which previous research (for example, Fotaki and Harding, 2017; Knights and Richard, 2003; Probert, 2005) identified to have resulted in women adjusting their behaviour to 'fit in' with masculine practices in academia.

However, women blending in with the masculine culture of academia is sometimes shown as a choice in the literature (Connor et al., 2018). The earlier work of Powell et al. (2009) in the context of the engineering profession argues that women students tend to adopt a strategy of blending in by passively performing culturally accepted hegemonic masculinity. However, the evidence from Subculture B suggests that such hegemonic performances may not be a choice for women as implied by Powell and colleagues but compulsory performativity. It indicates that 'not fitting in' with the dominant subcultural norms may result in negative career implications for women postdoctoral researchers. While the literature hardly understands what happens to women who fail to demonstrate or fit in with such subcultural norms in managing their academic lives, this study discusses the implications of not fitting in with the subcultural norms.

Firstly, this study understands the requirement that women should constantly demonstrate their scientific achievements creating symbolic boundaries within these subcultures by excluding those who do not fit in with the gendered norms. This may well have career implications resulting in some groups or women being excluded from the *zones and gangs* in these corridors, resulting in

them being denied any networking or collaborative opportunities. Symbolic boundaries within organisational cultures were previously investigated mostly in studies on male-dominated military and naval organisations (for example, Barrett, 1996; Knoppers and Anthonissen, 2005; Steidl and Brookshire, 2019 etc). These studies engage with male bonding which excludes women from such boundary spaces rather than women being rejected by women-only gangs in the corridors. Therefore, the current study's findings suggest that some women are '*engaging in presumptively masculine behaviours*' (West and Zimmerman, 1987: 139), engaging in boundary creating behaviour by excluding those who do not 'fit in' to their zones or groups.

Secondly, the performance and results oriented subcultural norms may further factor towards negative relationships among women who were required to act out being the '*lone, independent individual, who is self-protective, competitive, ruthless*' (Bleijenbergh 2012: 24). The concept of women's negative inter-organisational relations has not been addressed commonly in the context of academia. In an organisational context, Mavin and William (2014) have attempted to address this by expanding on Campbell's (2004) sociological perspective of women competing for mates in an organisational context and argue that such negative inter-relations to have implications for women's career advancement in organisations. This thesis agrees with Mavin and Williams's (2014) argument that the negative relations in organisations are a result of the gendered contexts. However, they position their work mainly in relation to vertical segregation where senior women exclude themselves from association with their junior women colleagues. This thesis extends this concept by arguing that the negative relations among women in the scientific spaces are the result of gendered subcultural norms and may result in women in similar positions competing with each other, further negotiating boundaries to keep the weak outside some groups.

Thirdly, the evidence from Subculture B shows the scientific spaces become symbols of isolation, exclusion and marginalisation for some groups who may not fit into the ideal scientist norm. Marginalisation refers to a group of people being systematically excluded from meaningful

participation in economic, social, political or any form of human activity (Goddey, 2016; Young, 2009). In a similar way to studies which argue that women are marginalised in STEM disciplines (Herman et al., 2015), one possible implication in this research shows another layer of inequality where women who may not fit in with the ideal scientist image may be excluded, silenced and denied meaningful participation in their corridor spaces through the gang/zone behaviour identified in these spaces. Therefore, these corridors become spaces which marginalise and exclude some women resulting in their 'outsider' status, suggesting the ideal scientist performances in these spaces are not a choice but become performativity and those who do not succumb to the performativity norms are denied meaningful participation in corridor life.

Furthermore, the ideal scientist subcultural norms were found to have implications for Athena Swan initiatives in terms of preventing a leaky pipeline in academic Science. This thesis identified that collegiality and socialisation practices in the mini cultures were key to preventing women from leaving the department. The leaky pipeline in academic Science has been identified as a prominent concept to explain women leaving academic careers when they move up the career ladder (Blackburn, 2017; Chapple and Ziebland, 2018). Moreover, one of the principles of the Athena Swan charter itself is to prevent the loss of women from the career pipeline, thereby improving women academics' representation in senior academic roles.

However, as the findings of the current study suggest, there is a greater significance of spatial norms which have an impact on women's daily experiences resulting in their decision to stay or leave academia altogether. While the subcultural norms in A were shown to have implications for women's decisions to stay in academia despite their feelings of being *outsiders* in the department, the ideal scientist behavioural patterns in B were found to have affected women's decisions to leave the academia altogether. Such experiences have been found to be prominent for women in post-doctoral positions which studies examining Athena Swan's impact have identified as an important career stage (Barnard, 2017). Therefore, the findings suggest that the Athena Swan

initiatives need to consider the impact of the values associated with ideal scientist subcultural norms in terms of the leaky pipeline in academic Science, where the spaces become significant for enabling or constraining women's career development.

However, while the performative notions associated with the ideal worker norm are found to have negative career implications, this has not been effectively challenged by the Athena Swan departmental action plans. The departmental action plans aim to address the issues of working hard and long hours which are identified in the literature as the elements of the *ideal academic norm* (Sang et al., 2015). The department has implemented action plans to improve these by setting the work load model to ensure fair working loads and the core working hour practice, but these were found not to have challenged the cultural norms in these mini cultures. Moreover, the departmental action plans to improve collegiality using informal socialisation is not reflected in the corridor mini cultures where women continue to struggle in performing the rational, disembodied scientist norms. Therefore, in the light of the findings of this research, the Athena Swan actions of the department need to reflect on the impact of the hegemonic norms in the departmental subcultures and address them to improve early- and mid-career researchers' lived experiences.

7.3.1 Inclusion/Exclusion in Relation to Women's Embodied Experiences

In the light of evidence showing subcultural norms in influencing women's embodied experiences in the department, this thesis argues that the Athena Swan actions have not contributed to inclusive spaces for early- and mid-career researchers. This research understands the departmental spaces to symbolise women's unwanted bodies resulting in their feelings of being the Other in these spaces. The concept of women's embodied Other status in academia, rendering them unwanted female bodies, is generally argued by adopting a holistic approach to organisational culture (for example, Fotaki, 2013) or through autobiographical accounts (for example Huopalainen and Satama, 2019). The findings from this research shed light on the subcultural dimension of such

embodiment where it is understood that the embodied experiences for women may depend on the subcultural norms.

Therefore, contrary to the majority of studies in UK higher education institutions, this study shows the subcultural norms can influence women's experiences in terms of the visibility or invisibility of their maternal bodies; menstruation, pregnancy, new motherhood and their caring responsibilities may depend on the departmental subcultures. The performative experiences of the participants therefore also emerged from two categories, firstly through the non-inclusive spaces for maternal bodies in the department and in the subcultural spaces and secondly through the invisibility in relation to the caring responsibilities of the postdoctoral researchers.

Non-inclusive Spaces

Firstly, the non-inclusive scientific spaces were understood through the departmental spaces which lacked breastfeeding and baby changing spaces within each block which, for women, symbolised the academic norm of the disembodied, rational scientist ideal in the department. These non-inclusive spaces show the materialisation of inequality within the academic spaces rendering embodied experiences for women. Furthermore, it illustrated the performative dimension in the departmental spaces resulting in women remaining anxious about managing their lactating bodies by avoiding spillage, thereby not compromising the organisational boundaries. Thus, it implies that the departmental spaces continue to symbolise women's *Othering s*tatus in academia, representing the ideal scientist to have a disembodied rational body (Fotaki, 2013). Therefore, this thesis argues that despite gender equality interventions like the Athena Swan charter, even the departments awarded excellent in terms of embedding Athena Swan equality principles continue to represent the '*dedicated and extremely productive (male) body, paradoxically disembodied and universal and thus radically different from the figure of the nurturing, caring, and leaky female mother*' (Huopalainen and Satama, 2019: 109).

Secondly, this thesis argues that the embodied experience for women is also spatially relevant, whereby the subcultural norms may influence women's feelings about their menstruating, pregnant and lactating bodies being accepted and valued in the organisations. The findings relate to the literature on women's embodied experiences in the workspace and performative dimensions to maternal bodies. Similar to Gatrell's (2019) recent research on women's embodied status, resulting in them containing their maternal bodies, this thesis finds that for the women in Subculture B, the corridor spaces rendering maternal bodies as problematic in relation to ideal scientist norms resulted in them having to contain and control their embodied spillage. The spillage was also in relation to the women's fear of emotional spillage resulting in women hiding tears and performing as the rational, instrumental and disembodied man (Mason et al., 2016). The data fit Acker's description of women not fitting the ideal worker norm whereby '*Women's bodies – female sexuality, their ability to procreate and their pregnancy, breast feeding, and child care, menstruation, and mythic "emotionality" – are suspect, stigmatized, and used as grounds for control and exclusion*' (p. 152) in the corridor subcultures.

Thus, the participants' fear of expressing emotions further showed their feelings of being abjected in academia by being viewed as '*too emotional*' resulting in corridor cultures which were found to be performative for women (Fotaki, 2013: 1263). Therefore, similar to the 'one of the guys' strategy described by Kanter (1977), women in these corridors were required to be performative by being the rational man and hiding emotions to suit the male scientist role. They complied with the ideal scientist role, acting as the rational and distant scientist while neutralising any emotions which could associate them with femininities (Wasserman and Frankel, 2015). Thus, women identified the performativity of their abject female bodies in Subculture B where they are required to discipline their leaky bodies. However, the findings from Subculture A, showing behaviour patterns where women's maternal bodies were recognised, accepted and supported, shows the significance of subcultural norms in influencing the lived experiences of women researchers. This

further illuminated the requirement for equality charters like Athena Swan to address the challenges women face in the *mini cultures* which may play a significant role in gender equality issues in the academic science.

This research further supports the previous research which argues that childbearing and rearing are considered unideal in an academic career (Fotaki, 2013; Howe-Walsh and Turnbull, 2016). However, it argues that these assumptions can be spatially relevant, in the light of the findings from both subcultures showing women's beliefs in terms of the compatibility of scientific work with caring responsibilities. It shows the significance of the subcultural norms in improving women's experiences and opinions in terms of managing caring responsibilities with scientific work. While the behavioural practices in Subculture A resulted in women with caring responsibilities feeling supported, the cultural norms in Subculture B resulted in women feeling that scientific work itself was incompatible with the motherhood. This is similar to the previous studies which show pregnant women's belief that they have to work harder and longer hours to prove their commitment (Gatrell, 2011), where the concept of *supra-performance* was reflected in the experiences of two mothers in Subculture B. Moreover, the hard work and long-hours culture was explained to be the ideal practice by the subcultural members and motherhood was considered not ideal for scientific work. However, this contrasted with the feelings of women in Subculture A who explained that their caring responsibilities were recognised and valued in the corridors. Therefore, it adds another dimension to the literature on women's experiences in academia by arguing that the subcultural norms have a significant role in influencing women's beliefs over the compatibility of scientific work with caring responsibilities.

This thesis further contradicts the previous studies on the impact of the Athena Swan which have claimed that universities which are accredited with Athena Swan show inclusive practices in relation to women with childcare responsibilities (for example, Barnard, 2017; Caffrey et al., 2016; Gregory-Smith, 2017). It argues that the action plans to support women with caring responsibilities

mainly focus on the structural policies including maternity leave provisions and flexible working arrangements and that these may not translate into the lived experiences of early- and mid-career researchers. Barnard's (2017) analysis of the AS gold action plans found their focus to be on improving the experiences of women with children. However, similar gold actions of the UA department towards flexible working arrangements and the workload model were found to have no impact on the experiences of postdoctoral researchers, especially those with children.

In short, the inclusive and supportive culture claimed by the departmental documents in relation to the AS gold award is not supported in the data from Subculture B which was found to be dominant in the department

As mentioned earlier, the departmental approach to the culture as unitary, without considering the subcultural spaces and the nature of the postdoctoral job, have resulted in the failure of the action plans to challenge the ideal scientist norm in the department which makes these spaces performative. Critics of gender equality initiatives in academia blame the failure of these initiatives on the limited responsibility of the institutions when addressing gender equality issues. For instance, in the context of Finnish HEIs, Roos et al. (2020) examined the Gender Action Plans (GAP) implemented in five universities and concluded that they ignore the abundant research sources when reflecting on their organisational practices. Similarly, the departmental AS gold action plans, in relation to the experience of women in this research, show limited understanding of postdoctoral life and their confined spaces while implementing gold action plans.

This has further resulted in women's belief that the Athena Swan may just be a 'window dressing' activity to make the institution look good from the outside rather than having a positive impact internally; this supports the critical claim that gender equality initiatives in academia are false promises. It is similar to the conclusion of Bourabain and Verhaeghe's (2021) investigation into gender equality initiatives in Belgian Higher Education Institutions which showed that the women academics involved in these initiatives perceived them to be a marketing strategy.

The findings from the current research also suggest the failure of Athena Swan as an instrument of change in the AS-accredited department. They agree with recent studies which critically assert that gender equality impact is accessed through measurable outcomes rather than showing real commitment which can result in the failure of such initiatives to act as agents of change (Roos et al., 2020). While it can be argued that the Athena Swan application also considers qualitative case studies, the evidence in the current research shows the play of power structures which may impact on whether women decide to participate as case studies in the application. Therefore, I would argue that the Athena Swan accreditation may mean that the accredited departments are following the recommended procedures or guidelines to attain the award rather than being committed to gender equality. In other words, the accredited institutions can 'make it look good' in the award documents rather than taking measures that have any real-life impact on early- or mid-career researchers.

This further shows the failure of the AS external benchmark charter in making any substantial improvement to the lives of early- and mid-career researchers despite them being considered as a priority group. The limitation of external benchmark charters in inducing commitment towards equality initiatives is criticised by Tayar (2017) who commented that these initiatives bring about 'superficial' changes rather than any real improvements in the lives of minorities. Examining the diversity and inclusion programmes in organisations and their impact on the lives of the lesbian, gay, bisexual and transgender (LGBT) population from an international perspective, Tayar (2017) concluded that the ranking in external benchmarks can be earned through superficial acts rather than real commitment. Similar observations were made in this research where the Athena Swan, as an external benchmark, has necessarily failed to bring forth any changes to the lives of early- and mid-career researchers in this research.

Therefore, the findings support the studies which report that institutions can report positive improvements in relation to their performances and gain external awards despite not making any improvements (Baxter and MacLeod, 2008). This thesis, examining the impact of Athena Swan

on a department awarded gold for its excellence in improving gender equality, similarly reports that the awards do not necessarily exemplify good practice in organisations since the voluntary action plans documented in the award application do not reflect in the departmental subcultures.

Therefore, the impressions from the data in my research agree with Baxter and MacLeod's (2008) criticism of external awards, whereby I argue that the AS gold award action plans, without considering the impact of subcultural norms on the lived experiences of early- and mid-career researchers, cannot offer relevant examples of an organisation's commitment towards gender equality.

This chapter has discussed the impact of the Athena Swan accreditation on the lived experiences of early- and mid-career academics in an Athena Swan gold-awarded department. The discussion empirically and theoretically contributed towards subcultural theory, showing the significance of the subcultural norms while implementing the gender equality action plans. Moreover, it contributed towards the performative aspects within these subcultures resulting in differential experiences for women which may result in their decision to stay in or leave academic science.

It showed that the AS gold award does not translate into positive experiences for early- and mid-career researchers in the department. In general, the departmental culture was found to be non-inclusive and non-supportive for early- and mid-career academics in this study. It was argued that the holistic approach towards the organisational culture without addressing the impact of parameters of space in the formation of mini cultures and its impact on the lived experiences of the early- and mid-career researchers may not result in the expected impact on the Athena Swan departmental accreditation.

The discussion unfolded in two phases. Firstly, it showed that limited improvements in terms of inclusive and supportive subcultural spaces may result in women losing faith in the Athena Swan programme itself. It contributed towards the empirical evidence showing the performative dimension of the Athena Swan itself, arguing for the outsider status of postdoctoral researchers,

where they experience invisibility in terms of the departmental activities while experiencing high visibility in the departmental application documents and the website. Thus, the discussion showed women explaining their lost faith in the Athena Swan programme over the spaces which legitimise gender inequality, their lack of awareness of the initiatives undertaken in the department to improve gender inequality and their outsider status in the department.

Secondly, the discussion showed the significance of the corridor subcultures in the lived experiences of the postdoctoral researchers in this study. The empirical evidence in this research indicates the departmental culture to be weak in implementing uniform practices to promote gender equality across the subcultures in this study. The inclusive and supportive practices reported in the Athena Swan action plan were '*not well known, confusing, and not reinforced*' (Warrick, 2017: 5) in the subcultures. Therefore, the discussion contributed to the literature on the impact of Athena Swan gender equality studies by arguing that the Athena Swan action plans reported in the AS application documents may not necessarily reflect on the lived experiences of early- and mid-career researchers. Moreover, there was a generally negative opinion of the Athena Swan programme in the light of organisational spaces which were found to be performative for women who were confined within their subcultural spaces (Tyler and Cohen, 2010). This has wider implications for the Athena Swan benchmark since the results challenge the previous work showing an institutionally positive impact to promote an inclusive and supportive culture as a result of the Athena Swan accreditation.

The discussion also showed that the Athena Swan department accreditation has failed to challenge the ideal scientist norm in the subcultural spaces. The subcultural norms and values mostly aligned with the hegemonic masculinities which the participants reported were maintained and reproduced performance-oriented competitive behaviour. The competitive behaviour was valued and rewarded in these spaces where women needed to legitimise the spaces they occupy by working long hours and showing complete commitment to the work irrespective of their caring responsibilities. The

discussion further contributed to performative theory by arguing that those who are unable to become performative according to these subcultural norms are *punished* through isolation and exclusion from corridor participation (Butler, 1990). This has greater implications for the concept of the career pipeline in the SET where women are found to leave academia altogether due to subcultures which become performative.

Chapter 8. Conclusion

This grounded theory thesis examines the implications of Athena Swan on the lived experiences of female academics in an Athena Swan accredited department. Rejecting the previous claims showing that the Athena Swan accreditation results in an inclusive and supportive culture in Science disciplinary areas (Ovseiko et al., 2019), this thesis is grounded in qualitative data which indicate that the Athena Swan accreditation might not always result in inclusive and supportive experiences for early- and mid-career academics. Moreover, this thesis shows the significance of the spaces which become performative in the departmental spaces, where the differential norms and values in these subcultures result in differential experiences for early- and mid-career researchers. Thus, the treatment of the departmental culture as unitary, without considering the parameters of space in the formation of subcultures, may result in the Athena Swan action plans failing to transform into the lived experiences of subcultural members.

Therefore, this thesis suggests that the gendered issues for early- and mid-career researchers are yet to be addressed in the case study department despite it being recognised as excellent in its effort and implementation of the Athena Swan equality principles across the department. The chapter aims to review the research questions and what has been learned from this investigation. Then it discusses the implications of these findings for theory and practice. Finally, it outlines the limitations of the study and suggests recommendations for future research.

8.1. Revisiting the Research Question and Grounded Theory

With the aim to explore the impact of Athena Swan accreditation on the experiences of women academics, this grounded theory research was guided by the general research question as follows:

1. What is the impact of Athena Swan accreditation on the lived experience of women academics?

As mentioned previously, the course of pilot interviews suggested that the experiences of the participants were greatly determined by the subcultural spaces which they occupy. Therefore, the following questions were added to the investigation:

2. How do early- and mid-career academics understand their workplace in relation to their mini cultures in an Athena Swan gold-awarded department?

3. What are the implications of the mini subcultural practices on women's experiences in an Athena Swan accredited department?

4. What are the impacts of Athena Swan departmental initiatives on the experiences of women in these subcultural spaces?

Over the course of this investigation, the research questions were answered through the empirical findings from this study and the consequent discussion. As mentioned above, the primary investigation showed that the experiences of the participants were mainly in relation to the parameters of the spaces which formed corridor subcultures. The gender inequality materialised in departmental spaces through hierarchically arranged corridor spaces which further lacked inclusive spaces for maternal bodies. Furthermore, the departmental intervention action points with regard to the Athena Swan principles were not found to have any implications for the participants, especially the postdoctoral researchers in this study.

The study revealed that participants, especially postdoctoral researchers, feel like outsiders within the department over their lack of inclusivity in departmental socialisation and other events. Also, the departmental interventions were found not to have considered the nature of the postdoctoral jobs, thereby having no impact on postdoctoral researchers. The workload model, the formal and informal events to improve socialising and the mentoring support were understood to hold little significance for postdoctoral researchers who were confined to their corridor spaces.

In answer to the second question, the investigation found that the departmental culture was weak in relation to communicating, implementing and reinforcing the Athena Swan's inclusive and

supportive values for all genders across the corridor subcultures. This has resulted in ideal scientist behaviour within the corridors remaining unchallenged, causing women to continue working in hegemonic working cultures. Furthermore, these spaces excluded and isolated members who are unable to follow these spatial norms by denying them meaningful spatial participation in the corridor activities. The research found such experiences may result in women deciding to leave the academia altogether.

In answer to the third question, the empirical evidence pointed to dominant values in the department showing the spaces which become performative for women in terms of a gendered division of labour wherein women were unable to negotiate their workload. While they become invisible when it comes to jobs stereotypically associated with masculine values (jobs associated with lifting heavy objects or instruments in the lab), their embodied status becomes highly visible in terms of performing the scientific mothering of cleaning and maintaining the lab spaces.

Additionally, the nature of the subcultural spaces greatly determined the lived experiences of the postdocs and their decision to stay or leave academia. The study found that the performativity in relation to maintaining the subcultural norms of performing the ideal scientist image by working long hours and demonstrating competitive practices was required to legitimise their corridor membership. Those who were unable to succumb to these subcultural norms may be isolated and excluded from meaningful participation in corridor events and activities. Moreover, the lack of collaboration and mentoring opportunities in the subcultural spaces resulted in negative career consequences for postdoctoral researchers in this study. The Athena Swan departmental action plans were not aimed at impacting the hegemonic subcultural norms; therefore, the performative norms in these spaces were found to remain unchallenged resulting in negative experiences for women.

Finally, in answer to the fourth question, the investigation suggests that the Athena Swan departmental gold action plan initiatives might not have had the positive impact reported in the

department's gold award application document. The study shows limited influence of the Athena Swan departmental action plans on the lived experiences of early- and mid-career academics in this study. This was found to be particularly significant for postdoctoral researchers in this study who lacked awareness of the Athena Swan departmental initiatives aimed at improving their career experiences. Therefore, this research challenges the current notion of AS gold-awarded departments '*as beacons of achievement in gender equality championing and promoting good practice*' (ECU, 2019a) by presenting evidence showing that the reported improvements in the UA gold document are not reflected in the lived experience of early- and mid-career academics in this study.

In short, this thesis identified that the AS accreditation has limited real-world relevance to women's actual everyday experiences. However, this is understood as not being an unusual scenario since other studies, like that of Tayar (2017), have reported the poor relevance of the external benchmarks in terms of improving gender equality in organisations. Tayar's (2017) study argued that external benchmarks like the Stonewall Equality Index have limited benefits for the minority groups in organisations. Similarly, this research, with its primary aim to understand the lived experiences of early- and mid-career researchers in an AS excellent awarded case study, found that the impacts of AS accreditations can be superficial and do not have real-world relevance to early- and mid-career researchers.

8.2. Empirical and Theoretical Contributions

This thesis makes an original contribution to the growing body of knowledge on the impact of the Athena Swan interventions on women's experiences in the Science disciplinary areas. Therefore, this research, which investigates a department which has been awarded *gold* in terms of its excellence in implementing Athena Swan principles, contributes to the empirical evidence in the literature on the impact of Athena Swan accreditation.

While the literature shows limited evidence in understanding how the Athena Swan interventions are translated into the experiences of Athena Swan accredited departmental members (Laver, 2018), this study contributes empirical evidence by illustrating it through the lived experiences of academic researchers in early- and mid-career positions. It shows that the departmental status, in relation to being lower on the career ladder, may by itself result in postdoctoral women being excluded (though not intentionally) by the department which may result in women's feelings of bring *outsiders* in the departmental and Athena swan activities. The empirical evidence in this study thus gives voice to early- and mid-career academics, especially postdoctoral researchers who are mostly neglected in studies examining the impact of Athena Swan departmental accreditation. This aligns with the recommendation of studies suggesting that the future studies in Science provide a voice for women in Science including in relation to their lived experiences of gender equality initiatives in organisations (Barnard, 2010; Blackburn, 2017).

This thesis has made an empirical and theoretical contribution towards performative spaces in organisations where I argue that the subcultural norms result in differential performative norms for women. Contrary to the classical subcultural theorists' assumption about the heterogenous nature of the subcultures, this thesis identified some behavioural patterns which reproduced gendered labour in these spaces reflecting the core values of the organisation to be gendered (Chandler, 2020), whereby the scientific labour becomes performative for women which may result in their inability to negotiate their workload. Therefore, this thesis provides empirical evidence of the gendered division of labour reproduced in lab spaces which has yet to be considered when making Athena Swan action plans to improve the working pattern of women researchers in science.

Additionally, this thesis also understands gender inequality being materialised through the physical arrangements within the corridor spaces which symbolise unequal power distribution and women's lower status in academic Science. While the lack of spaces for breast feeding and child changing

in corridors represented the symbolic exclusion of mothers, the spatial arrangement within the corridors had further implications for women's belief that career progression in Science maybe unachievable or difficult for women. Extending Wasserman and Frankel's (2015) argument that the spatial structures represent gendered power relations in organisations, I argue that these spatial boundaries may symbolically represent women's lower status and unachievable career prospects in academic Science. Furthermore, I argue that it may have implications for women researchers' lower confidence levels in terms of career progression in academic Science.

This thesis also advances the theory of performativity in organisational spaces by arguing that the parameters of space within the department may result in subcultural norms becoming different for early- and mid-career researchers in departmental spaces. Advancing the general argument of gender performativity in organisational spaces (Tyler and Cohen, 2010), the findings of this thesis show that performativity is spatially relevant resulting in differential experiences for women depending on the subcultural norms. This research identifies two subcultures which show dichotomic values, demonstrating the lack of uniformity in inclusive and supportive practices in the department despite it achieving excellence in the Athena Swan award. Though identified to be in the minority, the inclusive and supportive experiences of women in Subculture A were argued to be significant since it was found that these practices were not a result of the Athena Swan action plans of the department. Therefore, the findings may answer the questions raised by Gregory-Smith (2017) in the light of women's continued underrepresentation in senior positions on how the AS action plans are translated into the experiences of the women. It challenges the current studies (for example, Ovseiko, 2017; 2019) which attribute the positive culture in Science disciplinary areas to the Athena Swan accreditation itself.

The thesis also contributes towards the embodied notions of the ideal scientist cultural norms which were maintained and reproduced in the corridor subcultural spaces despite the department's Athena Swan accreditation. This research identified that ideal scientist behaviour which is

performance- and results-oriented based on the hegemonic values of competition, assertiveness and independence identified in the previous research (Misra et al., 2017; Thébaud and Charles, 2018) continues unchallenged in the Athena Swan gold-awarded department. While the previous research too has identified *ideal academic* norms, this thesis argues that these norms may result in isolated and lonely feelings for women researchers which may have negative career consequences in relation to their collaborating, learning and networking opportunities. Furthermore, I argue that the ideal scientist norm is performative, whereby noncompliance with these norms may result in women not being included in the zones or gangs which may further result in their decision to leave academia altogether.

Additionally, the thesis extends the notion of the ideal norm in relation to the subcultural norms since I argue that while the maternal bodies of the women scientists may be understood to be unideal in relation to the ideal scientist norm, it may depend on the subcultural spaces. The findings highlighted that while the dominant ideal scientist norm continues to imply that women's bodies, '*their ability to procreate and their pregnancy, breast feeding, and child care, menstruation, and mythic "emotionality"*' (Acker, 1990: 152) are stigmatised in Subculture B, this was not reflected in the experiences of women in Subculture A where they felt their maternal bodies accepted and supported. Therefore, this research shows the significance of the subcultural norms in the lived experiences of early- and mid-career researchers, advancing the existing theory of performativity in relation to the ideal scientist norms to the perimeters of space. Thus, this research argues that the Athena Swan action plans, without considering the impact of subcultural norms on the members, may not have the desired impact in terms of translating these action plans into the lived experiences of early- and mid-career researchers. The issues identified in this research can be used by Athena Swan departmental committees when making action plans towards improving the inclusive and supportive culture in departments.

8.3. Limitations and Suggestions for Future Research

The empirical evidence derived in this research is from a single case study department; therefore, the findings cannot be generalised to the wider context. The study might be rare in investigating lived experiences in an Athena Swan gold-awarded department; however, there needs to be more research across different Athena Swan accredited departments to generalise the findings to the wider academic context. Also, the study is mainly grounded in interview data collected from postdoctoral researchers in early- and mid-career trajectories. Therefore, the voices in this study mainly reflect their experiences rather than being representative of the whole department. Finally, the time limitation in the study has not allowed me to collect interview data from the Athena Swan leaders of the department. This would have provided me with more data to understand the reason for the negative experiences of the participants in this research. Finally, an ethnographic focus would have better helped me understand the daily working life of the corridor members in this research.

To address the limitations of this research as discussed above, I recommend further studies to replicate this research in a wider context across different Athena Swan gold-awarded departments. A comparative analysis across different departments might help to further understand if the experiences of early- and mid-career researchers might be different in changing contexts. Also, future research could concentrate on the implications of spatial subcultures by conducting further investigations on the impact of the spatial performativity norms in different contexts. The scientific mothering concept could be further explored in other academic labs, thereby expanding the implications of gendered labour in academic Science for academic women in Science.

8.4. Recommendations

Based on the findings in this thesis, I propose recommendations for the case study organisation as follow:

Firstly, the findings have implications for the case study department where the gold action plans implemented are shown not to have translated into the lived experiences of the early- and mid-career researchers. In the light of the findings showing that the postdoctoral researchers feel like *outsiders* in the department, it needs to review the Athena Swan action plans to improve the inclusive and supportive action plans for postdoctoral researchers. The postdoctoral researchers need to be heard and feel more visible, which can be attained by implementing more socialisation events in line with postdoctoral researchers' availability.

The departmental action plans towards improving inclusivity mainly focus on formal and informal activities and need to be communicated effectively to the postdocs. Since the email communications may not be as effective, informing and encouraging the postdocs to attend departmental events through their Principal Investigators (PIs) may be more effective. The department needs to further investigate and understand how to effectively communicate with postdoctoral researchers. Also, there needs to be better engagement of the postdoctoral researchers with the Athena Swan process; care should be taken to improve their involvement with the Athena Swan organisational events and activities. With regard to the understanding in this research that the corridor subcultures form the experiences of the early- and mid-career researchers, there need to be representatives from each corridor in the Athena Swan mini committees so that they can raise any issues.

Secondly, this research understood the significance of the corridor subcultures in the lived experiences of the early- and mid-career researchers in the department. The department needs to address the issues identified in terms of the gendered division of scientific labouring. While the workload allocation may address the fair allocation and transparency of the academic workload, it is not sufficient to improve the gendered division of working patterns in the labs. Moreover, the core working hours practice was found to be insignificant to the researchers the nature of whose work may require them to work long hours. This may have stemmed from the competition and

performance-based norms recognised to be dominant in the department. In response, a detailed study and actions need to be implemented to address the long working hours culture for the early- and mid-career researchers.

Therefore, the action plans for the postdoctoral researchers need to be revised with regard to the nature of the postdoctoral job. These action plans also need to be implemented within the corridor spaces through the PIs who can communicate and reinstate the inclusive and supportive cultural norms within these subcultural spaces. There needs to be follow up on the corridor spaces to understand if the Athena Swan inclusive and supportive practices are maintained and reinforced. The department needs to have more inclusive spaces for pregnant and new mothers, and the availability of the spaces needs to be communicated efficiently to departmental members.

Also, action plans need to understand the significance of parameters of space forming the subcultural norms; therefore, action plans need to focus on improving interactive patterns in the corridors. Informal socialisation opportunities including family events may be helpful to overcome the impersonal, assertive and independent image of the ideal scientist norm. Such interactions may also help in improving the lonely and isolated feelings experienced by early- and mid-career researchers.

While I recognise that the findings in this thesis are relevant in the current case study departmental setting, the spatial performativity identified in the subcultural spaces may be relevant for departments trying to implement equality and diversity practices. Finally, I caution the Athena Swan charter that the action plans shown in the departmental awards application might not be entirely reflective of the lived experiences of women academics at different career stages. The lack of positive impact in an Athena swan gold-awarded department, which shows their excellence in recognising and addressing gender inequality issues, may result in women losing faith in the Athena Swan programme itself. Therefore, though it may be beyond the scope of this study, I would recommend an external committee to conduct studies in the departments applying for an

award to understand if the Athena Swan action plans are transferred into the lived experiences of the departmental members. They may provide further information and recommendations for the award application departments towards improving the issues identified in the department.

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Appendix 1. Consent Form

Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS)
Applications

Consent form for participants

This form is for you to state whether or not you agree to take part in the study. The participants' identities will be kept anonymous.

Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher.

Have you read and understood the information leaflet about the study?	Yes ☐ No ☐
Have you had an opportunity to ask questions about the study?	Yes ☐ No ☐

Do you understand that your identity will be kept
anonymous   Yes ❒
                                                                   No❒

Do you understand that the information you provide will
be held in confidence by the researcher?   Yes ❒
                                                                   No❒

Do you understand that you may withdraw from the
study for any reason?   Yes ❒
                                                                   No❒

Do you understand that the research information you
provide may be used in future research?   Yes ❒
                                                                   No❒

Do you agree to take part in the study?   Yes ❒
                                                                   No❒

If yes, do you agree to your interviews being recorded?   Yes ❒
                                                                   No❒

*(You may take part in the study without agreeing to
this).*

_____

Your name (in BLOCK letters):
_____

Your signature:
_____

Interviewer's name:
_____

Date:
_____

This research has been reviewed and approved by the Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS) at the University of York. For any questions regarding this, please contact the chair of the ELMPS, Professor Tony Royle, email: elmps-ethics-group@york.ac.uk

For further questions regarding this research, please contact:

Researcher: Ms Ruby Christine Mathew, Email: rcm534@york.ac.uk

Tel: 07923284461

Research supervisors: Dr. Anna Einarsdottir, email: anna.einarsdottir@york.ac.uk

　　　　　Prof. Stephen Linstead, email: stephen.linstead@york.ac.uk

Dean of the York Management School: Professor Mark Freeman, email: management-pa-dean@york.ac.uk

Appendix 2. Information Sheet

The York Management School
University of York
Freboys Lane
Heslington
York YO10 5GD

Appendix 2: INFORMATION SHEET

Title of study: The implications of Athena Swan accreditation on the lived experiences of female academics in the workplace.

The aim of the study:
The overall aim of this study is to examine the implications of Athena Swan on the lived experiences of female academics in an Athena Swan accredited department at X university

Who is conducting the study?
This research is conducted by Ruby Christine Mathew, a PhD researcher in Work, Management and Organisation at The York Management School, University of York.

Who can participate?
Participants are academics who might have a unique, different or important perspective on the phenomenon in question. This includes early-, mid- and professorial-level staff working at X University.

What will I be asked to do?
If you agree to take part, you will be interviewed, which is expected to take approximately 60 minutes with a view to exploring if and how Athena Swan initiatives have shaped your everyday working experiences as a member of an Athena Swan accredited department. I will ask how Athena Swan accreditation has impacted your career, particularly in terms of your experience on mentoring opportunities, workload, flexible working and work-life balance in your department.

With your permission, I would like to audio-record the interview. You can stop me at any time during the interview.

Do I have to take part?

You do not have to take part in the research. If you agree to take part in the research, you are free to decline to answer any interview question(s) that you do not want to. You will be free to withdraw from the study at any time without giving a reason. If you decide to withdraw from the study, any data you have provided will be destroyed and will not be used in any way.

What are the possible risks of taking part?

As in any research, there might be possible risks about revealing organisational issues and working experiences. However, any such data provided will be treated confidentially and anonymously and utmost care will be taken to protect the participant's identity. To protect participants' anonymity, there will not be any part of your name or any identification that could identify the participants included in any written reports or publications for the results of this research. The data provided are confidential and accessible only to the researcher. No data will be provided to the University of York.

Also, as in any interviews, there might be a chance that interviewees bring back grief and intense feelings while talking about their experiences. If any such event occurs the participants can contact helpline numbers, Samaritans: 116 123; SANE: 0300 304 7000; NHS 111; X university internal helpline number.

What are the benefits of taking part?

A summary of the study's overall results will be e-mailed after the research has been completed.

What will happen to the data I provide?

All data will be kept strictly confidential and maintaining the anonymity of the participants is the utmost priority to the researcher. No data, other than fully anonymised transcripts where all personal identifiers have been removed, will be shared with the supervisory team.

The data will be stored securely as per the University of York's ethical guidelines. The audio recordings in the recorder will be destroyed as soon as the recording is transferred to the encrypted file. Only the researcher and no one else will have access to the raw data. All data collected will be used for research purposes only and will not be transferred to any third party. If published, the data will be thoroughly anonymised and any identifying information of the participants will be removed from the text.

What about confidentiality?

The data you provide will be kept strictly confidential. When reporting, all names and identifying information will be removed and pseudonyms will be used instead. Your identity will be kept anonymous.

What happens next?

If you are willing to take part in this research, please let me know by replying to this email (rcm534@york.ac.uk). I will then get in touch with you to arrange a convenient date and time for the interview to take place. Prior to the interview, I will ask you to sign and return the consent form to me.

Who can I contact?

This research has been reviewed and approved by the Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS) at the University of York. For any questions regarding this, please contact the chair of the ELMPS, Professor Tony Royle, email: elmps-ethics-group@york.ac.uk

For further questions regarding this research, please contact:

Researcher: Ms Ruby Christine Mathew, email: rcm534@york.ac.uk

Tel: 07923284461

Research supervisors: Dr Anna Einarsdottir, email: anna.einarsdottir@york.ac.uk

                                Professor Stephen Linstead, email: stephen.linstead@york.ac.uk

Dean of the York Management School: Professor Mark Freeman, email: management-pa-dean@york.ac.uk

Appendix 3. Interview Schedule for Initial Data Collection

Introductions

Introducing myself; about the aims of the research study; aims of the interview questions; interview process information

Opening questions

1. Can you tell me about yourself?

a. Participant introductions; departmental role specifications and experience; the length of work experience with the department and any questions about the study

Everyday working life

1. Can you tell me about a typical working day of yours?

a. What happens when you come to the department?

b. What is your daily working routine?

c. How do you interact with your colleagues?

d. What is your understanding of your workplace in terms of gender equality?

Athena Swan impact

1. What is your understanding of the Athena Swan initiatives of your department?

a. What are the issues you find affecting your daily working life in the department?

b. How are you involved with the department's Athena Swan process?

c. Can you tell me more about how you are supported in the department, for example, in terms of your daily working life?

c. What do you think can be improved in the departmental practices to improve your working life?

Appendix 4. Revised Interview Schedule for Subsequent Data Collection

Introductions

Introducing myself; about the aims of the research study; aims of the interview questions; interview process information

Opening questions

1. Can you tell me about yourself?

a. Participant introductions; departmental role specifications and experience; the length of work experience with the department and any questions about the study

Mini cultures

1. Can you tell me about a typical working day of yours?

a. What happens when you come to your corridor?

b. What is your daily working routine?

Interactive patterns

c. How do you interact with your colleagues?

2. What are the daily interactive patterns in your corridor?

3. Can you tell me more about the things you do together?

Career development

4. Can you tell me more about the working pattern in the corridor in terms of collaborations and networking?

5. What are the issues you find affecting your daily working life in the corridor?

5. What do you think can be improved in your corridor?

Athena Swan impact

1. What is your understanding of Athena Swan initiatives of your department?

b. How are you involved with the department's Athena Swan process?

c. Can you tell me more about how you are supported in the department, for example, in terms of your daily working life?

c. What do you think can be improved in the departmental practices to improve your working life?

d. How do you feel about being part of an Athena Swan gold department?

Appendix 5. NVivo Axial Coding Map – Unhappy Lab

Appendix 6. NVivo Axial Coding Map – Supportive Lab Cultures

gender issues
- adressing men in the group
- womens expertise undermised over sexuality
- strong lifting jobs for men
- unable to talk about mensturation to the PI
- stories of sexism in the lab not heard
- sexist jokes

outsider feeling related to Athena Swan
- not invited to AS drinks event [filtering]
- not cosidered as staff
- feeling like outsiders
- lack of visibility in the website alongside academics [need to check this]

happy lab culture not connected to departmental initiaitves

department do not recognise

open and friendly

support
- expertise recognised
- surrounded by friends
- happy
- lucky
- colleagues supportive for new mother
- hlooking out for each other [helping to keep the job by supporting during difficulty]
- feelings
- enjoyable and good
- know each other
- feels like in control of work load
- feelings of belonging

space

beleif in the responsibility of caring for each other

practices
- organisethe lab together
- lab cleaning days
- lots of flexibility
- using first aid room to express milk
- share things in the lab
- have lunch together sometimes
- helpful and nice
- acceptive to part time working mothers
- lookin gout for each other [leaving tamptons for use in the lab]

better work life balance
- celebrate together
- freedom to organise self work

consequences
- planing to stay after coming to this lab
- quite close to each other lab
- helpful and supportive
- love to continue here
- sense of community