

Female Perspectives on the Early Academic Career Structure in Norway

A Qualitative Case Study at the University of Oslo

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HEM4390 (30 Credits)
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Abstract

Recent debates within the Norwegian academic community reveal concerns about the insecurity of the postdoctoral career structure. In addition, there was a lack of growth in the share of female postdoctoral fellows in Norway over the 2010-2020 decade. Based on these combined observations, this master's thesis explores how the early academic career structure in Norway informs female academics' decisions around remaining in academia. Through a qualitative case-study methodology, this thesis uses template analysis to analyze interviews with six female doctoral research fellows and six female postdoctoral fellows at the University of Oslo. This analysis results in four key conclusions. First, through the analytical framework, this thesis finds that gendered disadvantages related to the academic career structure in Norway are perceived by the participants. Second, the findings in this thesis align with the theoretical framework to indicate that the gendered nature of the academic organization can cause women to adjust their preferences and choose to leave academia. Third, this thesis builds on the theoretical framework to theorize that as men in Norway increasingly take on traditionally 'female' tasks in the domestic sphere, they are also disadvantaged by a career structure that caters to patriarchal gender roles. Fourth and finally, framed by feminist standpoint epistemology and the theoretical framework, this thesis illuminates perceptions of the early academic career structure in Norway which challenge the hegemonic understanding of organizations as gender-neutral. Considering these findings, this thesis recommends that Norwegian policies related to the academic career structure are adapted to better retain and support academics in their early careers.

Acknowledgements

First and foremost, I'd like to thank the women who participated in this master's thesis. In addition to taking time out of your busy schedules to talk with me, each and every one of you provided me with thoughtful and open responses during the interviews. I genuinely enjoyed talking with each of you, and I hope that this thesis does justice to your perspectives. The interviews with you cemented my belief that this topic is important, and that belief is what drove me during this process. I wish you all success and fulfillment, whatever paths you end up taking.

Second, I would like to thank my thesis advisor, Hannah Mülder. You were passionate about this project and encouraged me, which meant more than I can say. Moreover, you were always there when I needed you, and helped me with patience and kindness. As a first time researcher, writing a master's thesis was an incredibly daunting task, and having you as my advisor made the process so much more enjoyable. From the bottom of my heart, thank you.

Third, I would like to thank my professors from the master's program, particularly Professor Peter Maassen and Associate Professor Mari Elken. I find you both incredibly impressive, and I am grateful that I was able to learn from you. I genuinely enjoy hearing both of you discuss higher education, and I hope that I can one day be as knowledgeable about the field as either of you. Thank you for the education and the inspiration.

Fourth, I would like to thank my classmates from the master's program. I am truly thankful to have made so many great friends in this program. Without the wine nights and dinner parties, these past two years would not have been nearly as fun. I know that many of you will be my friends for life, and I can't wait to see the amazing things that you all do with your lives.

Finally, I would like to thank my lovely husband, Torben Hesse. You are my favorite person in the entire world, and you make everything better, including the process of writing a master's thesis. Whether it was giving me a hug or bringing me a cup of tea, you always knew how to make me feel calmer during this busy period. I love you so much, and I am so grateful for you.

Table of Contents

INTRODUCTION: THE NORWEGIAN EARLY ACADEMIC CAREER STRUCTURE AND FEMALE ACADEMIC RETENTION	1
THE NORWEGIAN EARLY ACADEMIC CAREER STRUCTURE DEBATE.....	1
FEMALE PARTICIPATION IN NORWEGIAN ACADEMIA.....	1
DESCRIPTION OF THE RESEARCH PROBLEM.....	4
RESEARCH QUESTIONS AND AIMS.....	7
THESIS OUTLINE.....	8
KEY CONCEPTS: DEFINITIONS AND USAGE	8
THE ACADEMIC CAREER STRUCTURE IN NORWAY.....	8
GENDER.....	12
LITERATURE REVIEW: ACADEMIC CAREER STRUCTURES IN EUROPE.....	14
POSTDOCTORAL POSITIONS WITHIN EUROPEAN ACADEMIC SYSTEMS.....	14
GENDER AND THE POSTDOCTORAL CAREER STAGE.....	18
THE DISCIPLINARY DIMENSION	22
THEORETICAL AND ANALYTICAL FRAMEWORKS	26
THEORETICAL FRAMEWORK.....	26
ANALYTICAL FRAMEWORK	28
RESEARCH METHODOLOGY.....	28
EPISTEMOLOGY	28
RESEARCH APPROACH.....	30
RESEARCH DESIGN	31
DATA COLLECTION AND ANALYSIS	32
PARTICIPANT SELECTION AND SAMPLING STRATEGY	35
QUALITY	36
ETHICAL CONSIDERATIONS	38
HOW THE EARLY ACADEMIC CAREER STRUCTURE IN NORWAY INFORMS FEMALE ACADEMICS' CAREER DECISIONS: FINDINGS AND ANALYSIS	40
FINDINGS: PARTICIPANT PERCEPTIONS OF THE NORWEGIAN EARLY ACADEMIC CAREER STRUCTURE.....	40
<i>Academic Positions.....</i>	<i>40</i>
<i>Qualifications for Advancement.....</i>	<i>46</i>
<i>Advancement Processes.....</i>	<i>50</i>
ANALYSIS: PARTICIPANT PERCEPTIONS OF THE NORWEGIAN EARLY ACADEMIC CAREER STRUCTURE.....	55
FINDINGS: GENDER AND PERCEPTIONS OF THE EARLY ACADEMIC CAREER STRUCTURE	58
ANALYSIS: GENDER AND PERCEPTIONS OF THE EARLY ACADEMIC CAREER STRUCTURE.....	65
FINDINGS: DISCIPLINE AND PERCEPTIONS OF THE EARLY ACADEMIC CAREER STRUCTURE	68
ANALYSIS: DISCIPLINE AND PERCEPTIONS OF THE EARLY ACADEMIC CAREER STRUCTURE.....	71
FINDINGS: HOW PERCEPTIONS OF THE CAREER STRUCTURE INFORM CAREER PLANNING	72
ANALYSIS: HOW PERCEPTIONS OF THE CAREER STRUCTURE INFORM CAREER PLANNING	76

DISCUSSION: HOW DOES THE EARLY ACADEMIC CAREER STRUCTURE INFORM FEMALE ACADEMICS' DECISIONS AROUND REMAINING IN ACADEMIA?	77
CONCLUSION	79
LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH	82
WORKS CITED	84
APPENDIX A - INTERVIEW GUIDES	90
APPENDIX B - CODE TEMPLATE	98
APPENDIX C - CODING CLUSTERS.....	100
APPENDIX D - RECRUITMENT EMAIL.....	103
APPENDIX E - PARTICIPANT INFORMATION LETTER.....	104
APPENDIX F - PARTICIPANT CONSENT FORM.....	107

Table of Figures

Figure 1 Total Share of Female Academics at Norwegian Universities. Source: based on statistics from the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022)	3
Figure 2 Position Growth by Percentage. Source: Based on statistics from the NIFU FoU-statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022).....	3
Figure 3 Share of female academics at Norwegian universities in the Social Sciences. Source: Based on statistics from the NIFU FoU statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022).....	5
Figure 4 Share of female academics at Norwegian Universities in the Humanities. Source: Based on statistics from the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022).....	6
Figure 5 Share of female academics at Norwegian universities in the Natural Sciences. Source: Based on statistics from the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022).....	6
Figure 6 Categorization of the negative academic career structure effects, based on the literature reviewed.....	18
Figure 7 "Self-reinforcing feedback loops informing younger female academics' career choices" (Source: Nielsen, 2017, p.150, figure 3; Copyright 2016 by John Wiley & Sons Ltd., reprinted with permission).....	21

Introduction: The Norwegian Early Academic Career Structure and Female Academic Retention

The Norwegian Early Academic Career Structure Debate

In Norway, there is a current debate surrounding the early academic career structure. Specifically, many argue that the insecurity of the postdoctoral position is causing academics to leave the profession (Gunnes, Madsen, Ulvestad, Wendt and Langfeldt, 2020; Ministry of Education and Research, 2020; Forskerforbundet, 2017). The current postdoctoral position in Norway takes between 2-4 years, and current Norwegian rules prohibit postdoctoral fellows from completing more than one postdoctoral position at one institution (Ministry of Education and Research, 2006). However, as permanent academic positions are competitive in nature, it is not uncommon for postdoctoral fellows to hold two or more postdoctoral positions in order to be competitive in the job market (Gunnes et al., 2020, p.62). As a result, academics who wish to continue in the profession spend an often lengthy period of time in temporary positions, moving between institutions with no clear career path.

Consequently, some individuals argue that the early academic career structure needs to be changed, so that there is more of a clear path for young academics to achieve permanent and secure positions. This is exemplified by the 2020 proposal of Helga Aune, the former leader of the Universitets-og høyskolelovutvalget, to limit the number of postdoctoral positions that academics in Norway can hold (Tønnessen, 2020). Further, it is exemplified by the discussion surrounding the implementation of a tenure track for academics in Norway (Frølich et al., 2018, pp.31-32). Conversely, others argue that changes to the career structure would only succeed in making Norwegian postdoctoral fellows less globally competitive, because international postdoctoral fellows will continue to hold multiple postdoctoral positions. As a result, they argue that this will negatively impact Norwegian higher education (Tønnessen, 2020).

Female Participation in Norwegian Academia

At the same time as these arguments around postdoctoral career structures take place, another problem in Norwegian academia is the proportion of female to male academics (see

figure 1). Specifically, the gender gap in academia is impressively decreasing in Norway, and there is a greater share of women at all levels of academia than in the past (Steine, Gunnes, and Wendt, 2020). Based on percentage, there are more women than men participating in academia up until the postdoctoral level. However, around the postdoctoral level, there is a noticeable drop in female participation. This may not seem so serious, because women have an almost equal share of positions as men. With this said, the drop from research fellow participation to postdoctoral participation is noticeable. According to data from the NIFU FoU-statistikkbanken (retrieved 2022), the percentage of total female research fellows in 2020 was 55.2% while the percentage of total female postdoctoral fellows was 47.5%. This representation continues to drop as careers progress. Among professors, the gender gap in 2020 was about 66.4% male and 33.6% female. As the drop in participation falls below the halfway point at the postdoctoral level, it leads one to wonder what factors contribute to this change in majority participation.

This data is particularly unusual, because the percentage of female postdoctoral fellows was relatively unchanged during the decade from 2010-2020, while the percentage of female research fellows rose. Women accounted for 48.2% of postdoctoral fellows in 2010 and 47.5% of postdoctoral fellows in 2020. In comparison, women accounted for 52.4% of research fellows in 2010 and they accounted for 55.2% of research fellows in 2020. As a result, it appears that the gender gap between postdoctoral fellows has remained relatively stable, despite the number of qualifying women going up and the number of qualifying men going down.

One may argue that the change in doctoral candidates isn't that much different than the change in postdoctoral fellows, which could account for the minimal improvement in the representation of female postdoctoral fellows (a .7% decrease in representation versus a 2.8% increase in representation). With this said, the lack of an increase at the postdoctoral level is more significant for two main reasons. First, as mentioned earlier, there are noticeably more female than male doctoral candidates (55.2% women versus 44.8% men). As a result, based on the eligible pool of researchers, a slight decrease in female participation over a decade is unusual. Secondly, there has been a large increase in the number of Norwegian postdoctoral positions available. While the number of doctoral positions increased by around 27% between 2010 and 2020, the number of postdoctoral positions increased by 58% (see figure 2). Considering this large increase in the number of available postdoctoral positions, it is especially surprising that the share of female postdoctoral fellows has barely increased. This leads one to

wonder why female postdoctoral participation over the last decade has remained relatively constant, despite plenty of opportunity for growth.

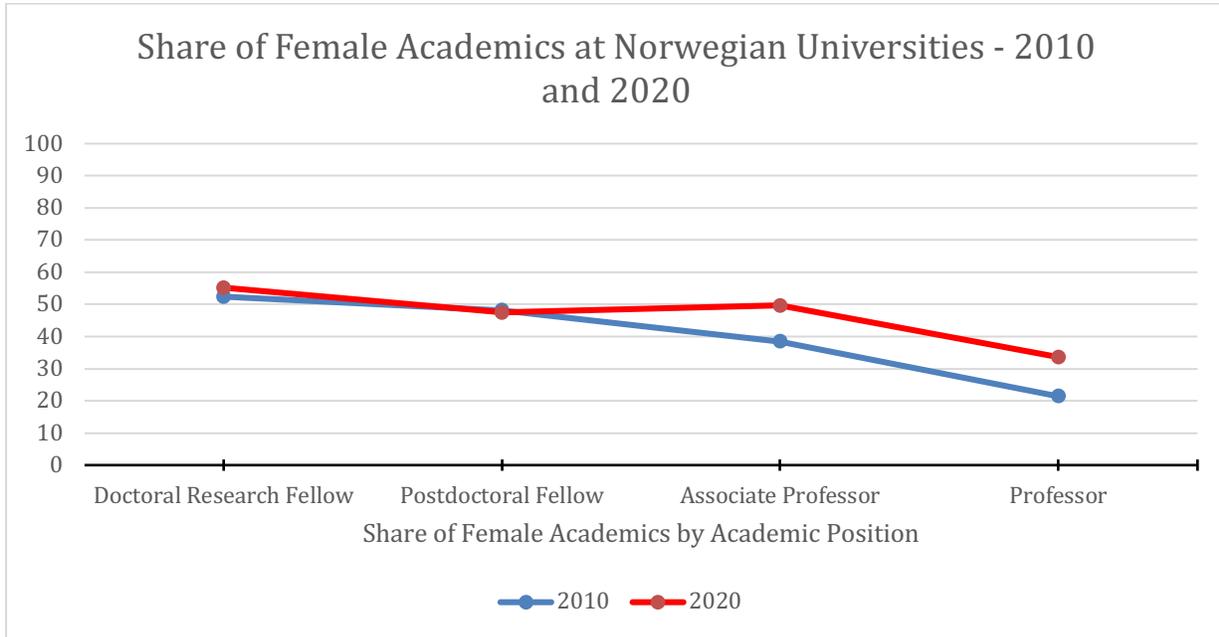


Figure 1 Total Share of Female Academics at Norwegian Universities. Source: based on statistics from the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022)

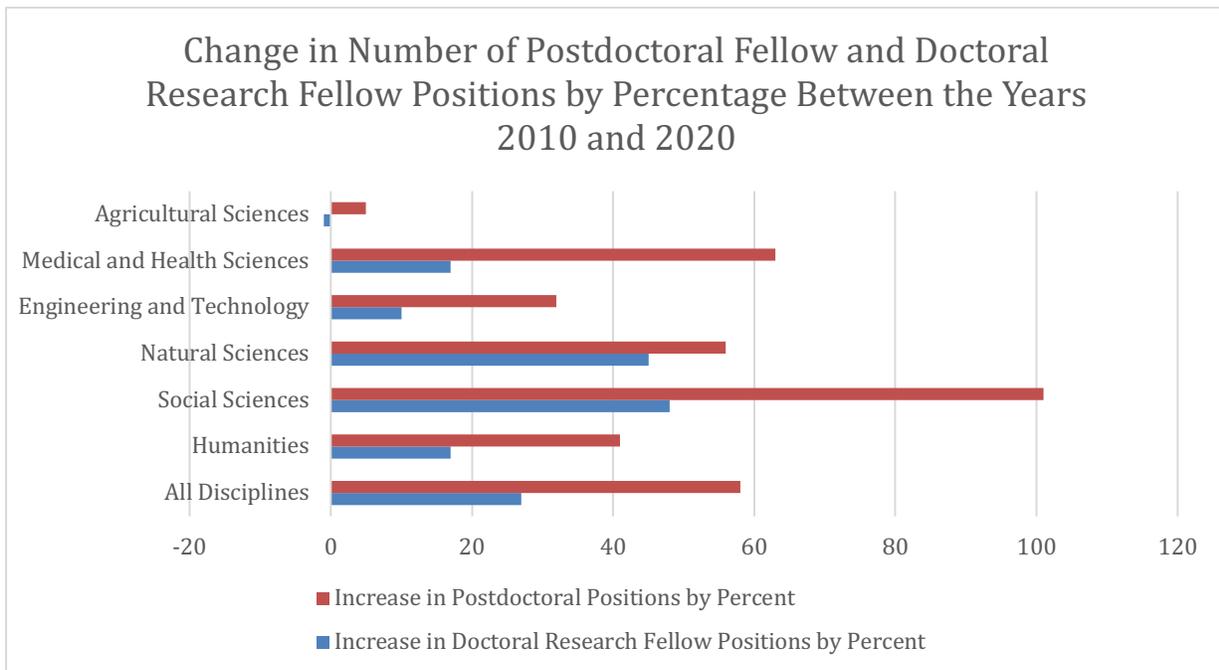


Figure 2 Position Growth by Percentage. Source: Based on statistics from the NIFU FoU-statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022)

Description of the Research Problem

As previously mentioned, there is a concern that the early academic career structure is contributing to a loss of qualified academics in Norway. This is a widely debated problem, and many in the Norwegian higher education community are looking for solutions to the problem. With this said, this is not an easy task, because academics operate in a globalized market (Gunnes et al., 2020, p.62). Acknowledging this reality, this thesis is not focused on finding a policy solution to the postdoctoral career structure problem. Instead, it will attempt to better understand early career female academics' perceptions of the academic career structure in Norway. Through understanding their perceptions of the career structure, this thesis hopes to understand some of the reasons why female academics may choose to leave academia early in their careers. Although many factors contribute to women's decisions to leave academia for different career paths, this thesis intends to focus on career structure because it is a factor that the Norwegian higher education sector can control.

Additionally, this thesis seeks to understand female academics' perceptions of the early academic career structure from a comparative disciplinary perspective. In addition to the overall trend, each individual discipline has its own trend from the past decade (see figures 3-5, which are described in-depth in the methodology section). Consequently, three different disciplines will be examined in order to gain a more comprehensive understanding of female academics' perceptions of the early academic career structure in Norway. Specifically, this thesis will examine the social sciences, whose female representation pattern is similar to the overall pattern. It will also examine the humanities, whose female representation pattern is more positive than the general trend. Lastly, it will examine the natural sciences, whose female representation pattern is more negative than the overall trend. Through examining female perceptions of the early academic career system within these three disciplines, this thesis seeks to understand the role of discipline in female academics' perspectives on the early academic career structure.

This thesis intends to research the Norwegian academic system's trouble retaining a substantial demographic, because this problem negatively impacts both individual female academics and the higher education system as a whole, which loses promising individuals who have the potential to make substantial academic contributions. Further, this study is particularly interested in the loss of female academics around the postdoctoral level, because it is the stage of

the academic career that appears to have little improvement in female participation, despite there being noticeably more female than male doctoral candidates. This causes one to wonder why the female postdoctoral participation isn't growing? Is this reason perhaps related to the already controversial early academic career structure? This is an area worth investigating, because if the career structure is contributing to a greater gender imbalance, then the problem should be recognized and rectified.

Research Problem: Why has the postdoctoral participation of female academics in Norway remained relatively constant over the previous decade, despite increasing female participation at all other academic career levels and a large pool of female doctoral candidates?

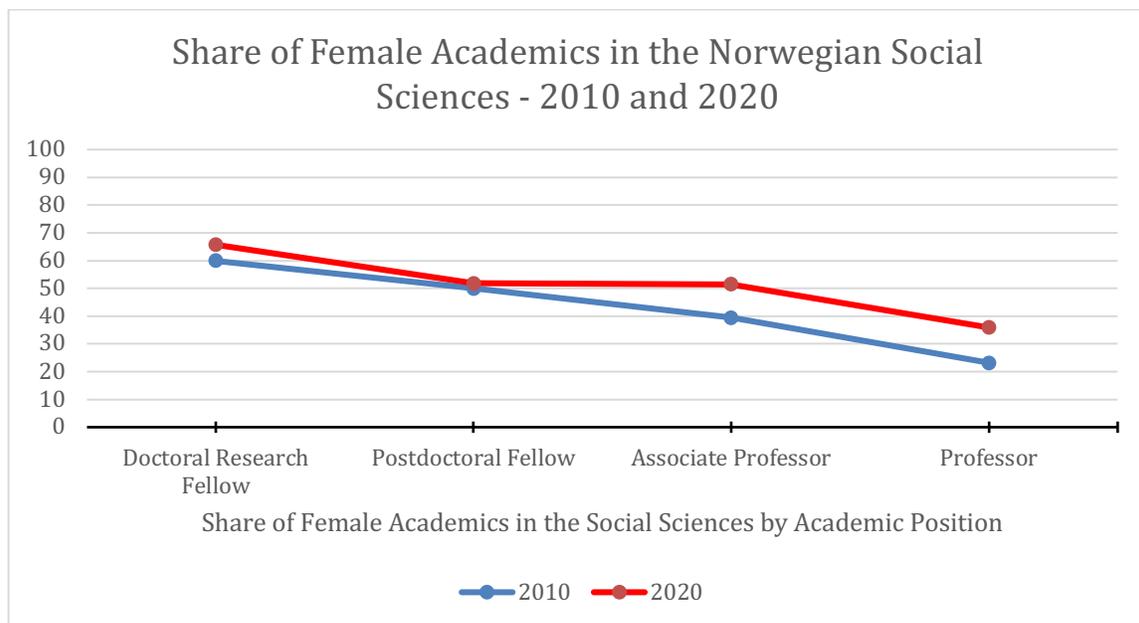


Figure 3 Share of female academics at Norwegian universities in the Social Sciences. Source: Based on statistics from the NIFU FoU statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022)

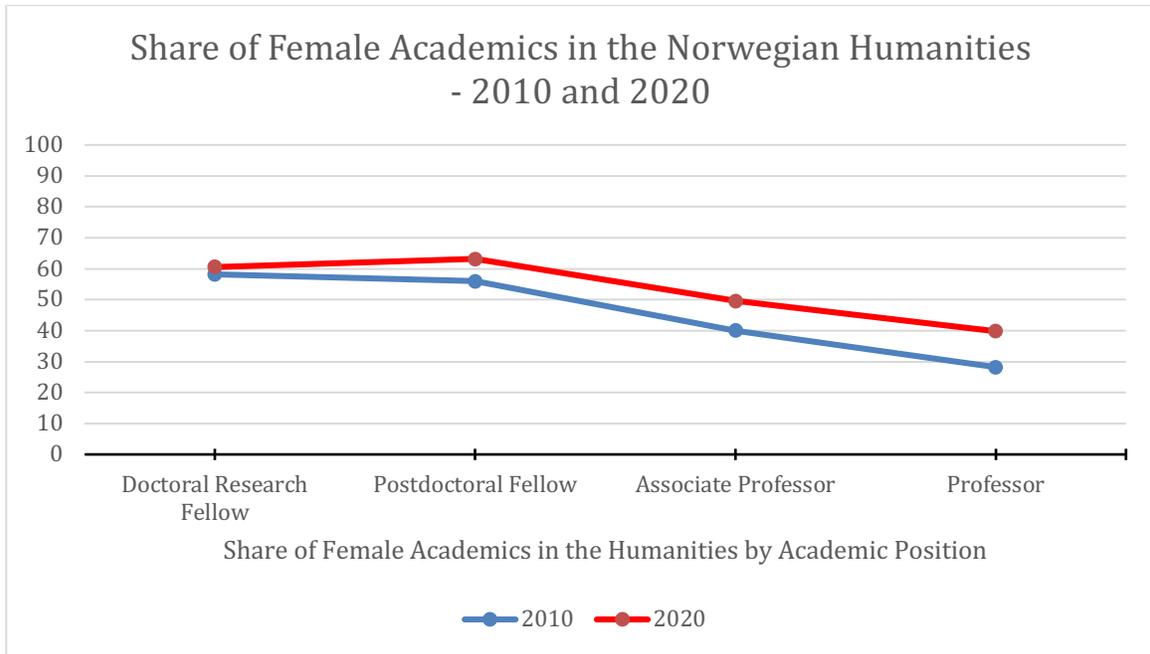


Figure 4 Share of female academics at Norwegian Universities in the Humanities. Source: Based on statistics from the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022)

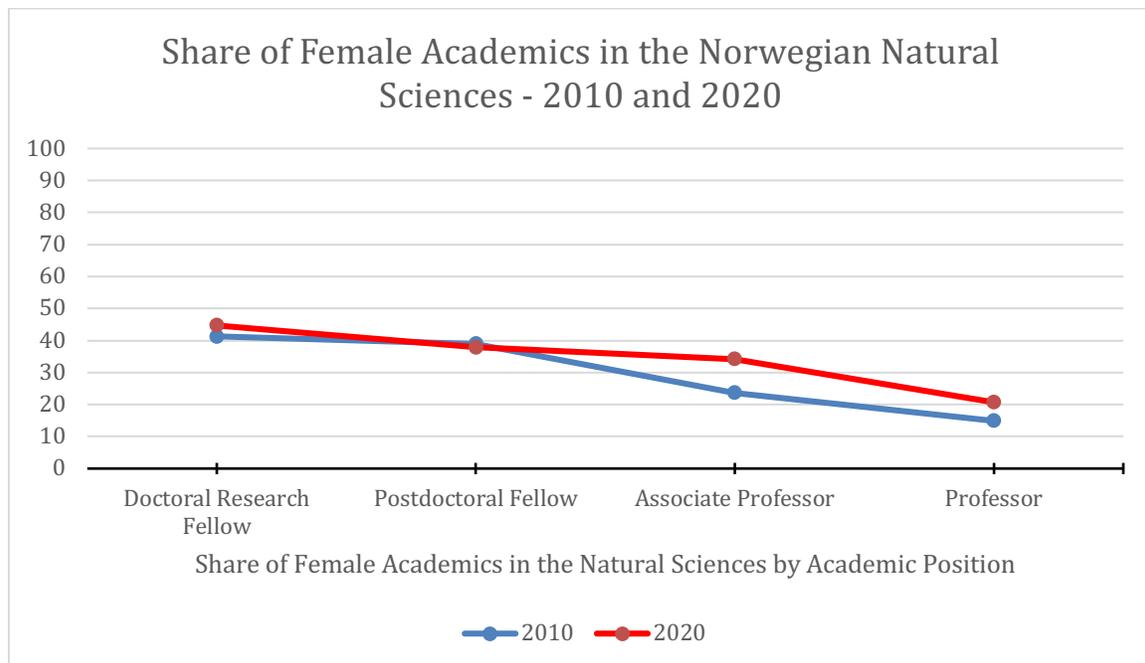


Figure 5 Share of female academics at Norwegian universities in the Natural Sciences. Source: Based on statistics from the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender; data for 2010 and 2020 (retrieved September 2022)

Research Questions and Aims

In order to explore this research problem, this thesis aims to investigate female academic retention within the early academic career in Norway through a structural lens. As discussed, there is a lack of growth amongst the share of female postdoctoral fellows over the previous decade, and there are current debates around whether the postdoctoral career structure contributes to the loss of promising academics. Consequently, this thesis examines structural reasons why women may decide to leave academia early in their careers. It achieves this through an overarching research question that is subdivided into four minor research questions. These questions are as follows:

How does the early academic career structure in Norway inform female academics' decisions around remaining in academia?

- 1. How do female academics perceive the early academic career structure in Norway?*
- 2. How does gender play a role in female academics' perceptions of the early academic career structure?*
- 3. How do disciplinary differences play a role in female academics' perceptions of the early academic career structure?*
- 4. How do female academics' perceptions of the early academic career structure inform their career decisions?*

The minor research questions 1-3 aim to explore female academics' perceptions of the early academic career structure in Norway. These questions build into minor research question 4, which aims to analyze the potential contribution of the academic career structure to the drop in female academics around the postdoctoral career stage. Finally, the four subquestions build into the overarching research question, which aims to investigate female academic retention within the early academic career in Norway through a structural lens.

Thesis Outline

Following this introductory section, chapter 2 defines the key concepts of gender and the academic career structure. Chapter 3 reviews the existing literature related to early academic careers in Europe, gender specific challenges within European early academic careers, and potential disciplinary differences in early academic retention. Chapter 4 describes the theoretical framework, which was developed by Mathias Wullum Nielsen (2017) and merges Joan Acker's theory on gendered organizations with Amartya Sen and Martha Nussbaum's capabilities theory. This section also outlines the analytical framework of "self-reinforcing feedback loops informing younger female academics' career choices," which was developed by Mathias Wullum Nielsen (2017, pp.26-27), and is used in this thesis to analyze potential gendered disadvantages within the Norwegian early academic career structure. Chapter 5 outlines and explores the methods used in this thesis. In chapter 6, the findings of this thesis are relayed and analyzed. Chapter 7 is a final discussion of the analysis. Chapter 8 is the conclusion. Finally, chapter 9 discusses the study's limitations and suggests further research ideas for this topic.

Key Concepts: Definitions and Usage

The two key concepts that will be explored in this thesis are the concept of an academic career structure and the concept of gender. As this study examines how the early academic career structure informs female academics' career choices, it is important to first define the meaning of the early academic career structure and outline what it looks like in a Norwegian context. Further, as this study is interested in understanding female academics' perceptions, gender is a concept that is interwoven into each aspect of this study, and thus requires clear definition.

The Academic Career Structure in Norway

Beginning with the wider definition, the Cambridge Business English Dictionary defines the term 'career structure' as "the series of jobs, from less senior to more senior jobs, that people can progress through in a company or type of work" (Cambridge University Press, n.d.). In

regards to the concept of ‘academic career structures,’ existing literature reveals similar conceptual usage. For example, in the preface to the NIFU Report on Academic Career Structures in Europe, Sveinung Skule and Nicoline Frølich write that “academic career structures are characterised by different principles for organising academic careers which show distinct national variations” (Frølich et al., 2018, p.3). Further, the 2015 book on Academic Work and Careers in Europe: Trends, Challenges, Perspectives states that the structuring of academic careers “concerns the different stages of academic careers, their expected lengths, but also some differentiation processes” (Fumasoli et al., p.205). Drawing on elements from each of the aforementioned works, this study defines ‘academic career structure’ as a national system’s typical organization of career progression within academia. This includes the typical organization of positions held, the qualifications for advancing one’s position, and the organizational process for advancement. Further, this study uses the terminology ‘early academic career structure’ to refer to the career before the associate professorship.

Considering this definition, there are key features that characterize the academic career structure in the Norwegian context. First, it is important to understand the organization of positions within Norwegian academia. According to Frølich et al. (2018), there are different paths in the Norwegian academic career structure depending on whether one focuses on research or teaching, and depending on whether one works at universities or university-colleges. This study focuses on what they describe as typical career progression for research-oriented academics within universities. Academic careers within private research institutes are not considered in this study. Frølich and her colleagues write that the typical organization of positions for this path is “to move from PhD to postdoc to associate professor, ending with a professor position” (2018, p.33). There are also researcher positions that are usually temporary, but sometimes permanent, which “can be regarded as a third career track” (Frølich et al., 2018, p.33). PhD appointments in Norway have different juridical regulations for each institution, and different programs within universities can follow non-juridical individual guidelines (Burner et al., 2020, pp.4-5). As a result, PhD appointments tend to be either three years in duration or three years plus one teaching year, and they generally have a maximum period of six or eight years (p.7). Norwegian postdoctoral appointments are a fixed term of two to four years, and postdoctoral fellows are only allowed to complete one postdoctoral position at an institution (Forskrift om ansettelsesvilkår for stillinger som postdoktor, stipendiat, vitenskapelig assistent og

spesialistkandidat, 2006, § 1-2, § 2-1). Associate professors and professors are permanent academic positions (Frølich et al, 2018, p.30). Further, there is a recently created category of tenure-track postdoctoral fellows and associate professors, who are appointed to a six to seven year contract with the goal of reaching permanent positions as either associate professors or professors if they fulfill a set of qualifications during their employment (Gunnes et al., 2020, p.41). These positions were introduced in 2015, and are used infrequently and with institutional discretion (p.41).

Regarding the qualifications for advancement, it can be argued that there are formal requirements in addition to non-formal qualifications. Formal requirements are those outlined by The Ministry of Education and Research (Frølich et al., 2018, pp.29-30). For example, formal requirements to attain a PhD are a five years master degree or equivalent from a recognized institution (Burner et al., 2020, p.7). Formal requirements to attain a postdoctoral position include a doctoral degree, a project proposal submission, and that candidates have not held the same type of position at the same institution (Forskrift om ansettelsesvilkår for stillinger som postdoktor, stipendiat, vitenskapelig assistent og spesialistkandidat, 2006, § 1-2). Formal requirements for an associate professor are a relevant doctorate and documented teaching skills, although hires can also document these teaching skills in the first two years of employment (Forskrift om ansettelse og opprykk i undervisnings- og forskerstillinger, 2006, § 1-4). Formal requirements for a professor are the same teaching standards as stated in the associate professor regulations in addition to “vitenskapelig nivå i samsvar med etablerte internasjonale eller nasjonale standarder,” or in English “ scientific level in accordance with established international or national standards” (Forskrift om ansettelse og opprykk i undervisnings- og forskerstillinger, 2006, § 1-2).

Meanwhile, non-formal qualifications are those which are often important for advancement, despite not being formally required. For example, it is technically not necessary to have held a postdoctoral position in order to gain a position as an associate professor (Forskrift om ansettelse og opprykk i undervisnings- og forskerstillinger, 2006 §1–4); however, it is often considered an important qualification anyways (Gunnes et al., 2020, p.7). Along the same lines, while the formal requirement to become an associate professor in Norway is a doctoral degree and teaching competence, with the increasing importance of bibliometrics as a “screening tool” for academic promotion in Norway and globally (Aagaard, 2015; see also Gössling et al., 2021;

see also Reymert, 2020), academics wishing to attain a position as an associate professor often need to have a good number of publications in high impact journals. As this degree of high impact publication is not a requirement for completing a doctorate, it can be argued that high impact publication is a non-formal qualification for promotion to a fixed position within Norwegian academia. Further, academic mobility is often perceived as a non-formal qualification for achieving a permanent position, as those who have been mobile are often more desirable to employers because they gain knowledge from working abroad (Gunnes et al., 2020, p.14). Consequently, these examples reveal that there are also non-formal expectations that often need to be fulfilled to achieve a promotion in Norwegian academia.

Lastly, the organizational process for advancement in Norwegian academia is a key component of the academic career structure. Academic positions in Norway are internationally advertised, unless they can only be fulfilled by someone in Norway (Frølich et al., 2018, p.30). Additionally, appointments to positions are decided by either the board of the university or an appointment committee that has been delegated the task by the board (universitets- og høyskoleloven, 2005, § 6-3). According to the Act Relating to Universities and University Colleges, rules for assessment are decided by the board, although “the Ministry may issue regulations concerning procedures and criteria for appointment or promotion to academic positions” (2005, § 6-3). As a result, to advance from a doctoral researcher to a postdoctoral fellow in Norway, one must apply for an open position and be selected by the hiring committee. The procedure is the same for those hoping to advance from either a doctoral or postdoctoral position to an associate professor. Postdoctoral fellows in tenure-track postdoctoral positions, however, may advance to an associate professor position through fulfilling the requirements that are stipulated by the board when they are hired. Whether they have fulfilled these requirements is decided by an expert committee of three individuals, with only one expert coming from the same institution as the candidate (Forskrift om ansettelse på innstegsvilkår, 2015, § 5). Tenure-track associate professors have the ability to reach a full professorship through the same method. Additionally, associate professors can attain a full professor position through three methods. First, they can apply to an open position and be appointed by the board. Second, if they apply to an open position and are not hired even though they are deemed qualified, they may be promoted to a professor. The third and most common method is that they can apply for a promotion based on qualifications, despite no open position being listed (Frølich et al., 2018, p.31).

In conclusion, based on the definition of academic career structure as a national system's typical organization of career progression within academia, there are three components that must be considered when studying academic career structures. First, it is important to consider which positions comprise the career, and the length of these positions. Second, it is important to consider both the formal and non-formal requirements for advancement between positions in an academic career. Third, it is important to consider the formal process of advancement from one academic position to another. Considering these three elements of the academic career structure in Norway, this study will examine how early career female academics in Norway perceive the career structure, and how these perceptions inform their decisions on whether or not to remain in Norwegian academia.

Gender

“The choice of categories is a feminist and political issue because using the conventional categories without question implies that the “normal” (e.g., heterosexuality, masculinity) does not have to be explained as the result of processes of socialization and social control, but is a “natural” phenomenon. Deconstructing sex, sexuality, and gender reveals many possible categories embedded in social experiences and social practices, as does the deconstruction of racial ethnic and class categories.” - (Lorber, 2006, p.450)

As the above quote from Judith Lorber explains, writing about gender requires a close examination of the concept and thoughtful implementation of its usage, because dichotomous assumptions of gender support a heteronormative worldview. Gender is an important element of this thesis, so it is paramount to consider and clarify its usage. To begin with, it is necessary to consider how the concept of gender is defined, and how it plays into the broader theoretical underpinnings of this research. Second, it is important to consider how this concept plays out in the methods and terminology of this thesis, and address potential shortcomings of its usage.

This article is built around Mathias Wullum Nielsen's (2017) theoretical framework, which combines Joan Acker's *theory on gendered organizations* with Amartya Sen and Martha Nussbaum's *capabilities theory* to theorize that women 'opt out' of academia because they are forced to adapt their career choices based on the constraints of the gendered nature of academia

as an organization (p.138). As Joan Acker's (1990) *theory on gendered organizations* is an integral part of this theoretical framework, Acker's conceptualization of gender is applied in this study. This conceptualization goes beyond the concept of gender as a social construct of personal identities to argue that gender is also an "analytical category" (p.145). This means that within "an organization, or any other analytical unit [...] advantage and disadvantage, exploitation and control, action and emotion, meaning and identity, are patterned through and in terms of a distinction between male and female, masculine and feminine" (p.146). From this conceptualization of gender, it is understood that gender as a social construct goes beyond individual identity constructs to also encompass social constructions of entire organizations, which are ingrained with gendered beliefs and practices. This results in organizations being 'gendered.' An example that Acker gives of this phenomenon is the way in which the ideal worker in an organization is often perceived as having traditionally masculine traits, such as the ability to prioritize organizational work above family work (p.149). From this conceptualization, this study seeks to understand the university as a gendered organization.

With this said, on an individual level, this study also recognizes gender as a social construct that differs from biological sex, a concept popularized by works such as Judith Butler's (1990) book *Gender Trouble: Feminism and the Subversion of Identity* and Judith Lorber's (1995) book *Paradoxes of Gender*. In the case of this thesis, to be socially constructed means that gender is a concept created and shaped by society and learned socially (Mikkola, 2023). As a result, this thesis attempts to use gendered terminology carefully and in a way that can't be convoluted with biological sex, as this can be a linguistic failure of some studies involving gender (Laner, 2000). For example, this study utilizes female and male as adjectives to describe the gender of academics, as opposed to nouns, which would refer to sex. Further, as gender is portrayed as a social construction, this study recognizes that women and men are not two poles of a gender binary, but instead accepts the existence of further categories, such as gender non-binary. As this study is focused on those who identify as women and their experiences in a potentially heteronormative gendered organizational structure, a necessity and shortcoming of this study may be its use of binary data and statistics. However, this study will attempt to offset the shortcomings of this binary data through data collection and analysis methods which "recognize that sexual and gender statuses combined with other major statuses produce many identities in one individual" (Lorber, 2006, p.450). As argued by Lorber in the introductory

quote, research that challenges heteronormative worldviews requires the consideration of multiple categories, as opposed to binaries.

Literature Review: Academic Career Structures in Europe

In this literature review, existing research related to European early academic careers and academic retention is explored. The first section examines literature related to how postdoctoral positions in Europe are experienced by academics in their early careers. This section reveals how the structurally-produced uncertainty of these positions can often have negative professional, financial, social and psychological effects on academics. The second section examines literature related to how women experience early academic careers in Europe. This section reveals how the structure of early academic careers can often particularly disadvantage women, because of a dissonance between the early career structure and societal gender norms. Finally, the third section of the literature review examines literature related to potential disciplinary differences in early academic retention. Through these three sections, the literature reviewed supports further examination of how the early academic career structure informs female academic retention.

Postdoctoral Positions Within European Academic Systems

While academic career structures vary across different national systems, there is a common discontent within Europe surrounding postdoctoral positions and the early stages of the academic career. Based on the aforementioned elements of academic career structures, this discontent is connected to various structural components. In regards to the position held and its length, the postdoctoral position is a temporary position that, depending on the position and European nation, lasts “from a few months up to a couple of years” (Herschberg et al., 2018, p. 304). In regards to requirements for advancement, many argue that it is unclear what qualifications are enough to advance from a postdoctoral position to a permanent position (Nielsen, 2017; Teelken and van der Weijden, 2017). In terms of the process for advancement, in many of the European systems, postdoctoral fellows hoping to advance can only do so in light of an available open position. The outcome of this advancement process is that many postdocs end up unable to secure a permanent position, because there are not enough available (Bataille et

al., 2017). This results in some academics being stuck in a string of temporary postdoctoral positions as they compete for few available permanent positions. While some European systems offer alternative advancement processes, such as tenure-track, many postdocs must rely on this form of open-competition to secure their next position. Ultimately, these three structural elements result in postdoctoral career stages which are characterized by instability and uncertainty. In turn, this instability and uncertainty produces other negative consequences for European postdoctoral fellows, which can be observed in existing literature (see figure 6 for a categorization of the negative early academic career structure effects, based on the literature reviewed).

When controlled for peer-review articles between the dates 2002-2023, searches within the University of Oslo library's Oria database for 'academic career structures,' 'early academic career structures' and 'postdoctoral career structures' lead to a collection of articles which discuss various problematic elements of early academic careers. Within this collection, the European articles that focus on academic career structures as defined in this study reveal a number of criticisms of European academic career structures and their postdoctoral stages. Specifically, the articles discuss how structurally-produced uncertainty within the postdoctoral stage of European academic career structures negatively affects academics' lives professionally (Menard and Shinton, 2022; Teelken and van der Weijden, 2017), financially (Bataille et al., 2017), socially (Bäker, 2015; Bataille et al., 2017; Hernandez-Sanabria, 2020; van der Weijden et al., 2015), and psychologically (Hernandez-Sanabria, 2020; van der Weijden et al., 2015). Ultimately, these articles reveal the problematic nature of postdoctoral career structures in Europe and support Philip G. Altbach and Christine Musselins' (2015) argument that global academic career structures are increasingly dysfunctional and unattractive to scholars, resulting in the loss of promising academics.

To begin with, the existing literature shows that the postdoctoral stage of the academic career structure has a negative professional effect on early career academics. For example, Teelken and van der Weijden (2017) examine the career prospects of postdoctoral researchers in the Netherlands, and find that they lack clear career prospects and that they have a weak link to the institution because of their temporary status, further hurting their likelihood for promotion (p.405). The study also finds that the "the length of their postdoc employment negatively affects their career satisfaction and career prospects" (p.401). These findings highlight how uncertainty

within the postdoctoral phase of the academic career structure negatively impacts postdocs' professional ability for career advancement. They also reveal how postdocs can get stuck in a postdoctoral purgatory, where repeated postdoctoral positions don't lead to advancement. For the postdocs stuck in purgatory, studies reveal that professional prospects are extremely limited. Specifically, Cecile B. Menard and Sara Shinton reveal the negative professional effect on long-term researchers in a 2022 UK study. They show that many researchers become long-term temporary researchers either with the goal of promotion, accidentally or on purpose (p.6). However, despite the prevalence of these long-term postdocs, because of the supposedly 'temporary' nature of their positions, they face professional consequences and "their contribution to the financial success of neoliberal universities are played down" (p.13). Menard and Shinton's study reveals that not only is the uncertain nature of the postdoctoral career structure detrimental to academics hoping to advance in their careers, there is also no professional security for those who end up staying without advancing, despite their importance to the university's research.

Further, the existing academic literature exposes the postdoctoral career structure's negative financial impact on academics. Specifically, the literature shows that the combination of relatively low wages and the uncertainty of the career stage create a situation where postdocs feel negative financial pressure. For example, Pierre Bataille et al. (2017) examines the 'leaky pipeline' phenomenon amongst Swiss postdoctoral fellows and reveal that one reason postdocs leave academia in the early stage is because of financial instability. Specifically, the lack of a clear career path for advancement causes many men to leave academia because they feel that they can't be the "male breadwinner" (p.324). Bataille et al. argues that the Swiss situation is less of a 'leaky pipeline' where candidates are dropped by a promising system, and more of a situation where candidates choose to leave because of "structurally ungrateful or unrewarding higher education and research institutions" (p.328). As a result, this article reveals that one of the problems with the academic career structure is that the postdoctoral position is underpaid with no clear path for advancement. This causes academics to leave the system because they are "faced with the impossibility of achieving a relatively stable and comfortably paid position within an acceptable period of time after their PhD submission" (p.327).

There are also social consequences to the uncertainty of the postdoctoral career structure in Europe. For example, in addition to postdocs who leave academia for financial reasons, Bataille et al. (2017) found that another common reason for leaving academia during the

postdoctoral phase in Switzerland is the negative social effect. Specifically, they find that the demands for mobility and publishing which are necessary to advance “are not compatible with a balanced and happy personal life” (p.327). Similarly, in a 2015 study on Dutch postdoctoral satisfaction, Inge van der Weijden et al. found that the uncertain nature of career advancement negatively impacts the work-life balance of Dutch postdocs (p.35). This negative social impact can be worse for immigrant postdocs in Europe, who can be forced to leave their social lives at the end of a postdoc, in order to comply with immigration requirements (Hernandez-Sanabria, 2020, p.2). While academia encourages and often necessitates mobility, without a clear path to permanent academic careers, immigrant postdocs are placed in a vulnerable social position. Additionally, there are social ramifications within the academic workplace for postdocs. For example, in a quantitative study on the relationship between postdoc job mobility and research output in Germany, Bäker (2015) finds “evidence for a negative effect of moving to another university on a researcher's social capital (i.e. colleagues and coauthors) and thereby publications” (p.646). Considering this, it can be argued that the unclear nature of the postdoctoral career structure has a negative effect on postdocs’ social lives both outside of academia and within academia.

Lastly, existing literature reveals that the postdoctoral career structure in Europe has a negative psychological effect on postdocs. For example, in their research on the effect of career prospects on postdoctoral career satisfaction in the Netherlands, van der Weijden and her colleagues (2015) find that although most postdoctoral fellows want to continue in academia, they tend to have a negative view of their career prospects. Interestingly, this study finds that gender has little effect on postdoc’s satisfaction with their career and prospects, while nationality and discipline do have an effect on satisfaction (pp.36-37). In the end, van der Weijden and her colleagues recognize the lack of a clear career organization as a source of postdocs’ dissatisfaction. They propose structural recognition of postdocs and better career counseling as potential solutions (p.37). Similarly, in her article on immigrant identity as a Biology postdoc in Europe, Hernandez-Sanabria (2020) discusses how “lack of recognition and structural support for career advancement impacted [her] overall well-being” (p.2). Through these examples in the literature, one can observe that the unclear career structure of the postdoctoral position can often lead to emotional distress and dissatisfaction for academics.

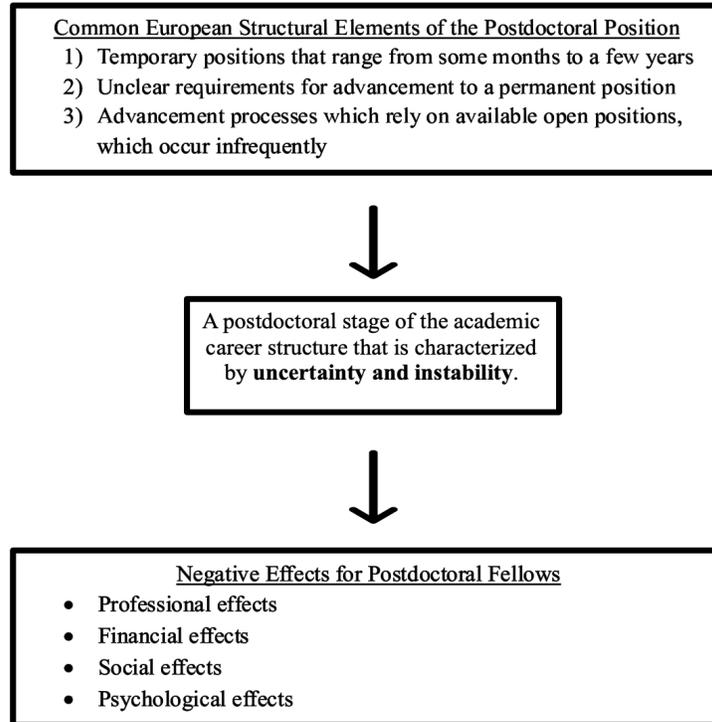


Figure 6 Categorization of the negative academic career structure effects, based on the literature reviewed.

Gender and the Postdoctoral Career Stage

Additionally, the existing literature suggests that the negative effects of the postdoctoral phase within European academic career structures are exacerbated for female academics. Specifically, increasingly neoliberal policies in European higher education systems add to the uncertainty of advancement within their academic career structures, and this uncertainty often unfairly impacts women (Carvahlo and Santiago, 2010; Ollilainen, 2018; Teelken and van der Weijden, 2017; Vohlídalová, 2021, Ysseldyk et al., 2019). As explained by Vohlídalová (2021), neoliberalism in academia leads to an environment “where the stress is on individual rather than collective merits...such as regularly publishing papers in high-ranking peer-reviewed journals, winning numerous grants, and (long-term) academic mobility” (pp.28-29). Within a postdoctoral career structure with no certain method of advancement to a permanent position, this individual competitiveness must be constantly upkept. As a result, women are often forced to choose between their personal lives and their work lives. Although their male colleagues have these challenges, they are to a much lesser degree, because of societal norms surrounding relationships and families (Nielsen, 2017; Ollilainen, 2018; Vohlídalová, 2021, Ysseldyk et al., 2019). This

results in academic career structures where women often must change their behavior to fit into a masculine normative work structure, or face career setbacks (Le Feuvre, 2009; Nielsen, 2017; Ollilainen, 2018; Vohlídalová, 2021). This literature reveals that women are often forced to change themselves to fit into academic career structures, instead of the structures changing to include and support women.

One example of how academic career structures in Europe lead to unequal opportunities for female academics is the way in which women with children are often penalized. Specifically, due to neoliberal expectations for constant output via publishing, women who take time off when they have children are often at a disadvantage for promotions in comparison to their male counterparts (Loison et al., 2017; Nielsen, 2017; Ollilainen, 2018; Vohlídalová, 2021, Ysseldyk et al., 2019). This is exemplified in Vohlídalová's (2021) longitudinal study on Czech female academics' early career paths. Comparing promising female academics' careers over time, Vohlídalová finds that the only researchers who had made "significant career advancement" were women who did not engage in childcare, because they were single or had a stay-at-home husband (pp.32-33). In his study on the 'opt-out' phenomenon among Danish postdoctoral researchers, Mathias Wullum Nielsen finds a similar phenomenon. He reveals that having a baby temporarily lowered the performance of female academics, putting them behind male colleagues with children in terms of output, and hurting their competitiveness (p.147). Ollilainen's (2018) study on family planning choices of Finnish and US female academics also reveals this trend. She finds that although the Finnish have one of the best parental leave systems in the world, female academics find that taking maternity leave hurts their chances for advancement due to "intensified expectations of productivity, funding scarcity and limited career advancement opportunities" (p.418). These studies reveal that current early academic career structures in Europe have a disproportionately negative impact on women who choose to have children, because neoliberal structures for advancement require constant output from academics during the time period when women traditionally have children (eurostat, 2021). As men do not give birth and often take less parental leave, they do not face this same setback (Loison et al, 2017, p.238).

Another way in which the postdoctoral career structures in Europe lead to unequal advancement opportunities between men and women is through the mobility expectations (Ackers, 2004; Loison et al, 2017; Nielsen, 2017; Schaer et al., 2017; Vohlídalová, 2021). The postdoctoral position has often an onerous mobility expectation that is the result of its temporary

nature and uncertain advancement opportunities, coupled with the widely supported idea that “progression in science careers demands acceptance of repeated mobility” (Ackers, 2004). The literature on gender and academic mobility reveals that this expectation can often be more detrimental to women’s scientific careers than their male colleagues with similar personal lives. To begin with, in her article on how women manage relationships in peripatetic academic careers, Louise Ackers (2018) finds that although young and single female academics are as mobile as men, their mobility significantly declines when in relationships (p.195). Further, in dual science careers, she finds that couples often prioritize the male scientists’ mobility demands, which “had consequences in terms of temporary or longer-term career progression” for the woman as a following partner (p.197). In their article on the effects of mobility on gender inequality for early-career academics, Schaer and her colleagues (2017) find that although academic mobility can result in a variety of gender dynamics, it is more common for women to move for men’s careers than vice versa (pp.1302-1303). These dynamics found in the literature reveal that postdoctoral career structures that expect an undefined amount of mobility are more detrimental to female than male academics, as they are less likely to have personal lives which support this mobility.

Ultimately, these disadvantages that female academics face can accumulate, which makes it all the more difficult for them to advance to a permanent academic position (Nielsen, 2017). Specifically, in his 2017 study, Mathias Wullum Nielsen examines female postdoctoral ‘opt-out’ at Aarhus University based on a theoretical framework that merges Joan Acker’s *theory on gendered organizations* and Amartya Sen and Martha Nussbaum’s *capabilities theory* to argue that female academics ‘opt-out’ because the gendered nature of the academic organization causes them to “adjust their personal ambitions, preferences and career aspirations along the way through acts of adaptive decision-making” (p.151). He finds that female postdocs at Aarhus University experienced “marginal kicks or drawbacks producing constrained career choices” which fed into one another to create loops “where disadvantages in one context hamper women’s chances of succeeding in another, and vice versa” (p.149). Nielsen finds three feedback loops which contain different themes that can cause disadvantages for female academics: “mobilizing masculinities,” “work-life tensions,” and “symbolic boundary drawing” (see figure 7). The mobilizing masculinities feedback loops regards themes related to heteronormative workplace cultures. The symbolic boundary drawing feedback loops regards themes related to harmful

perceptions of women in the workplace. Finally, the feedback loop of ‘work-life tensions,’ which is most relevant for this research, regards themes related to the tension between academic careers and women’s lives. Specifically, Nielsen divides “work-life tensions” into four minor themes: “limitless time demands,” “blurry performance thresholds,” “research mobility demands,” and “job insecurity” (pp.149-150). As these themes are tied to how early academic careers are structured, Nielsen’s research indicates how these structures not only disadvantage women, but can result in loops of disadvantages that derail their careers.

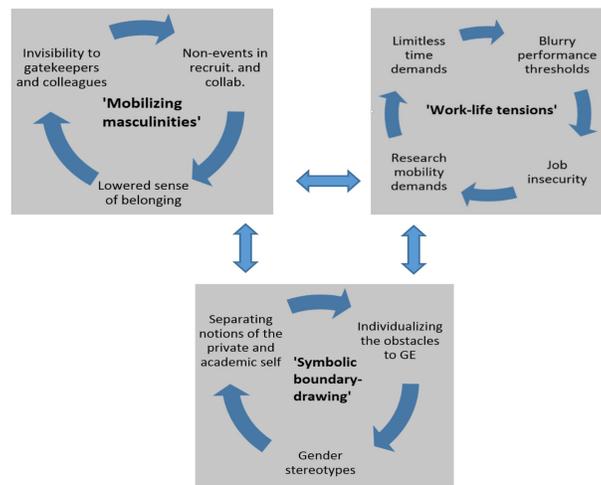


Figure 7 "Self-reinforcing feedback loops informing younger female academics' career choices" (Source: Nielsen, 2017, p.150, figure 3; Copyright 2016 by John Wiley & Sons Ltd., reprinted with permission)

As a result of these disadvantages, women who make choices that align with the heteronormative expectations of academia are more likely to succeed. For example, in their 2017 study on gender inequalities in the Norwegian and French ecology fields, Loison and her colleagues found that in both countries “men with children were promoted earlier, while women with children were promoted later than their counterparts without children” (p.245). This reveals that while male academics’ are able to pursue a family life without career setbacks, women who do the same are professionally punished. These findings are in line with Vohlídalová’s (2021) findings that the female Czech academics who either were single or had a stay-at-home husband advanced the most over her longitudinal study (pp.32-33). Further, it is supported by Ysseldyk and her colleagues’ (2019) study on the postdoctoral women’s mental health and the leaky pipeline, which finds that “one of the biggest challenges for a female postdoc is choosing between having children (and when) and progressing in their career” (p.7). These examples from the literature show that women who remain in academia often sacrifice their personal lives in

order to conform to male workplace norms and advance in the career structure. This expectation leads to a feminisation model of the workplace which is in line with what Le Feuvre (2009) labels the “virilitude” perspective, where “the condition for entry to the occupation is to reproduce the existing (masculine) norms, despite the fact that these are usually discriminatory for the majority of women . . . and even some men” (pp. 12-13). As Le Feuvre argues, not all systems have the same form of feminisation and not all forms of feminisation produce equal results, so it is important to question which processes are best to promote (p.20).

These examples from the literature reveal that while the postdoctoral career structure can have a negative effect on postdoctoral fellows in general, female postdoctoral fellows face additional setbacks, as societal and organizational gender norms can make the career structure especially challenging for women. As a result, this existing literature supports Nielsen’s (2017) theory that women opt out of academia because the gendered nature of the organization causes them to adjust their career choices. This is exemplified through how women with relationships and families can have more challenges in meeting productivity and mobility qualifications than their male colleagues with relationships and families, because normative expectations of the role of an academic doesn’t fit with normative expectations of women’s roles outside the workplace. Additionally, as exemplified in Nielsen’s (2017) study, these challenges can build up to create feedback loops of disadvantages for women. Further, while some female academics may adjust their career choices and opt out, other literature reveals that others may adjust their personal lifestyle in order to fit into the career system, such as by avoiding having children. It can be argued that because these challenges are the result of how academic career structures interact with heteronormative gender norms outside of the workplace, societal gender norms are the greater issue. Is it the responsibility of academia to change to accommodate women, or do the solutions to this problem need to come from society? This is an important question to ask. However, as society continues to follow heteronormative gender dynamics, it is still important to consider this dimension in regards to gender equality in academia.

The Disciplinary Dimension

Based on the different trends among disciplinary groups in this study (see figures 3-5), it is also important to explore how potential disciplinary differences in the Norwegian early

academic career structure shapes female academics' perceptions of early academic careers, and their subsequent career choices. Further, it is relevant to consider how the alternate career paths available to academics in different disciplines inform these choices. Examining existing literature on both the Norwegian system and international systems, it is apparent that there is a gap in the literature on disciplinary differences within academic career structures. The limited studies that are available reveal a number of differences between the different career paths of the various disciplines, and support this study's inclusion of disciplinary comparison. Further, they encourage additional studies on the non-academic career paths of early career academics in the different disciplinary groups in Norway.

Using the definition of academic career structures in this study, it is relevant to explore the structural differences between disciplines in terms of organization of positions, advancement requirements and advancement processes. For example, in terms of organization of positions, it is relevant to understand the prevalence and use of postdoctoral positions in the different disciplines. Further, the various disciplines can have different degrees of clarity when it applies to advancement requirements. Additionally, in terms of advancement processes, it is important to understand the differences in availability of open, permanent positions between the disciplines. All of these elements can play a role in how early career academics perceive the career structure, and the choices they make in regards to their own careers. With this said, a search for literature that discusses these potential areas of disciplinary variation, both in Norway and internationally, reveals a lack of comparative disciplinary literature.

The closest available data comes from the Nordisk institutt for studier av innovasjon, forskning og utdanning's report on postdoctoral positions in Norway (Gunnes et al., 2020), which reveals some relevant statistics on postdoctoral positions. Specifically, the report reveals the distribution and number of postdoctoral positions between the humanities, the social sciences, math and natural sciences, technology, and health sciences between 1991 and 2019. This data shows that the use of postdoctoral positions has risen in all of the disciplines, that the largest increase in overall percentage of positions since 2001 has been in the social sciences, and that the largest increase in total numbers has been in the health sciences. The humanities employ the smallest number of the postdoctoral positions in Norway, while the health sciences employ the greatest number (pp.26-27). These numbers provide some overview of differences in the organization of academic career structures between the disciplines, via the use and distribution of

postdoctoral positions. With this said, it would be interesting to also see statistics on the prevalence of individuals who engage in multiple postdocs in the different disciplines, in order to get an understanding of different disciplinary career organizations. While the report does reveal that 5.2% of all postdocs from 2014 and 2015 began a new postdoctoral position in Norway within a year of finishing their earlier postdocs (p.33), with health sciences being the most likely to have a new postdoc in Norway four years after completion (p.35), it does not show the number of academics who pursue a non-Norwegian postdoc after completion. As a result, there is not a clear picture of which disciplines are more likely to engage in multiple postdocs before an associate professorship.

Additionally, it is important to look into the different career paths that are common for early career academics in the various disciplines. Some literature has been written on this topic, which can shed light on potential differences in the retainment of female academics between disciplines. For example, a study on the Austrian Careers of Doctorate Holders survey found that, for Austrian doctorate holders between 1990 and 2006, medical sciences (33%), agricultural sciences (33%) and the humanities (30%) had the highest share of graduates in the higher education sector. In comparison, social sciences (19%) and engineering and technology (22%) held the lowest share of graduates working in higher education (Schwabe, 2011, p.156). Further, a study on the career paths of Canadian doctoral graduates found that 3-4 years after graduating, doctoral holders in “traditional academic programs, such as the fine arts, humanities, and sciences” were “among the most likely to pursue their doctoral degrees to become professors, but among the least likely to be employed as full-time professors and most likely to find themselves in temporary teaching and/or research-related positions” (Walters et al., 2021, p.985). In addition, a study on the career perspectives of European doctoral holders found that “while universities remain the main destination for doctorate holders in the social sciences and humanities, engineers are also very present in industry, and social scientists in the government sector” (Hnatkova et al., 2022, p.4). Based on these studies, it appears that those with doctorates in the humanities are more likely to stay in the university sector than other disciplines, while those from engineering are less likely.

In addition to these studies, some of the findings from the Nordisk institutt for studier av innovasjon, forskning og utdanning’s report on postdoctoral positions in Norway provide insights into disciplinary differences in Norwegian academic career paths (Gunnes et al., 2020).

To begin with, the report finds that four years after the postdocs' positions were over, academics from the technology and natural sciences disciplines were the least likely to have attained permanent positions as professors and associate professors, with .2% of the 412 natural science postdocs and .6% of the 171 technology postdocs achieving a professorship, and 8% of the natural science and 13.5% of technology postdocs achieving an associate professorship (p.35). In comparison, the humanities and social sciences were the most likely to achieve these permanent academic positions four years after the postdoc, with 9.1% of 77 humanities postdocs and 12.2% of 188 social science postdocs achieving a professorship, and 32.5% of humanities and 35.6% of social science postdocs achieving an associate professorship. This data aligns with the reports other finding that 76% of humanities and 76.2% of social science postdocs surveyed chose a postdoc with the intent of building an academic career, while only 62.3% of natural science postdocs and 59.2% of technology postdocs had the same intention (p.83). This data supports the previously discussed studies' findings around humanities and technology disciplines, although it also contributes to a division between the studies regarding the social sciences retention within the higher education sector.

These disciplinary differences could potentially be explored in terms of Biglan's disciplinary typologies, which break disciplines into either soft or hard based on the consensus of content within a discipline, and either pure or applied based on whether the discipline aims for practical use of the research (Biglan, 1973). Specifically, based on the studies discussed so far, it appears that pure disciplines, such as the humanities, may be more likely to remain in academia as opposed to applied, such as technology. This is further supported by a quantitative US study on faculty intent to stay versus leave a university, which found that hard-applied disciplines were significantly more likely to consider leaving academia, which could potentially be explained by the prevalence of outside opportunities (Ryan et al., 2012, p.431). However, the social science trends observed could challenge this idea, as it appears that social sciences had the smallest percentage of graduates working in higher education in the Canadian study (Schwabe, 2011, p.156), while being more likely to remain in the higher education sector in other studies, including the norwegian study on postdocs (Gunnes et al., 2020).

Considering the existing literature explored in this section, in addition to the noted gaps in the literature, this study will also examine the role of disciplines in regards to female academics' perceptions of the Norwegian early academic career structure and how these

perceptions inform their career decisions. Specifically, this study will consider potential structural differences between careers in the different disciplines, as well as differences in alternative non-academic career paths. Based on the literature reviewed here, this study will focus on pure disciplines, as the literature indicates that applied disciplines, such as technology, may be more likely to leave the higher education sector in search of other career paths. However, the study does expect to find differences within the pure academic disciplines, with humanities scholars potentially being more likely to stay in the higher education sector, and natural science scholars being potentially more likely to leave the higher education sector.

Theoretical and Analytical Frameworks

This study uses the theoretical framework from Mathias Wullum Nielsen's (2017) study on female academic retention in Denmark, which theorizes that the gendered nature of organizations constrains women's capabilities, which can cause them to adapt their career preferences and 'opt-out' (p.138). This theoretical framework provides a frame within which to view the academic organization, in addition to a theory on how the academic organization shapes women's career choices. Further, this study uses Nielsen's related concept of "self-reinforcing feedback loops informing younger female academics' career choices" as an analytical framework through which to understand some of the disadvantages within this gendered organizational structure (p. 150). Utilizing both Nielsen's theoretical framework and his concept of 'self-reinforcing feedback loops' as an analytical framework, this study hopes to understand how the early academic career structure in Norway informs female academics' career choices.

Theoretical Framework

As aforementioned, this thesis uses Mathias Wullum Nielsen's (2017) theoretical framework which combines Joan Acker's *theory on gendered organizations* (1990) with Amartya Sen and Martha Nussbaum's *capabilities theory* (Nussbaum, 2000) to theorize that the gendered nature of organizations can constrain women's capabilities and cause them to adjust their career choices. Applied in the context of the Norwegian early academic career structure,

this study uses this theoretical framework to understand the role of gender in female academics' perceptions of the early academic career structure and how gender shapes their choices within it.

Acker's theory on gendered organizations argues that organizations are socially constructed in a way which is gendered to benefit men. As stated in the concepts section, the use of 'gendered' in terms of an organization means that organizational processes are intertwined with hierarchical gender divisions, despite organizations portraying them as gender-neutral. For example, Acker points out that the ideal worker, though portrayed as genderless, has traits which are socially constructed as 'masculine,' such as having a domestic life which allows one to prioritize their career (p.149). Further, processes such as setting pay scales are organized around gendered assumptions of value, placing skills that are socially constructed as 'feminine' as less valuable and skills that are socially constructed as 'masculine' as more valuable (pp.147-149). Through these organizational processes, Acker argues that gender divisions are both constructed and reinforced within an organization. In order for an organization to move away from being gendered, it must begin to consider women within its processes and move away from the false narrative of neutrality on which it has been constructed (p.154).

Sen and Nussbaum's capabilities theory argues that when examining social equality, "instead of asking about people's satisfactions, or how much in the way of resources they are able to command, we ask, instead, about what they are actually able to do or to be" (Nussbaum, 2000, p.12). So, social equality must be measured by the capabilities of those operating within a system. Further, Nussbaum elaborates on this theory through the concept of adaptive preferences, which argues that individuals adapt their preferences based on socially constrained capabilities (p.8). Merging capabilities theory with the theory on gendered organizations, Nielsen theorizes that women's capabilities are constrained by the gendered nature of the academic organization, which can cause them to adapt their preferences and 'opt-out' of academic careers (2017, pp.136-138).

As Nielsen's study also sought to understand female academic retention, the theoretical framework that he has developed provides a conveniently fitting frame of reference for this study. This theoretical framework guides this research project and helps answer the research questions by providing a lens through which to view the academic organization and women's choices within it. Specifically, as this study is interested in the early academic career structure in Norway, the theory of gendered organizations positions this structural understanding, because

the career structure is embedded in the greater organization. Further, as this study is interested in how this structure informs women's career choices, capabilities theory and the concept of adaptive preferences could help illuminate this phenomenon. Consequently, Nielsen's blended approach to these two theoretical frameworks is well suited to this study.

Analytical Framework

In addition, as an analytical framework for examining potential gendered constraints within the Norwegian early academic career structure, this study will use a concept that Nielsen developed in his 2017 study to explain the disadvantages women faced in their early career in Denmark. In his study, Nielsen develops the concept "self-reinforcing feedback loops informing younger female academics' career choices," and explains that these loops of disadvantages build upon themselves and each other (pp.26-27). Specifically, individual disadvantages form a loop where "where disadvantages in one context hamper women's chances of succeeding in another, and vice versa" (p.149). As discussed in the literature review, Nielsen's study finds three distinct feedback loops of gendered disadvantages (see figure 7); however, this study will only use his feedback loop labeled as "work-life tensions," because this feedback loop is most relevant for examining disadvantages related to the career structure itself. Specifically, this feedback loop contains the disadvantages of job insecurity, blurry performance thresholds, limitless time demands and research mobility demands. Using this feedback loop as an analytical framework, this study hopes to understand how these potential gendered disadvantages are perceived by female academics in their early careers in Norway. Further, this study hopes to understand how any perceived gendered disadvantages inform participants' perceptions of the early academic career structure in Norway.

Research Methodology

Epistemology

This research project is guided by feminist standpoint epistemology. Inspired by marxist standpoint theory, feminist standpoint theory posits that women are able to access a unique

epistemic viewpoint regarding social issues of gender, as subjugated groups are able to understand social situations beyond the limited capacity of a dominant group (Anderson, 2020). Early proponents of feminist standpoint theory, such as Nancy Hartsock (1983), argue that based on their unique social location, women have a privileged knowledge of social gender dynamics, as they are positioned to understand both the hegemonic androcentric worldview in addition to their own non-dominant worldview. Thus, gaining knowledge of women's unique perspectives contributes to the "ongoing political and epistemic project of achieving a standpoint," which "is an achieved collective identity or consciousness" (Bowell, n.d.). This theory is built upon by other prominent advocates, such as Patricia Hill Collins (1989), who argues that black women have the ability to access a black feminist standpoint which is better positioned to understand both racial and gender dynamics in a society. Feminist standpoint theory challenges positivist views of knowledge, and instead "[asserts] that recognition of women's subjectivity is essential for producing less distorted knowledge" (O'Shaughnessy and Krogman, 2012, p.498). Considering this epistemic basis, this project seeks to understand early-career female academics' subjective knowledge in order to get a clearer picture of the gendered nature of the academic organization. Through their unique social location as both women and non-permanent academic staff, participants in this study are able to provide knowledge of the system from a non-hegemonic perspective, which can be used to find areas of Norwegian university organization where gender equality can improve.

However, it is important to consider the epistemological criticisms of feminist standpoint theory, in order to strengthen the epistemological basis of the study. Specifically, an important criticism of feminist standpoint theory derives from the feminist postmodern movement, which challenges that standpoint theory engages in "essentialism and universalism" (Hirschmann, 1998, p.74). Feminist postmodernism views all knowledge as socially constructed, discursively enforced and intrinsically biased. They argue that it is important to understand and challenge social constructions in order to understand the power relations in society. As a result, postmodernists believe that standpoint theory is problematic because it essentializes women by assuming that they "have a shared perspective or a unique capacity (different from men's)" (McHugh, 2020, p.208). According to feminist postmodernists, this assumption reinforces traditional gender binaries by assuming that there exists a collective female voice. Further, they argue that standpoint theory universalizes women by assuming this collective voice and ignoring

the many differences between women (Hirschmann, 1997, p.74). As a result, they argue against the existence of women-specific knowledge, and the idea that this knowledge could be universal if it existed.

Recognizing the validity of feminist poststructuralist criticisms of feminist standpoint theory, this study attempts to alleviate these criticisms by employing Nancy Hirschmann's interpretation of feminist standpoint epistemology. In her 1998 article "Feminist Standpoint as Postmodern Strategy," Hirschmann argues that while feminist standpoint theory and feminist postmodernism are seemingly at odds due to their contrary beliefs regarding whether there exists a material reality or whether all is discursively constructed, these contrasting beliefs can be synchronized through her concept of "the materialist moment" (pp.81-86). This concept postulates that there are pre-discursive moments where women understand that the dominant social narrative does not reflect the material reality of women. These moments can be experienced both individually or collectively and they can take place instantaneously or over a period of time. As a result of these moments, women have the ability to construct new discourses that are more nuanced than the dominant androcentric ones. While recognizing the existence of a pre-discursive material reality, Hirschmann agrees with postmodernists that all knowledge is socially constructed once entered into discourse, including knowledge on gender. With this said, she argues that feminist standpoint epistemology contributes a more comprehensive understanding of social gender dynamics when multiple female standpoints are considered and when it is communicated that female standpoints are a socially constructed discourse based on these 'materialist moments.' Through this interpretation of feminist standpoint epistemology, women are not essentialized into having a singular standpoint on gender issues, because it is recognized that female standpoints are multiple and only provide a fractured glimpse of an ever-changing reality. At the same time, the underlying material reality of women's experiences are still acknowledged, which is necessary to "understand degrees of power and privilege" (p.86).

Research Approach

This study employs a qualitative approach because it looks into "the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2009, p.22). Specifically, it aims to understand the problem of early-career female academic retention in Norway through

understanding how early-career female academics perceive the early academic career structure. This perception-based, qualitative approach to the research problem is employed because this study is interested in the complex thought processes that inform early-career female academics' career paths. Further, this study is qualitative because it attempts to understand these perceptions through collecting deeper data as opposed to broader data (Patton, 2002, p.227). Through a deep analysis of a limited number of participants, this study hopes to gain complex and detailed insights into female academics' perceptions of the career structure.

Further, this study employs a qualitative research approach in keeping with its epistemological foundation and feminist research tradition. In feminist research tradition, qualitative methods are often preferred because they “seemingly provide a means for shedding the exploitative, reductionist, and androcentric tendencies in positivist social science research by allowing women’s voices to be expressed and privileged in the analysis” (O’Shaughnessy and Krogman, 2011, p.495). In addition, as many feminist researchers argue for the necessity of intersectionality and nuance in gender research, qualitative approaches are best-suited (McHugh, 2020, p.204). With these considerations in mind, this study will employ a qualitative approach, so that participant’s perspectives are analyzed in an intersectional, nuanced and thoughtful manner. This qualitative approach is also in keeping with the standpoint epistemology that guides this research, because qualitative research and feminist standpoint epistemology are complementary. According the O’Shaughnessy and Krogman (2011), “feminist standpoint epistemologies are frequently invoked in qualitative research as a justification for giving voice to women’s experiences, which are specific to a particular historical and material context, and placing them at the center of the research” (p.498). Consequently, as women’s perceptions are at the center of this research, a qualitative approach is most fitting.

Research Design

This study employs a case study research design, because it “entails the detailed and intensive analysis of a single case” (Bryman, 2012, p.66). Specifically, this study examines the case of the University of Oslo, in order to understand early career female academics' perceptions of the academic career structure in Norway, and subsequently how these perceptions influence early-career female academics' career choices. The University of Oslo itself is an important

dimension of the study, as opposed to just a convenient setting, because this study is interested in how the Norwegian academic career structure is perceived by the participants. Thus, the university is important to the case, because it is a location of the career structure. The importance of the university in relation to the study strengthens the understanding of it as a case study, because case studies require that “the ‘case’ is the focus of interest in its own right” (Bryman, 2012, p.68). With this said, in order to get a thorough understanding of the case, the study focuses on three disciplinary groups within the university: the faculty of humanities, the faculty of mathematics and natural sciences, and the faculty of social sciences.

Moreover, this study is what Alan Bryman (2012) labels an exemplifying case study. Based on Yin’s (2009) typology of case studies, in which this type is called a representative or typical case study, Bryman writes that an exemplifying case study is one which “either [epitomizes] a broader category of cases or [provides] a suitable context for certain research questions to be answered” (p.70). Bryman redefines the label as exemplifying “because notions of representativeness and typicality can sometimes lead to confusion.” Considering this definition, this study falls under this design type because it examines the University of Oslo as an example of the Norwegian university system. While there may be some variation between the Norwegian universities, as all of them are publicly managed universities with similar career organization structures, it is logical to assume that female academics’ perceptions of the early academic career structure are similar amongst the universities. Further, as academics in temporary positions, it is not unlikely that some of the participants will have experience with other Norwegian universities in terms of past career or future career planning, which influences their perceptions. With these considerations in mind, this study engages in a close examination of the University of Oslo, with the idea that one would have similar findings with cases from the other Norwegian universities.

Data Collection and Analysis

The data collection strategy for this study was semi-structured interviews with female doctoral candidates and postdoctoral fellows at the University of Oslo, whose recruitment is detailed in the following section. The interviews were semi-structured, because this form guides the interview along the topic of the early academic career structure, while allowing the

participants' space to elaborate on their individual thoughts and experiences. This space to elaborate was necessary in order to gain a deep understanding of participants' perceptions. Further, this data collection strategy complemented the epistemological foundation of this study, as the participants had the room to elaborate and discuss their individual standpoints through the semi-structured form, which encouraged participants to expand on their meanings. The interviews were approximately one hour in length, and conducted with one participant at a time in a private setting. While the majority of interviews were in-person, zoom was utilized in one case where the participant was unable to meet in person. The unit of analysis for this study was the perceptions of these academics regarding the academic career structure. The study analyzed these perceptions in order to uncover if any trends exist among the participants' perceptions of early academic career structures in Norway, and how these perceptions informed participants' career plans.

The study utilized one interview guide for doctoral fellows and another for postdoctoral fellows (see appendix). While containing mostly similar questions, the postdoctoral fellow interview guide included some additional questions in order to determine how their additional professional experience may lead to differences in perception. For example, they are asked "what advice would you give to female phd candidates who are hoping to pursue a postdoctoral position?" Outside of these additional questions in the postdoctoral interview guide, both interview guides were built to determine how candidates perceive the early academic career structure in Norway, and how these perceptions shape their career choices. With this said, the guides included questions on the career structure itself, in addition to questions inspired by Nielsen's (2017) concept of "self-reinforcing feedback loops informing younger female academics' career choices" (p.150). In particular, the guides utilized Nielsen's "work-life tensions" feedback loop, which is composed of four gendered challenges that Nielsen determined female academics can face: 'limitless time demands,' 'blurry performance thresholds,' 'research mobility demands,' and 'job insecurity.' As these challenges were recognized both in Nielsen's research and in other articles from the literature review, the interview guides aimed to determine how early-career female academics in Norway perceive these gendered challenges, and how these perceptions inform their career decision. Finally, the guides included some questions related to perceptions of disciplinary differences, in order to understand how disciplinary differences play a role in the participants' perceptions. The interview guide was tested for quality

by conducting a test interview with my thesis advisor, Hannah Mülder, who is a doctoral research fellow at the University of Oslo Department of Education. After the test interview, the guides were revised for better clarity and purpose.

After anonymization and transcription, the interviews were subsequently analyzed through thematic data analysis. Thematic data analysis was utilized for this study because it “can be used to identify patterns within and across data in relation to participants’ lived experience, views and perspectives, and behavior and practices” (Clark and Braun, 2017, p.297). Considering this focus on identifying themes among perspectives, thematic analysis was useful for this study, because the study hoped to identify themes in the female academics’ perceptions. Additionally this study used a deductive approach to thematic analysis, meaning that it was driven by theory (Clark and Braun, 2017, p.298). Specifically, this study used a form of thematic data analysis called template analysis, in which one develops “a coding template, usually on the basis of a subset of data, which is then applied to further data, revised and refined” (Brooks, McCluskey, Turley and King, 2015, p.203). This study engaged in template analysis that uses a priori themes, because it based the initial coding template on the analytical framework of a self-reinforcing feedback loop of work-life tensions developed by Nielsen (2017) in order to code for potential gendered disadvantages faced by the participants. Then, the coding template was revised to better reflect the themes found within the interviews.

Specifically, the study started with a coding template that included a cluster of codes related to the perceptions of the potential gendered disadvantages within the analytical framework (*positive time/work, negative time/work, positive mobility, negative mobility, positive performance expectations, negative performance expectations, positive security, negative security, positive new point, negative new point*), a cluster of codes related to how perceptions of these concepts inform career decisions (*pro academic route and anti academic route, with subcategories time, mobility, performance expectations, security and new point*), and finally a cluster of codes related to how additional characteristics inform their perceptions (*gender and discipline*). After applying these codes to a couple of interviews and discussing with my advisor, the codes and clusters were revised to better represent the data. *Finance* was added as a new point in the cluster of potential structural gendered disadvantages. Additional categories were added to the code cluster related to how additional characteristics inform participant perceptions (*gender, discipline, international comparison, and family*). Finally, a new cluster was developed

which was specifically devoted to perceptions of the elements of the career structure as defined in this study (*career progression, qualifications and advancement opportunities*). The detailed code template and cluster charts are available in appendices B and C.

Participant Selection and Sampling Strategy

Individuals in this study were purposely sampled using criterion sampling (Patton, 2002, 243). These criteria were that they were female doctoral candidates and female postdoctoral fellows from one of three disciplinary groups at the University of Oslo: the faculty of humanities, the faculty of mathematics and natural sciences, and the faculty of social sciences. There were two doctoral candidates and two postdoctoral fellows from each discipline, totaling twelve participants. These participants were selected from department guides for relevant disciplines and recruited over email (see appendix for recruitment email, participant information letter, and consent form). This study interviewed doctoral candidates because they are the group which feeds into the postdoctoral positions. As a result, they are one of the groups which needs to continue in academia in order to have growth in the share of female postdoctoral fellows. Further, this study interviewed postdoctoral fellows because they also must be retained in order to achieve growth in the share of female postdoctoral fellows. In addition, this study interviewed academics with varying career plans. This sampling decision was based on two reasons. First, many doctoral fellows are undecided in their career path, so it was difficult to sample only participants who have made a decision. Second, it was expected that all female academics' perceptions would be useful regardless of future career intent, because it is important to understand how the career structure informs the perceptions of both those who continue in academia and those who decide on a different career.

These participants were selected from the humanities, social sciences and natural sciences because they are pure disciplinary groups instead of applied ones (Biglan, 1973). This focus on the pure disciplines was inspired by the literature review's findings that pure disciplines may be more motivated to remain in academia, although the literature on this topic was somewhat inconclusive. Additionally, this study focused on these disciplinary groups because of an interesting comparative feature. Specifically, based on the NIFU FoU statistikkbanken data for the year 2020 (retrieved September 2022), the retention trends of these three disciplinary groups

differed between the doctoral and postdoctoral levels (see figures 3-5). The social sciences displayed a trend which is quite similar to the overarching trend, where there was a significant decrease in the share of female academics between the doctoral and postdoctoral levels (65.7% versus 51.8%). Like the general trend, this decrease in participation resulted in an almost equal share of women and men at the postdoctoral level. In contrast, the humanities broke from the general trend, as one can observe a slight increase in the share of women (60.6% versus 63.2%). Lastly, the natural sciences had a more negative trend, with already low female doctoral numbers leading to an even lower share of female postdoctoral fellows (44.7% versus 37.9%). Considering these differences, this study was interested in potential disciplinary differences within early-career female academic retention.

Quality

Based on the epistemological underpinnings of this study, which challenge the positivist value of scientific objectivity of knowledge, this study utilizes quality criteria which are more complementary to the perception-based research in this study. As a result, this study employs Sarah J. Tracy's eight qualitative research quality criteria (2010), guided by the ideals of this study's feminist epistemological foundation. These quality criteria are as follows: *worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence*. Tracy's quality criteria have been selected for this study, because they provide flexible quality guidelines for varied qualitative research, with the idea that "each criterion of quality can be approached via a variety of paths and crafts, the combination of which depends on the specific researcher, context, theoretical affiliation, and project" (p.837). This flexibility allows for a quality framework that guides best practices while also supporting the values of the study's epistemological underpinnings, which understand knowledge as contextual and complex.

Further, this quality framework allows for the influence of feminist research values, which are important to this study. Specifically, the quality of this research is in part guided by Joan Acker, Kate Barry and Joke Esseveld's (1983) three principles of feminist research: "research should contribute to women's liberation through producing knowledge that can be used by women themselves; should use methods of gaining knowledge that are not oppressive; should continually develop a feminist critical perspective that questions dominant intellectual traditions

and can reflect on its own development” (p.423). This study applies Tracy’s eight quality criteria through the lens of these feminist values with the goal of producing research that is both high quality and feminist. While some scholars may argue that this blending of quality and values is incongruous, most likely based on a positivist notion that objective research is the best quality, this research is undertaken with the epistemological understanding that all research is biased and value-laden, so the best quality research is truthful about the values behind it. Through proper implementation of quality guidelines which ensure that values don’t influence data, research quality is actually able to benefit from the clear communication of values, as readers are able to decide on the quality of the research with more informed clarity.

Considering this approach to Tracy’s quality criteria, this study seeks to meet the eight points in a way that aligns with its feminist epistemological foundation. For example, this study is a *worthy topic* because it “questions taken-for-granted assumptions” by examining the academic career structure in Norway in terms of gender (Tracy, 2010, p.841). Further, this study has *rich rigor* through its collection of 267 pages of intersectional and in-depth interviews, which are analyzed through a comprehensive and organized coding procedure. This study meets the criteria of *sincerity* based on the honest and detailed communication of thought-processes and procedures, including the researcher’s own epistemological and ethical foundations. Further, *credibility* is ensured through thick description of the results, which “[provides] enough detail that readers may come to their own conclusion about the scene” (p.843). Additionally, through a participant selection which includes various nationalities and ages, the study enhances credibility through intersectionality and multivocality of participants. This study aims for *resonance* through transferability, where “readers feel as though the story of the research overlaps with their own situation,” and the study can be relevant for similar cases (p.845). In a similar vein, this study aims to create a *significant contribution* as “practically significant research” (p.846), where it has the potential for structural change which contributes to increased gender equality. *Ethics* quality criteria will be elaborated on in the subsequent section. Finally, this study intends to achieve *meaningful coherence* through utilizing epistemologically relevant methods to achieve the stated aims of the study.

As stated by Tracy, “although best practices serve as goals to strive for, researchers can and will fall short, deviate, and improvise,” but “the key is to be truthful with ourselves and our readers” (p.849). This study aims to achieve Tracy’s quality criteria; however, as a first time

master's thesis, it will almost certainly have areas where quality can be improved. Through outlining the quality in this section and consistently considering quality in other sections of the study, hopefully the research quality is strengthened and best practices are achieved. Additionally, through honest and open communication of research methods and thought processes, hopefully readers receive enough information to come to their own conclusions regarding this research and its quality.

Ethical Considerations

For this research, early-career female academics are the topic, units of analysis, audience, and hopeful beneficiaries. As a result, female academics in their early career are the core of this study, inextricably connected at every step of the research. Consequently, when considering the ethics of this study, it was imperative to consider the impact of this research on women at various stages of the process. To begin with, ethics were important in relation to the data collection process, where participants were recruited and interviewed. Further, ethical analysis techniques were implemented. Finally, communication of the findings to the audience attempted to be undertaken with an ethical mindframe. In this section, the ethical considerations at each of these research stages is explored.

In the early stage of the research, there were multiple ethical considerations, as this stage involved the recruitment and interviewing of participants. In regards to the recruitment of participants, ethics was foremost ensured through the registration of the project with the Norwegian Agency for Shared Services in Education and Research (Sikt), and compliance with their rules regarding data collection and storage. Compliance with these rules was ethically important, as participants gave informed consent (see appendix for the information letter and consent form), and were allowed to withdraw consent at any point in the research process. Further, all participant information and data was stored securely, and will be deleted at an agreed upon date. In addition to anonymization of participant data during transcription, this secure data storage protects the identities of participants.

Another important ethical consideration at this stage of the research was how to write the interview guides and conduct the interviews. Specifically, this project intends to understand how early-career female academics perceive the academic career structure in Norway, and thus asked

about structural challenges that were identified in the literature review. As this topic was potentially sensitive for the participants, the interviews were undertaken with care for the participants' emotions. Confrontation with difficult topics can either be empowering or unnerving, and while individuals' reactions are ultimately their own, measures were taken to make the interview experience as empowering as possible. This was done through multiple methods. First, the semi-structured interview guide provided a topic, but ensured that the participants drove their narratives. Second, the interview conduction style encouraged participants to elaborate in their own way, for instance by going off on seemingly tangential topics. In doing this, participants' had the space to speak their stories in their own way. While some feminist scholars claim that unstructured interviews are the most empowering form because they give participants complete control (Acker et al., 1983), semi-structured interviews were chosen here in order to give participants narrational control, while still guiding the topic.

In regards to the analysis of the data, ethics were guided by the epistemological foundation of the study. As this study is conducted with a feminist standpoint epistemology that includes feminist postmodern elements, a key ethical understanding driving the research was the importance of intersectionality. Intersectionality requires that participants are seen not only as women, but as an intersection of different identities that "represent a synergistic reaction in which elements form a unique reaction" (McHugh, 2020, p.204). For the analysis, this meant that it was ethically imperative not to generalize the participants' perceptions as speaking for all women. Instead, it was important to consider how their identities as women intersect with their other identities to produce a multiplicity of female standpoints. Another ethical consideration of the analysis was how to navigate differences in the participant's perceptions and my own analytical conclusions (Acker et al., 1983; Watts, 2006). For example, there were instances in which participants didn't perceive a gender issue, but a pattern amongst participants was interpreted as a gender issue in the analysis. In order to achieve ethical analysis in these cases, these divergences are highlighted and discussed, so that there is no conflation between participant's perceptions and the analysis of them.

Finally, the ethical communication of the study was important. As elaborated in the previous paragraph, this first and foremost meant clear communication of participants' own perceptions, separated from my analysis of them, so that their voices are preeminent. While my own analysis is important for this study, it was crucial to communicate participants' perceptions

in their own right, because their subjective interpretations of their own experience are equally as important for this study as my interpretation of their collective experiences. From the epistemological background of this study, which understands knowledge as fragmented and partial, both their perceptions and my analysis are necessary for understanding the situation more clearly. In order to ethically convey this knowledge, it was necessary to communicate this complex multiplicity of meanings. Although this leads to less succinct conclusions, this multifaceted communication conveys more comprehensive knowledge.

How the Early Academic Career Structure in Norway Informs Female Academics' Career Decisions: Findings and Analysis

Using the definition of academic career structure that is introduced in the concepts section, this study seeks to understand participants' perceptions of the positions held in the early academic career, the requirements for advancement between positions, and the process of advancement from one position to another. Further, to understand how gender plays a role in participants' perceptions, this study examines how they perceive some of the structurally produced gendered disadvantages. For the purpose of this study, the structurally produced disadvantages examined will be those that comprise the work-life balance feedback loop of cumulative disadvantages for female academics that is identified in Mathias Wullum Nielsen's 2017 study. Specifically, these are limitless time demands, blurry performance thresholds, mobility and security. As these elements of early academic careers are all related to the current career structure, this study hopes that they can aid in the understanding of how this structure impacts women. Further, this study examines whether there is a difference in perceptions amongst the humanities, social sciences and natural sciences. Finally, this study examines how the participant's perceptions inform their career decisions around continuing in academia.

Findings: Participant Perceptions of the Norwegian Early Academic Career Structure

Academic Positions

Concerning the participants' perceptions of the positions in the early academic career, this study focused on first understanding how the participants understand the ascension of

positions within the career structure, in addition to how they view their own academic careers progressing. Further, this study examines how they perceive the nature of the postdoctoral position within the career structure. For those who are in postdoctoral positions, this study also seeks to understand how they personally experience the position. Finally, this study explores the participant's knowledge of the new tenure-track postdoctoral positions in Norway, or in Norwegian 'innstegstillinger.'

When asked to describe the ascension of careers within the Norwegian career structure, all but three of the participants qualified that there is not a direct path necessarily. Instead, participants explained that it is relatively difficult to advance to a permanent position, and those looking to move into a permanent job are often forced into roundabout paths. Seven of the participants stated that it was likely to do multiple postdocs, with two pointing out that with the rule that one can have only one postdoctoral position at an institution, researchers are often forced to move for subsequent positions. Similarly, based on the limited number of universities in Norway, three participants pointed out how individuals often have to do a postdoctoral position abroad. Four participants attributed finding a permanent position to luck. On a positive note, three of the international participants perceived the Norwegian academic career path as more direct to a permanent position than elsewhere.

"Yeah, so of course it's very different. Someone is very lucky doing their PhD, maybe directly after the PhD, you get a tenure track position. I think a tenure track is about six years, but halfway you have the possibility to show good work and then get the fixed position as associate professor after three years. If you don't get it after three years, you still have three years to manage it. So that's the fastest way into the fixed position. While others don't...probably only the best ones can do this. At the same time you have to be lucky because the position actually has to be there and it's not always there. So sometimes you have to, of course, take the postdoc, one postdoc, two, three, four postdocs, before you might get the chance to apply for a tenure track or associate professor position." - participant 1

"I think it's possible to transition quite quickly, but for some, for most, it takes longer and you're stuck in this in-between for a long time. Unless you're lucky and it works out, and you've done the right things. I think that a lot of people can end up in this in-between space. I know some who

take more than one postdoc, of course not at the same university, but at different ones to just hang on for long enough that there will be a job opening. And some also leave academia for some time to just be productive researchers elsewhere, and then they come back. So I think there are different ways to go about it.” - participant 11

“That's actually not an option in [natural science discipline]. Or in my field of [natural science discipline]. It could be. Like, if you stay in Norway, I'm not sure if it's an option.[...] Then you have, like, finish your PhD, get a postdoc somewhere, stay there for some years, get another postdoc somewhere else, and then wait until an open position happens in Norway. Or you could... yeah...and that could happen, of course. But it's not something I would have, like, 'this has to happen in my life,' because that would be pretty depressing. But, of course, you could apply for funding yourself, and then be a researcher rather than... But that would, of course, be dependent on continuous funding that you all, like, every fourth year needs new funding to maintain your position. So that's also an option, to kind of do an awesome job and get the funding. Yeah. I think that's the two different options.” - participant 5

“Well, it's relative, right? I mean they don't look particularly bright, but they also don't look worse than other parts of Europe at least, and also better than other parts of Europe. So I'm originally from [Northern European country] and there my subject area is not something that is...there aren't particularly many jobs. In the Norwegian system I get the impression that now that is coming a little bit. So there might be the opportunity that jobs come up in the future, which is great. Especially because there might be the possibility to get a permanent position before turning 40, which is already better than many other European countries.” - participant 7

As far as perceptions of the early academic positions in Norway, when asked what words come to mind when they think of the postdoctoral position, there were mixed responses. Seven of the participants had both positive and negative perceptions, three had only negative perceptions, and two had only positive perceptions. For those with mixed responses, there were more negative than positive descriptions overall. Interestingly, the postdoctoral fellows were more likely to have mixed perceptions, with five out of six responding this way. The last postdoctoral fellow was purely negative. Out of the doctoral research fellows, two had purely

negative perceptions, two had purely positive perceptions, and two were mixed. For positive perceptions, four participants stated freedom as a word to describe the postdoc, one stated pure research, one stated responsibility, and one stated investment. For the negative perceptions, six participants stated uncertainty or insecurity, five stated stress, two stated in-between, one stated lonely, one stated brutal, and one described it as the 'academic slave phase.'

"Uncertainty, stress, anxiety, because you have to be very... you need to be the best. But also freedom and opportunities." - participant 5

"Some of them are not very positive. Limbo. In between. Also precarity. I mean, this is not a self-description, but I think that many postdocs are facing this precarious condition. Learning, although it's more about teaching than learning, I think. And investment. Because it's, I think it's this moment in your career where you feel that you have to invest all the time and resources in a return that may never come, which is frustrating." - participant 12

"Insecurity would be the key one and...how would you express it? Like a lack of support. I mean, there's two ways to do the postdoc, either you get employed in somebody else's project. Which is great, because then you do have support and you're in a team and there's a PI that you can turn to. That's the advantages. The disadvantages of that is that you're kind of under that person's umbrella and it's hard for you to create your own academic personality and you're still, you know insecure and unstable. Or the other one is the route that I took, which was to get your own project. Which has advantages because you're carving out your own reputation and your own field, but then you have no support and you still have all the insecurity and the instability. So, I think it's a really...it's quite a brutal phase. I think it's brutal." - participant 3

"I think about purely research, like finally, especially right after your PhD. You have gotten some training in how to conduct research within your discipline and you have gotten enough background knowledge to also be able to do and drive the research yourself. I think it's a nice platform for you to use the knowledge you have gotten during your research education. That is, the PhD." - participant 1

Further, for the postdoctoral fellows, they were asked how they feel about their decision to pursue a postdoctoral position now that they are in the midst of it. All of the participants stated that it took a toll on them, but there was a varied response to whether the toll was worth it. One said definitely no, one said definitely yes, and the others expressed generalized acceptance and the desire to move forward.

“I guess I'm a little bit different, because I'm coming out the other end. Looking back, my biggest regrets would be the amount of time that I spent. In particular though, I did try to carve out, 'okay, I'm not gonna work at weekends and I'm only gonna work in evenings if there's nothing else happening. I'm not gonna not do things, or not be with my kids, or not read them the bedtime stories. But if that's not happening, then I can work.' Time and stress, just worrying about...because I got these grants and I was PI on the grants...so worrying about the grants - doing them properly. And also, being PI means not having support. So having to make major academic decisions on my own. So do you mind the worry and stress that I took on, you know? Looking back, it wasn't worth it.” - participant 3

“Positive, because it has won me some time to work on high quality publications, which I need to move ahead. So it was a very good choice. It was a 'me' choice, because I moved away from my boyfriend. So that wasn't easy at a time when I would like to have a family. So I felt that I'm betraying one part of my life vision for another one. But yeah, after a very rough start, it feels very, very good.” - participant 12

“I guess it's a sunken cost phenomenon, right? Because now I would say, well, on the one side I would say, 'yeah, I would do it again' if I'm happy about it. But on the other side, on days which I'm just more tired, I'm thinking, 'was it really worth it?' As I said, the costs are quite high. So in that sense, you can't be fully objective anymore, because you actually invested so much into it that it would be irrational to start questioning it.” - participant 7

Additionally, when asked what advice they would tell a doctoral research fellow looking to pursue a postdoctoral fellowship, the postdoctoral fellows gave a mix of tactical and personal advice. In regards to tactical advice, four of the participants gave advice on how to be more

strategic. This advice included being careful about mentorship and teams, picking a mainstream topic or a topic more likely to get funding, and to be selective about the university. As personal advice, two of the participants stated that individuals should really consider if it is the right decision, because it is not for everyone. Further, two participants stated that individuals need to learn to take care of themselves in regards to mental wellbeing. Finally, one participant argued that they shouldn't worry about the gender component, as it "sucks to be a postdoc, but I don't think it sucks that much more to be a female postdoc."

Finally, in regard to participants' perceptions of early academic career ascension in Norway, the participants were asked if they are aware of the tenure track postdoctoral positions, or 'innstegsstillinger.' Only three of the participants were aware of these positions, with two of them knowing a person who had one. Four participants expressed a positive view of the tenure-track idea as a means to be more secure. However, two of the participants stated that tenure-track positions come with their own troubles, with one pointing out that they are still not entirely secure, and one pointing out that they don't necessarily lead to the best hiring practices anyways.

"Well, actually, we just touched upon this tenure track, and that's actually something that I think that's actually something good, if there will be more of those." - participant 4

"I mean, a lot of the tenure track systems are also more like a performer thing, where people get the job no matter what they do, and they end up hiring shitty people who should never get the job, and the expectations are also super high for the people in those jobs in terms of their productivity and their output and all of that. So, it's not a perfect solution, but I think that more options, maybe more pathways into academia could probably make sense." - participate 11

"I mean you go from the postdoc to the tenure track and again, it's another stick to beat you with, because there's still the insecurity that you won't get tenure." - participant 3

In summation, concerning participants' perceptions of the different positions held within early Norwegian academia, there is a theme of perceiving the pathway of positions as indirect. Specifically, many of the participants had trouble describing what a path to permanent position would include, because they perceived it as uncommon to transition from one's first postdoctoral

position into an associate professorship. While many of the participants perceived this direct transition as unlikely, they were often unclear on what exact positions would be undertaken instead. Additionally, speaking about postdoctoral positions, the nature of the positions was perceived more negatively overall, with the insecurity of the position often being highlighted. Further, for those in the position, they tended to perceive their own choice as a sacrifice. While some participants perceived it as a worthwhile sacrifice, the sacrificial element reveals a more negative nature to the perceptions.

Qualifications for Advancement

Concerning participants' perceptions of the qualifications for advancement between positions, participants were asked about what is needed for a doctoral research fellow to achieve a postdoctoral position in Norway, and what is needed for a postdoctoral fellow to achieve an associate professorship. When asked about the requirements to achieve a postdoctoral position and an associate professor position, eight of the participants expressed uncertainty. Further, when describing their perceptions of the requirements for a postdoctoral position, there were no universally agreed upon qualifications. The most commonly cited qualification was publishing, with eight participants stating the necessity. Additionally, six participants stated that some degree of teaching was necessary, three participants brought up conference participation, and five participants mentioned some form of networking. As for the qualifications needed to achieve an associate professor position, it was universally agreed that publishing and teaching were necessary. Further, five participants mentioned fundraising ability as a qualification for an associate professor. However, the amount of publishing needed to achieve an associate professor position was often perceived as unclear, with 6 participants expressing this sentiment. Five of the participants pointed out that this lack of clarity comes from a comparative evaluation system, where good performance is based on how one relates to other academics in the field.

“I think there is a lot of pressure to work more or as much as you feel sustainable for yourself in order to keep up with the output of others because you are always competing. There are not many jobs in [humanities discipline] so you have to be the one who just publishes the most in the most amazing journals in order to have the chance. In essence, that is all what it boils down to in

the end. And there is quite a lot of pressure because certain people who don't have children or who don't have life commitments that are time consuming or energy consuming for other reasons do work a lot, and then they set the pace for everybody else who is trying to keep up.” - participant 7

Another common perception around performance expectations was the idea that, in many ways, academics set their own performance expectations. This individual accountability was mentioned by five of the participants. Further, five of the participants mentioned how important one’s supervisor can be for understanding and fulfilling performance expectations. Two of these participants mentioned how a good supervisor helped them navigate the performance expectations in early academia, while three participants explained how negative supervisor experiences made it more difficult to fulfill their performance expectations.

“No, I'm just talking to my supervisor and she really knows what's going on. And she knows how to connect me to the right people and she tells me what to do. And I just said to her, I want to stay in academia, what do I have to do? So she's my person. And the rest. I'm just disappointed that the university doesn't really offer more.” - participant 2

“If you move to another country and if you will work with a better professor, with a better vision, better network, then it may be an advantage because immediately this means you will get a very good [research projects] to work on. And this will be more challenging, but it will be submitted to a better journal also. And it will be a better academic record for you[....] In Norway, in Oslo, my situation is a bit complicated because very soon after I arrived here, my mentor [...]decided to move to another university. [...] So here I can define myself as an independent researcher. I'm not working with my mentor. So from the side of networks that I can utilize with her contacts, no, this is not the case. And [research projects], I'm finding my own [research projects]. And also for scientific discussions, there is no one to discuss.” - participant 8

Additionally, out of the five international academics, three mentioned the restrictiveness of language expectations needed to progress in Norwegian academia. Specifically, they mention how restrictive language policies at the university make it more difficult for non-Norwegian

academics to fulfill the qualifications for a permanent position. All three of these participants work in the humanities.

“And of course, they expect us to teach. And there's another problem, which is really annoying, because there is a teaching course, but they've changed the admissions now. So you can only get a place in the Norwegian teaching course. And the English speaking courses are only for permanent academic stuff. So it's really weird. And we have this completion grant period after year three of our PhD, which in the past, it was obligatory to do this teaching course. And at the moment, it's not possible to get in the teaching course, if you're not a native Norwegian speaker.” - participant 2

“Whether you speak Norwegian or not, and how fluent you are, is very relevant for whether you get hired, especially in my field, which is still conservative in that regard. So in the natural sciences it wouldn't matter if you speak Norwegian, in [humanities discipline] it does, because the students are entitled to be taught in Norwegian during their first year. So I'm doing a language course now because you never know, but also because I just want to learn the language.” - participant 7

“On day one, I was discussing with my superiors what's my purpose here and what's the plan of this postdoc? And it was made clear that it is to find a position somewhere else in three years, after the postdoc. But somewhere else, I'm not... I guess it means somewhere else outside of the University of Oslo, but maybe not necessarily outside of Norway. Although I.... yeah, I have no idea, because we have this long term strategy that was discussed and there were some openings planned within my field. So I guess, maybe it's possible for me to get that. But I would have to become fluent in Norwegian, and I don't know if that's realistic within the time frame.” - participant 12

Further, when asked about mobility in early academia, Ten of the twelve participants stated that mobility is a necessity to obtain a permanent position in academia. These same ten participants expressed that a lack of jobs within Oslo is a driver of this necessity for academics in Norway. Conversely, two participants expressed that it seems possible to achieve a permanent

academic position in Norway without mobility, although both expressed that mobility can aid an academic career, and one of the participants qualified that *“in practice, I think you are required to be very mobile in academia because there are so few positions and the chance of getting a position in the same city where you live is quite low”* (participant 6). Both of the participants that felt mobility is less of a demand are Norwegian doctoral fellows in social science disciplines. This difference in perceptions of mobility demands between Norwegians and international academics was noted by two of the international participants, who observed that it seemed like native Norwegians were sometimes able to achieve a permanent position with little or limited mobility. Finally, in regards to disciplinary differences, the main mobility element identified by participants was the limited nature of mobility opportunities based on one’s discipline. This limitation was identified in six of the interviews. However, it does not seem to be a problem unique to one discipline group. Participants in the natural sciences, humanities, and social sciences identified this disciplinary struggle.

“I think it's more common in Norway if you look at academic careers of professors here, then you see University of Oslo on all the career path. But people who come here, or like in other countries, I think it's more common to have been in different places.” - participant 2

“On the other side, in systems like Norway where I think there is a good amount of money for grants for PhD students to then go abroad, it seems that often if you do that once and then come back you have ticked that box and you have been international enough.” - participant 7

“100% necessary, I would say, at least in my field because taking the whole, like from PhD to professorate within one university, it's very, very, very seldom that people can do that. And then when this is the only university that can offer this field in Norway, then going abroad is the only option.” - participant 5

“Well, there are not so many places anymore where our subject still survives. So there are at the moment like four or five cities where it's known that there are many [humanities discipline academics] in my field. And so you try and go there.” - participant 2

To conclude, regarding the qualifications for advancement in early academia, participants overall perceived the qualifications for both advancement to a postdoctoral position and advancement to an associate professorship as unclear. As a result, many felt the need to set their own expectations for themselves or rely on the guidance of mentors to set criteria. Further, many perceived some degree of mobility as a qualification for advancement. This mobility was primarily perceived as a hurdle by participants, who often felt that they sacrificed in their personal lives in order to fulfill this qualification. Considering these perceptions, it could be concluded that the qualifications for advancing within an academic career are altogether perceived more negatively, as they are as a whole, perceived as nontransparent. Further, certain perceived qualifications such as mobility, are often perceived as negative hurdles that are incongruous with participants' personal lives.

Advancement Processes

In regards to advancement processes, two main themes emerged from the interviews. First, many participants discussed that a lack of open positions was a problem, because there is no way to advance from a temporary position without open advancement opportunities. Specifically, speaking of a lack of open positions, ten of the participants stated that there were not enough permanent positions. Six participants noted that this lack of positions leads to unwanted mobility, and four participants pointed out that it could lead to a string of postdoctoral positions. Second, multiple participants mentioned how the advancement process of moving from one temporary job to another caused significant stress due to the time and resources lost to the process. Four participants pointed out that this lack of permanent positions leads to a large amount of time spent between jobs and applying to jobs.

“I think it's, I mean, you have to work hard in any career path. But I think it's just especially unfair in academia because there are so few jobs and there's so many good people. And at some point, it's just you work and work and work and you don't get a job. And I know lots of people who didn't get a job. Yeah, this is my impression.” - participant 2

“For me personally, I’m set up. If that wasn't the case, everything would be uncertain. Whether I’m going to have a job. Whether my job is going to be in my specialty. Whether I’m gonna have to move countries. What country I’m gonna move to. How long of a job position am I gonna get? What kind of a group of people am I gonna work with? What's their focus? [...] Am I gonna feel like this is a group of colleagues that I fit in with, or is this just the best that I could do and I have to take this one? Am I going to live in a city that I like? You know everything, everything would be insecure.” - participant 3

“You really never know when you get the fixed position. So suddenly you have to go from postdoc to postdoc for five or six years and then suddenly you have used, I don't know, a year of your life just applying for new jobs.” - participant 1

Further, participants pointed out the ways in which the insecurity that results from these conditions have affected their lives outside of work. Six participants stated that the state of job security in academia was harder on those with children or who wanted children. Further, six participants stated that they struggled with personal finances, because they are in low-paid and temporary positions. Further, five participants discussed the difficulty of buying a house or maintaining a mortgage.

“I think it was the right move, given everything. I'm starting to feel that... like again, I have the kid, and that kind of prolonged the period of time that I'm in this job and in the kind of insecurity, and not making a whole lot of money. We're moving, so our mortgage will increase. So I do feel like this is not a place I can stay for forever.[...] I wouldn't want to do another one. Like I'm not going to be the kind of person who does like postdoc after postdoc after postdoc. That's not my thing, because I do want a permanent job after this, with some more predictability and certainty.” - participant 11

“ I do always say yes to [additional] jobs to keep afoot in that field, for example. To have that to fall back on.[...] So that's what I did. So I worked during the [maternity] leave to pay my house loan to be able to buy, you know, all those things. I'm thinking like that all the time. But I wouldn't do that if I was sure that I had the job, you know.” - participant 9

Additionally, some participants stated how the lack of job security negatively affected their discipline specifically. Six participants stated that they had very limited options, because they work in a niche discipline. Two participants expressed worries about the gradual decline of universities which offer their disciplines. Further, four participants stated that funding conditions in their discipline exacerbates the problem of temporary positions.

“We are doing a very specific kind of [disciplinary area] and it's dying out. It's really dying out. So what if in five years there are no jobs? Because it's just not existent anymore.” - participant 2

“Yeah, and staying within Norway, certainly here in the [social science discipline] at the University of Oslo, they have a, kind of like, a bulge of Postdocs and PhDs. So they've got a whole load of grants. They were very successful in getting very big grants. So they've employed a whole load of people, but there's no career path for those people. So they have to, you know, it's very hard for them to stay in Norway. But they've kind of been here for four years and they've made a life here. So it's you know, it's difficult to move. But there's no career path for them in Norway and then moving is difficult because they're not allowed to apply to be PI on grants, and so their CVs in comparison to other postdocs is going to be weaker.” - participant 3

Finally, speaking about their negative perceptions of early academic job security, two participants expressed surprise that academics were willing to work in the current conditions.

“It's super insecure, I think. Yeah. There's a lot of temporary positions. And you have a temporary position for so long until you're finally in a permanent position. It's very strange that you can have these brilliant people who would accept nothing but the best conditions in any other job, but in academia, you can put them in temporary positions. I think it's super strange. And there are even people who have done their whole part and are at the end and then they're applying for professorships and they aren't able to get it. And then you kind of just have to drop out and do something else.” - participant 6

“I think it's incredible, because you take someone who has been trained for... let's say seven years, right? Undergraduate and phd. If they had been trained for seven years in a company, they would be in charge of multi-million dollar budgets. They would be in charge of a team of people. They would have everything at their disposal. They would have a team of admin staff booking their flights, you know, doing everything. And yet in academia, you're treated like you're still a child, like you still have to prove yourself. You're put at the bottom of the heap as a postdoc. You're working on somebody else's project, and you're doing what they tell you. It's incredibly infantilizing. But we've all internalized it. And most people haven't worked in the outside world, so they don't know what the alternative is. And most people feel that the academic freedom and the academic stimulus is worth it.” - participant 3

Additionally, seven of the participants noted how funding conditions in Norwegian academia play a role in the open positions which are available. Five participants perceived these funding processes as detrimental to their ability to get an advancement opportunity. Two participants mentioned how it is difficult as a postdoctoral researcher to get funding for their own projects, because grants are often given to more established researchers. Further, three participants mentioned how researchers often need to research a popular topic in order to get funding, which can lead to drop-out of researchers from less popular areas of a discipline. One of the participants pointed out how in her discipline, these fringe topics that get less funding tend to be female-dominated, while the mainstream topics are often male-dominated. Two other participants noted how it is the applied areas of research that get more funding in Norway at the moment, despite the importance of the fundamental research to the applied. Finally, three participants mentioned how the current funding scheme in Norway results in many short-term and temporary positions. On the positive side, two of the participants mention how they perceive the funding structure of the Norwegian system as positive, because it has more money compared to some other countries. Due to this funding, they perceive the Norwegian academic job market as better than many other countries.

“The main problem is that there are few positions, few positions and short positions, but this is funding, so this goes all the way back to the ‘statsbudsjet,’ so it's hard to, I mean, research is not really a priority in Norway, compared to Germany, for example. Like in [natural science

discipline], at least, everyone, a lot of people want to go to Germany because Germany is very good for research, especially in [natural science discipline], probably other disciplines too.” - participant 4

“So yeah, at least that's my impression that there is this kind of idea of what is core [area of discipline] and then what are fringe topics, and for some reason women often have the fringe topics, for whatever motivations, and I guess it makes it more difficult for them. So in a way uplifting those topics within the mainstream might very much help them to get positions and funding. To not have to justify themselves all the time why they even pursue the field they are pursuing. I think that might be good.” - participant 7

“I guess it's hard in every discipline, but it seems like in recent years, there has been less funding for maybe the more fundamental research within [discipline], like [specific disciplinary specialty], and more focus on funding the more applied sciences.” - participant 1

“At least in the [European home country] system, which is why I went away, it's like you have all these temporary academic stuff. And after 10 years, when you don't get a position, you just get thrown out and then you can't get a job anywhere, any time again. So they have all these highly educated people who work for them for decades for a very, very low salary. And then they just throw them out. I think in Norway this is different because, at least in my impression, there are much more jobs at the moment and much more funding. And, at least in Norway, it's easier to get a job than it is in other countries. So it might be more secure here than somewhere else.” - participant 2

In short, when it comes to the advancement processes that are undertaken to move from one position to another, participants overall perceive these processes as stagnating. Specifically, as advancement from a temporary academic position to a new position relies on open positions being available, many participants felt that a lack of open positions stifles academics' abilities to advance within the early career structure. Further, participants generally expressed the perception that this advancement structure resulted in sacrifices. Specifically, participants mentioned sacrificing their time, resources, and personal plans in order to apply for subsequent academic

positions. Additionally, in all three of the disciplinary groups interviewed, some participants perceived that different funding opportunities amongst various research areas affected academics' abilities to find an open position in a way which was detrimental for academics in the less sought-after disciplinary areas. As a result, advancement processes within Norwegian early academia were also perceived altogether more negatively, as participants perceived that there is a lack of open positions which often stagnates academics' abilities to advance, creating challenges in their personal lives as they are often stuck in temporary and comparatively low-paid positions.

Analysis: Participant Perceptions of the Norwegian Early Academic Career Structure

Considering the participants' perceptions of the career structure, some clear themes arise, each of which will be discussed in-depth in the following paragraphs. To begin with, the overall negative perception of the early academic career structure in Norway is similar to findings from other European studies on early academic careers, which suggests that the findings from this study reflect a broader European trend. With this said, it is important to note that while these perceptions paint an altogether negative picture of the early academic career structure in Norway, there is also an identifiable theme that the Norwegian system is perceived as comparatively better than other countries where academics have worked. Further, as the Norwegian system is in many ways embedded in a wider European system, many of the perceptions of the Norwegian system were inextricably linked to perceptions of the European system as a whole. Finally, while there are noticeable themes from the findings, it is clear that there is no singular female perspective. Instead, individuals' unique experiences inform multiple perspectives. As such, when analyzed with a view towards intersectionality, certain themes arise within particular subgroups of the study.

Based on the findings in this study, it can be inferred that many female academics in Norway perceive the early academic career structure in an altogether negative manner. It is often perceived as an insecure and nontransparent career structure that in many cases requires a degree of personal sacrifice to successfully navigate into a permanent academic position. Considering the perceptions of the various elements of the Norwegian early academic career structure, the findings in this study corroborate the narrative on European postdoctoral positions found within the literature review. Specifically, the perception that the positions within the early academic

career structure in Norway are indirect echoes the findings from other European studies that postdoctoral positions have unclear prospects and can lead to a string of temporary positions (Menard and Shinton, 2022; Teelken and Van der Weijden, 2017). Further, the perception that qualifications for advancement in early Norwegian academia are unclear is similar to findings from other European studies that find that qualifications to advance from a postdoctoral position lack clarity (Nielsen, 2017; Teelken and Van der Weijden, 2017). Finally, the perception that a scarcity of open positions stifles early career academics' opportunities to advance in Norway relates to other European studies which discuss how a lack of opportunities to advance is detrimental to postdoctoral fellows (Bataille et al., 2017; Van der Weijden et al., 2015). Taking the aforementioned similarities into account, this study contributes to a shared narrative that early academic careers in Europe are often negative experiences for scholars.

However, it is important to note that while the findings of this study place Norway in a larger European trend of negatively perceived early academic career structures, there was also a common perception that the career structure in Norway is much better than in many other countries in which participants' had worked. For example, multiple international participants perceived that there was more of a direct pathway of positions from the PhD to the associate professorship. Some participants also noted that the salaries, length of positions, and benefits are better within the Norwegian early career than elsewhere. Further, some of the international participants felt that Norwegian mobility requirements were less demanding than in other European countries. Finally, a couple of the participants perceived the Norwegian funding opportunities as more fruitful, resulting in more open permanent positions. As a result, one takeaway from these interviews is that while the Norwegian early academic career structure is often perceived negatively, it is perceived as better than many other systems.

Nevertheless, another takeaway from these findings that should be considered is that Norwegian academia exists within a larger European system, and further a global system. Most of the participants perceived that it is necessary to work in multiple countries in order to succeed in an academic career. As a result, for many of the academics, their perceptions of the Norwegian system was framed by their experiences having worked in another country and/or the perceived need to work in another country in the future. For example, multiple of the participants stated that their lack of a desire to work in another country coupled with the perceived need to work abroad contributed to their decisions to most likely leave academia. Further, multiple

participants stated that their international collaborations are tied to their research, and as a result, the countries they collaborate with help shape their work culture. Finally, multiple participants perceived that it can be difficult to remain in Norway for one's academic career, because of the comparatively small number of universities in Norway. Due to these international linkages, one could make the argument that the Norwegian early academic career structure is often inextricably tied to the wider systems in which it operates. This argument is reinforced by studies from the literature review that indicate how the international nature of academic labor markets can contribute to how national systems operate (Gunnes et al., 2020; Fumasoli et al., 2015). Consequently, in order to improve early-career academics' perceptions of the career structure, changes most likely need to occur on both a Norwegian level and a wider European level.

Finally, an important conclusion drawn from the findings is that there is no singular female perception on the academic career structure in Norway. While there are trends across the individual perceptions that are analyzed in this study, each woman's perception is naturally multifaceted and unique, shaped by her own individual experiences. So, it is impossible to portray a singular perception that is universal to all women who are employed in early academia, and the themes identified in this study are those that were common to many of the participants, but not necessarily shared by all of them. With this said, in order to get a fuller understanding of some of the themes within women's varied perceptions, it is necessary to employ a lens of intersectionality. This intersectional approach to understanding women's perceptions draws on the concept of gender used in this study, where women's varied identities interact with their gender identity in order to create unique viewpoints (Lorber, 2006). Further, this approach supports the epistemological and methodological underpinnings of this study by recognizing that perspectives are multifaceted and nuanced (Hirschmann, 1988; McHugh, 2020).

Specifically, in addition to their identity as female academics, other social identities such as participants' nationality or their relationship and family situations all inform their individual perceptions. For example, the concern over Norwegian language qualifications making it unlikely to proceed in Norwegian academia was unique to international academics in the humanities. Additionally, it was more common for Norwegian academics to perceive that men and women with children often face equal challenges, as opposed to just women with children (five Norwegian stated this perception at some point, while only one international participant shared this perception). From these differences in perceptions based on participants' intersecting

identities, it becomes apparent that while important themes do emerge from the interviews, there can be no singular female perception on the early academic career structure. This lack of a singular perspective does not invalidate the themes identified in this study, but instead highlights that the crucial role of each individuals' subjective experience can't be overlooked or oversimplified.

Findings: Gender and Perceptions of the Early Academic Career Structure

When asked various questions about the ways in which gender interacts with the academic career structure in Norway, eight of the participants perceived some element of career structure as gendered in a way which advantages men. Interestingly, however, when asked directly if the early academic career structure in Norway affects female academics differently, only three of these participants said a certain yes. Two participants gave examples of potential difficulties, and leaned towards probably. Two participants said no, but then both of them proceeded to give examples of ways in which it does. Finally, four participants said that they didn't know, with two of them giving some examples in ways that it might. Eight of the participants perceived the career structure in Norway as more gender equal than other countries in which they have worked in academia.

“Yes, I mean, based to the degree I was talking about earlier today that it's based on this a lot of short term contracts and a lot of mobility early on in life in order to have the promise of stability later on, and at least for women who want to have a family that is... or have a family... that is often more difficult to implement than for male counterparts, I think.” - participant 7

“I think it's hard to say. At least parents and nonparents differently. But whether mothers and fathers differently? I don't know. Maybe a little bit. I think...I feel that it's harder to be a mother in academia than a father in academia, at least with small kids.” - participant 11

“No. Not really. [...] The only thing is maybe that if you are a woman and you want a child, then your career within academia will be slower because you are putting your PhD on hold. Slower progression within the discipline, so to say.” - participant 1

Of the structurally-produced potential disadvantages of the early academic career structure discussed, time demands were perceived as having the least gendered impact. Only two participants noted a gendered difference in how men and women approach early academic time demands, while five participants stated that there was not a gendered difference. Five participants perceived a difference between men with children and women with children, where time demands in early academia are harder on mothers. Meanwhile, three participants stated that all parents, regardless of gender, can be more challenged by academic time demands than their colleagues.

As for the performance expectations in early Norwegian academia, three participants perceived no gendered differences, and one participant perceived women as advantaged in this regard. Concerning the disadvantages perceived by participants, three participants expressed that they felt women ended up with more of the female-oriented tasks in their departments. Three participants stated that, despite not having proof, they felt women needed to perform more than their male colleagues to achieve the same success. Three participants stated that women can be judged more harshly on teaching evaluations, although only one participant experienced this directly. Further, four participants expressed that women with children struggle more to meet performance expectations, because they often have an unequally larger share of home labor.

“So I think that here the gender relations are a total opposite of what I've known. My impression very often here is that I am expected to succeed because I'm a woman, because everybody here is an ally.[...] It literally took a little bit of work and commitment to be offered to head the research team after six months.” - participant 12

“I think... I mean this taps into a whole load of things. You don't on paper. No, I don't think you necessarily have to achieve more, but then it taps into all these things [...] Students tend to be more demanding with female teachers which takes up more of women's time. And then you've got, you know, ‘Oh, we're a great organization. We have gender balance on all of our selection committees.’ So, if you have gender balance on your interview panel, but you have less women to choose from, then each woman is going to be called to be on an interview panel more often. And then you've got, I don't know, international women's day, ‘let's have an interview with a female

academic.' They're going to be called on to do radio. So, you know, there's all of the expectations. You don't have to achieve more necessarily, but you're actually being pulled on more." - participant 3

"What is an important difference, both in Norway and internationally, of course, is the family thing that the women do more at home. Especially internationally, but also in Norway." - participant 9

"I think maybe students, not everyone of course, but some expect more from young female teachers or lecturers, like testing you, at least when it is quantitative statistical things.[...] I was teaching together with a colleague of mine who was also doing his PhD. [A shared student] was not like that with him." - participant 10

In regards to mobility, there was a general perception that this element of the early academic career structure is particularly challenging for female academics in relationships and/or with children. While eight participants perceived mobility as challenging for academics with families, six participants expressed perceptions that male academics with families struggle less than women to fulfill this expectation. Four participants observed that it is more common for the male academics that they know to have partners willing to move with them. Further, four participants pointed out that it seems more common for men with children to do research stays abroad and commute home on occasion, while their wives watch the children. Additionally, three participants stated that their lack of children is advantageous, because they can be more easily mobile.

"People with families, usually the mobility requirement means that the woman thinks that she can't go anywhere else, because her family is settled somewhere. And that means that she has troubles in her career, because she can't fulfill those mobility requirements. Whereas with male colleagues, usually the family just goes with them or they just go on their own and see them at the weekend, that's not a problem. [...] It's not true for everybody, but I get the impression that especially women have issues with the mobility requirement." - participant 7

“I know from women with whom I'm in the postdoc mentoring program, that it is a big challenge for those who have families. And I really feel for them. And it's so unfair that me being childfree, but not by choice, just by life happening, gives me so much more flexibility and I don't want to say it, but advantage kind of. That's really unfair.” - participant 12

Considering job security within the early academic career structure, five participants felt that there was no difference in how female academics experienced job insecurity. Three participants stated that the job insecurity in early academia is more difficult for people with children, but not in a gendered way. Three participants perceived job insecurity as harder for women who have or want kids than men. Further, five participants mentioned how women who want children are put in a more challenging situation, because their biological timeline to have children is usually shorter than men's biological timelines. As a result, men can put off having kids until they are more secure. However, two participants stated that a benefit women in relationships sometimes have is that they can be supported by their partner during the times of unemployment that occur in early academia.

“I think it's harder for women. Yeah. I mean, in terms of being able to plan a family, and I'm not saying that every woman wants to plan a family in any way, but most women will think about it, and it makes it really hard. I mean, we went out...like the female postdocs...we went out for dinner a couple of weeks ago, and everything we talked about was how our job impacts our life. You know, in various ways. Like, we talked about everything we've talked about here.[...] We went out for dinner with these postdocs, and a number of them were saying they were thinking about leaving academia because they just can't... they can't cope with the insecurity and not knowing what the future is.” - participant 3

“I think women are more family oriented. And yeah, so I just feel it's more difficult for women to move away. And also the men can get a professorship and then get a family with a younger wife or something. But that's kind of not an option when you're a woman. For me to wait until I get a professorship, then I would be 50 before I could start a family.” - participant 5

“I'm at exactly that age and I'm thinking a lot about exactly this at the moment, because when you're approaching 34, 35, there are things that start to be too late. [...] I think it has to do with family and children, all of this. Because of this, I think a girl will feel it more. It's my guess, but I haven't talked to any guys about this.” - participant 4

“So let's say at least women with male partners usually have job security via them, or at least financial security via them. So then for them it might not matter that they are unemployed for a couple of months where they find a new job, whereas for me being unemployed for a couple of months was not an option.” - participant 7

Finally, it is important to note that many of the participants perceived that these disadvantages are related to one another. When discussing the different potential areas of disadvantage, it was common for participants to mention one potential area of disadvantage in the context of another. As a result, all four areas were often perceived in an intertwined way.

“So, you can get to security, and you can either get to security by a huge amount of luck and connections, which is basically you choose the right supervisor and they put you in front of the right interview panels and you are lucky with your publications. So you can either be lucky and have connections, or you can just be really determined, but pay a very high price and do all the mobility and work long hours and you can get there.” - participant 3

“I think that because this work has no boundaries in a way. There's no like 'you're done and then you leave and if you're sick someone else picks up the slack.' It is very... it can be very all-consuming. [...] So I don't know if time demands is the right word... but that kind of limitless nature of the work itself and how there are no clear boundaries, and who you are as a person and who you are as a researcher, it's all floating together in a way. I love it and I hate it in a way.” - participant 11

A positive element of postdoctoral positions in Norway that was mentioned is the female postdoctoral mentoring program at the University of Oslo. Two of the postdoctoral participants mentioned that this program was able to help them navigate elements of the career structure.

“I did that. That was actually very helpful. To just have someone to talk to about these things, someone who's not your boss, not your colleague, not your mentor, not a prospective person on a hiring committee. Or just to have a space to think a lot about these things, I thought that was really good, and it's probably the first thing that I've ever done that's gendered. I think it would be extremely helpful for male postdocs as well, because it's a challenging place to be. And age-wise and life stage-wise, if you surround yourself with friends who are the same age and same life stage, they're not stuck in this 'you're technically still a student almost trying to get a job.' [...] But I'm glad they have it for someone at least. I think it just helps to emphasize just like this, yeah, so many women leaving and why is that the case? I would say.” - participant 11

Finally, a topic that occurred in multiple interviews was gender discrimination in the workplace. Two of the participants detailed instances of blatant gender discrimination that they experienced in their departments. While the participants expressed that these experiences were the actions of individuals, and they didn't reflect on the whole departments, they are experiences to note. Further, two other participants detailed experiences which they were not sure were gender discrimination, but had a gendered effect. One of these participants experienced being excluded within her all-male research group. The other participant experienced a lack of support as a new mom in a job seeking process. While these circumstances are not clearly intended gender discrimination, both of the participants experienced negative effects on their own careers.

“This was in Norway. It was a postdoc from [western European country] who had a little bit of a problem with a girl being [in a position of power], because I was... yeah. So this is a completely different story, but it's the only time I have experienced something gender related. I think in Norway, it's quite good. I never felt any discrimination on gender, either in a positive or negative way, I think. No, not that I can... except this one episode with this one postdoc, yeah.” - participant 4

“I think I have been noticed quite well, except from my main supervisor who is a bit more dominant and a guy's guy kind of guy. [...] To talk in front of or in a larger group... I think it is maybe a patronizing thing, but when guys are talking he is like 'okay, they can do it themselves.' But if it is a young woman talking that he is related to in some way, he kind of takes over when

we are talking. [...] I see another young female who is on the same project as me, having him as a supervisor. He is taking over a lot when she is presenting and talking for her. And also at the same time he complains that the women are not talking in the groups when we are in larger groups, and saying we have to talk more.” - participant 10

“It's very homogeneous, and I'm the only girl in our group right now. ”

“I don't feel like I'm a part of the group. It's never happened that people come discussing things with me in my group. But I don't know if that has something to do with my gender, or that I'm older than them [...] or that I'm in a slightly different field than they are (it's kind of the same, but different). So I don't know what that is caused by, but it has never happened. And I can hear people in my group come and ask others about what is kind of my expertise. I think I would have to be really, really, really brilliant for people to come to ask me about stuff.” - participant 5

“I had to do a job talk and an interview while I was on leave, when my kid was like four weeks old, and I asked them to postpone it and they said no. [...] That's when I was [almost selected for the permanent job], and that's just how it played out. And I asked for an extension, because she was very small, and I was very sick, and they just declined. But again, that's more like the motherhood thing than it really is just gender in and of itself. [...] I mean, I don't think that if I were a man and something had happened and I was at leave, that they would have been like ‘oh yeah, you could have another month before the interview.’ I don't think they were even harder on me because I was a woman. But at the time I was pretty pissed, because that was like ‘you guys are very insensitive about this. You have spent 10 months on this process so far, and now I'm asking for a week, and they were like no.’ But again, I don't really know if that's because I'm a woman.” - participant 11

In conclusion, when asked about different elements of early academic careers that could produce gendered disadvantages around work-life balance as identified by Nielsen (2017), all four disadvantages were perceived to exist in Norwegian early academia to some degree. Time demands were perceived as the least gendered disadvantage, and mobility was perceived as the most gendered disadvantage. Security and performance expectations were perceived as more disadvantageous than time demands, but less than mobility. All four categories of disadvantages

were perceived to be most disadvantageous for women with children. Meanwhile, some of the participants perceived that some of these disadvantages were greater for parents in general, without gender playing a role. In combination with the examples of potential gender bias experienced by some of the participants, the perceptions of gendered disadvantages reveal that gender often plays a role in how participants perceive early academic careers in Norway.

Analysis: Gender and Perceptions of the Early Academic Career Structure

In regards to the role of gender in participants' perceptions of the early academic career structure in Norway, multiple themes are found, which will be elaborated upon in the subsequent paragraphs. First, this study found that participants often perceived gendered disadvantages in the areas identified by the analytical framework, and they perceived that these disadvantages can occur in interrelated loops (Nielsen, 2017). Consequently, these findings challenge the hegemonic narrative that the career structure is gender neutral. Second, while participants perceive disadvantages in individual areas, they tend to not perceive that the career structure disadvantages women on a macro-level, so the perceptions in this study do not form a feminist standpoint. Using the epistemological underpinnings, this thesis proposes that this discrepancy between perceiving gendered disadvantage on the micro and macro levels is the result of participants believing the hegemonic narrative that organizations are gender-neutral (Acker, 1990), despite their experiences challenging this narrative. Third, the findings reveal that many participants view the Norwegian system as more gender equal than other systems they've encountered, and some participants share the perception that disadvantages in Norway fall more along the lines of parental status than gender. Considering these perceptions through the theoretical framework, this thesis theorizes that as men in Norway increasingly take on more traditionally female roles in their family lives, they too become disadvantaged by the gendered nature of the academic organization. Fourth and finally, based on the findings of the study, there is a theme that disadvantages related to biological sex persist and are important to consider in terms of the way the early academic career is structured.

When questioned about the gendered disadvantages within early academia that were identified by Nielsen as work-life balance disadvantages (2017), many participants perceived that gendered disadvantages exist in the Norwegian academic system to some degree. Further, many of the participants experienced these disadvantages as interrelated, which supports

Nielsen's (2017) notion that these disadvantages can build into a "self-reinforcing feedback loop" (p.150). Combined with the stories of gender discrimination experienced by some participants, these examples reveal that gender often informs women's perceptions of Norwegian early academic careers. However, when asked about the career structure on a holistic level, the participants were hesitant to say whether the academic career structure disadvantages women more than men, which reveals a discrepancy in micro and macro perceptions. Using the epistemological underpinnings as a guide, this thesis proposes that this discrepancy could be the result of many participants believing the hegemonic discourse that the academic organization is gender-neutral, despite their perceptions often challenging it. For instance, the feminist standpoint epistemology used in this thesis argues that there are patriarchal discourses that often dominate societal knowledge constructions (Hirschmann, 1998). In the same vein, Acker's (1990) theory on gendered organizations argues that there is a dominant discourse that frames organizations as gender neutral, despite their actually gendered nature (p.142). Considering these ideas, the discrepancy between the common perception that there are gendered disadvantages on the micro-level but that the macro-level career structure is gender equal could be explained by the idea that the participants have been conditioned to believe the hegemonic narrative of organizations as gender neutral.

There are multiple examples of this potential explanation within the interviews. For example, the participant who was unable to reschedule a job interview for an associate professorship because she had given birth a few weeks prior was reluctant to claim that this experience was gender inequality, because men who fall sick probably wouldn't get to reschedule either. However, it is important to consider that it is not the norm for men to get sick or have accidents, but it is fairly common for women in their late-twenties and thirties to give birth. Given that she was in the final stage of an interview process which had taken ten months already, one could argue that a hiring process which doesn't accommodate qualified women who have very recently given birth is a clear example of a gendered career structure. Specifically, as the organizational process for advancement does not account for fairly normal female experiences, it is structured in a way which advantages men. However, the participant who had this experience was reluctant to argue that this experience was the result of being a woman and instead argued that it would be the same for anyone on sick leave. Considering the epistemological ideas behind this thesis, it can be speculated that this perception is the result of a

dominant discourse that portrays the academic organization as gender neutral, despite the experience revealing that this discourse may not reflect women's lived realities. Thus, as most of the participants perceived that there are gendered disadvantages, the perceptions in this thesis do challenge the hegemonic narrative that the academic organization is gender neutral. However, as most participants were also reluctant to argue that the career structure on a holistic scale is gendered to benefit men, this study falls short of finding a feminist standpoint, because that requires a collective realization amongst participants that the dominant discourse does not fit their material realities (Anderson, 2020).

Further, it is important to consider that many of the participants voiced the perception that Norwegian academia is more gender equal than other countries in which they have worked. Multiple international participants noted how they perceive men in Norway as more likely than men in other countries to contribute to domestic tasks. Further, as discussed in the prior paragraph, many participants perceive gendered disadvantages as unique to women with families, while some perceive that disadvantages are more along the lines of parents compared to non-parents. As aforementioned, Norwegian participants were more likely than international participants to view disadvantages as equal for fathers and mothers. Consequently, these findings combine to reveal that participants often perceive gendered disadvantages as becoming more distinct once individuals have children, and some perceive that because men in Norway take on more family responsibility, they face similar disadvantages in their early academic careers.

Based on these collective perceptions, an interesting observation emerges. Specifically, using the conceptual understanding of gender elaborated upon in the concepts section, it is understood that gender is a social construct. According to Acker's theory of gendered organizations (1990), this social construction of gender division is interwoven into organizations at various levels, despite the implicit assumption that organizations are gender neutral. This is exemplified in how the depictions of an ideal worker or a manager often impose upon these figures attributes that are associated with male gender constructs, such as a personal life which allows one's professional life to take priority. According to Acker, this gendered organizational structure results in an organization which disadvantages women. Further, based on the theoretical framework of this study, this organizational disadvantage causes women to opt-out based on their constrained capabilities within this disadvantaged structure (Nielsen, 2017). Considering this theoretical underpinning, one can draw an interesting conclusion from the perception that

fathers in Norway often take on equal domestic workloads as mothers, and thus experience equal disadvantages within the early academic career. Specifically, within the theoretical framework of this study, it can be argued that as men in Norway increasingly take on domestic responsibilities that are traditionally associated with the female social construction of gender, they too become disadvantaged by an organization which is structured around the traditionally male social construction of gender.

With this said, while shifting gender roles in Norwegian society can result in men facing some of the same challenges as women in the early academic career structure, many participants also perceived that differences in biological sex can disadvantage women in early academic careers. Specifically, participants noted that concerns around biological timelines to have children are usually worse for women, as men can often biologically wait longer to have children. Further, multiple participants noted that when a couple decides to have children, pregnant women take on the physical toll, which often results in them taking more time away from their careers when they have a child. Moreover, as noted by one of the participants, for those in laboratory-based disciplines, this time away often lasts from the beginning of the pregnancy until the end of breastfeeding. Some participants didn't perceive time away during parental leave as disadvantageous, because they perceived that Norwegian legal provisions protect women from negative effects of taking time off. However, others perceived taking parental leave as professionally detrimental. These findings are in line with some of the studies from the literature review, which found that women who have children during their early career are often put in a disadvantaged position because of the pause in productivity (Loison et al., 2017; Nielsen, 2017; Ollilainen, 2018; Vohlídalová, 2021, Ysseldyk et al., 2019). Further, these findings particularly support the findings from Ollilainen's (2018) study, which found that even in a system with excellent maternity protections, normative expectations for productivity combined with minimal advancement opportunities can still result in career setbacks for women who take maternity leave.

Findings: Discipline and Perceptions of the Early Academic Career Structure

Comparing the perceptions around the early academic career structure and the potential gendered disadvantages that result from the early academic career structure, there were few

disciplinary trends identified. First, as aforementioned, all of the non-Norwegian humanities scholars perceived the language qualifications as a barrier to advancement within the Norwegian academic career structure. As they perceived language policies as particularly strict within the humanities, the importance of this qualification within the discipline could differentiate it from other disciplines. With this said, two of the international humanities scholars perceived that comparatively better funding for the humanities in Norway than abroad provides more advancement opportunities within Norwegian early academia. As a result, this perception amongst international humanities scholars could also differentiate it from the other disciplines. Additionally, within the natural sciences, the two participants who work in more fundamental areas of research perceived that it was more difficult for themselves to advance, because there is currently more funding for applied research, and thus more open positions for applied research. This could potentially point to a trend within the natural sciences where it is more difficult to pursue a career in fundamental areas of the discipline. As these two disciplinary trends were identified within participants' perceptions, it could be interesting to do additional research on these topics and how they influence early academic retention.

In regards to gendered disciplinary differences, one unique disciplinary disadvantage that stood out from the interviews was one of the natural scientists explaining how it can be especially difficult for women who plan to have children in a laboratory-based science. The participant explained that chemicals used in a lab can be especially dangerous for women during pregnancy, and because one needs to be in the lab to do research, it can be a particularly challenging situation. Although the cause of this disadvantage is not directly related to the career structure, the impact of this disadvantage could be harder on scientists who do not have a permanent position yet. Further, as this is a singular observation, it would be interesting to examine if this is a trend amongst other laboratory-based natural scientists.

“One of the big reasons I want to leave academia, is because I often get exposed to chemicals because of colleagues who don't always follow HSE rules and all of this, so not a lot, but sometimes you have, and this is something I think about, especially if you will be pregnant in a year or two or something.[...] I see other girls in academia that leave academia and then they have kids. And this is what I plan to do too. Kind of in the big picture, because it doesn't fit to work in the laboratory with heavy research like I do now, it doesn't fit the family life. Not as a

girl. For a guy it's more easy. [...] Because for a girl when you work, let's say if you want to have children as a girl in the laboratory, you should not be in the lab the period just before you become pregnant, because it's not good. You should not be in the lab for the whole pregnancy time. You should not be in the lab for the breastfeeding time. And this makes it quite difficult to be in [discipline area] as a woman.[...] I think it's difficult to come back. [...] Because you know, if you don't follow the literature in [discipline], and I think in most research, it's like you do a project and you need to publish it quite soon while it's still fresh and new. And to have a year break and to stop a project for a year, it's very bad actually. It's not good. So I think this is the main reason for female drop in the natural sciences, because you cannot really do any experimental work. It depends on your field. But in my field, you cannot do experimental work, meaning your project will stop completely for a year, unless you are so lucky that you have students that work on your project too. But then you will need to supervise them. So I think this actually makes it harder for women. And I think it's one reason for women to not do it. But it's just my guess.” - participant 4

Additionally, while only a few differences in disciplinary perceptions of the career structure were identified, there were disciplinary differences identified in participants' future career plans. Specifically, three out of four natural science participants were leaning towards leaving academia, two out of four social science participants were leaning towards leaving academia, and none of the humanities scholars were leaning towards leaving academia.

In summary, a few disciplinary differences were identified in participants' perceptions of the early academic career structure in Norway. For example, there were differences in perception around qualifications, such as perceptions that Norwegian language plays a more prominent role in the humanities. There were also differences in perceptions of opportunities for advancement, such as perceptions of funding differences. Further, a unique gendered disadvantage was identified within some of the laboratory disciplines, where maternity leave is a significantly longer break in one's career. There was also a difference in future career trajectories identified amongst the disciplines, with natural scientists most likely to leave academia and humanities scholars most likely to intend to continue. While these disciplinary differences were identified, the degree to which they play a role in female academics' perceptions needs further research.

Analysis: Discipline and Perceptions of the Early Academic Career Structure

Regarding how discipline informs female academics' perceptions of the early academic career structure, two themes take shape. To begin with, the findings indicate that disciplinary differences can play a role in shaping participants' perceptions. However, as disciplinary differences were noted in only a few distinct areas of participants' perceptions, it is not possible to say that disciplinary differences clearly play an important role in how academics perceive the early academic career structure in Norway. Further research is necessary to understand this role in each individual discipline. Additionally, this study finds that participants' career intentions are in line with the assumptions from the literature review, and mirror the disciplinary divisions around academic retention found in the 2020 NIFU FoU statistikkbanken data. As a result, this trend supports the notion that discipline does inform female academic retention.

Based on the findings, it appears that disciplinary differences can sometimes play a role in participants' perceptions of the career structure. Further, it appears that disciplinary differences can sometimes result in unique gendered disadvantages, such as longer maternity leaves for some of the academics in laboratory sciences. However, the degree to which disciplinary differences inform female academics' perceptions is still unclear. For example, how does the deterrence of strict language policies in the humanities interact with the attraction of humanities funding to shape international female academics' perceptions? As a result, while this study has found evidence of disciplinary differences in how female academics experience the early academic career structure, further research into some of these differences is needed to understand the extent of their influence on female academics' perceptions.

Nevertheless, the difference in career intentions identified is an interesting finding, because it reflects the assumptions from the literature review, which indicated that humanities scholars may be most likely to continue in academia, while natural scientists were least likely. It also reflects the differences in female academic participation shown in the 2020 figures of the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender (see figures 1, 3,4, and 5). Specifically, the statistics reveal that the humanities have the largest share of female postdoctoral fellows at 63.2%, and it is the only discipline where female postdoctoral participation is greater in percentage than female doctoral fellow participation. As all of the humanities participants interviewed intend to continue in academia, this study shows a similar

trend of positive female academic retention in the humanities. In contrast, the social science statistics from NIFU show a drop in female academic participation between the doctoral and postdoctoral stages, and place the social sciences in the middle of the humanities and natural sciences in terms of the percentage of female postdoctoral fellows (51.8%). This reflects the findings in this study, where social scientists were more inclined to remain in academia than natural scientists, but less than humanities scholars. Finally, the statistics from NIFU show that the natural sciences has the lowest share of women out of the disciplines examined here, with only 37.9% of postdoctoral fellows being women. This also reflects the findings of this study, where three out of four natural scientists interviewed lean towards leaving academia, making them the least likely to remain in academia.

Findings: How Perceptions of the Career Structure Inform Career Planning

Out of the twelve participants, five lean towards leaving academia after their current position, and seven lean towards staying. Out of the five who lean towards leaving, one is a postdoctoral fellow and the other four are doctoral research fellows. Out of the seven who lean towards staying, five are postdoctoral fellows and two are doctoral research fellows. Further, out of the participants who lean towards staying, four of the postdoctoral fellows stated that they will only stay if they can find a permanent or long-term position. The other postdoctoral fellow already has gotten a tenure-track job outside of Norway. This trend reveals that none of the postdoctoral fellows are willing to do another postdoctoral position after their current one. This condition placed on continuation reveals that for the postdoctoral fellows who hope to stay in academia, there are structural reasons that could cause them to leave. These structural reasons are both the temporary nature of early academic position and the lack of advancement opportunities. This lack of advancement opportunities is accentuated in that when asked how likely it is to get a subsequent job in Norwegian academia, all of the participants said that it is difficult, with two saying that it was almost impossible in their discipline, as they would be forced to go abroad. However, two of the international participants did express that they felt more hopeful about Norwegian job opportunities than opportunities abroad, because the Norwegian funding for their discipline is better than abroad. Both of these participants were in the humanities.

For the participants who lean towards leaving, four of the participants expressed structural reasons for their decisions. To begin with, while one of the participants hoped to get a postdoctoral position, there were none available in Oslo in her discipline, so she got a job in industry instead. This participant expressed that a lack of advancement opportunities was what pushed her into choosing industry. For the second participant that is leaning towards leaving for primarily structural reasons, she expressed that both the insecure nature of the postdoctoral position combined with the teaching requirements pushed her to go into the private research sector instead of trying for a postdoctoral fellowship at a university. While she said that she may go back to the universities in the future, she prefers the security of research institutes at the moment. The third and fourth participants leaning towards leaving expressed that the lack of advancement opportunities coupled with temporary positions in early academia were key reasons why they are leaving. In contrast, for the fifth individual leaning towards leaving, they expressed that they were not interested in academia as a career. While it could be argued that they also have structural reasons to leave, because they are unhappy with the qualifications for advancement and their emphasis on publishing, this participant's primary motivation for leaving is less structural and more of a desire for a different type of career.

Additionally, in regards to academic career structures, all participants were asked what structural changes could be made in order to make the career more desirable for female academics in their early careers in Norway. Nine of the participants proposed some variation of more advancement opportunities, either through an increase in positions, increase in academic funding, or the creation of additional pathways for academics. Further, two participants said that there needs to be clearer communication of how to advance. Four participants said that a change in the qualifications to get a permanent job is desirable, such as more objective criteria or less focus on publishing in what is deemed to be 'good' journals. Seven participants stated that more security in the early jobs would make early academia more desirable, such as through longer positions, higher paying positions or clearer transitions to future positions. From these answers, it is clear that the participants perceive that the early academic career structure in Norway can be improved. However, it is also important to note that out of the international academics interviewed, four of them stated that the Norwegian system is comparatively better than other countries they have experienced.

“I mean Norway is not bad. It does a lot of good things. I mean, I would guess support, but in many cases, I think there are systems of support. A clearer career trajectory. A faster track to job security. In a way... I’m not sure how to express this... but in a way, kind of multiple routes to success, because at the moment it's a bit, you know, everything. So you have to be a researcher and a teacher and go to conferences, and do media outreach, and your work has a public impact. It's like, I know in some places they're saying ‘okay, you can do either a research track or a teaching track.’ So, to have more multiple ways to succeed. Yeah, or multiple options of where to get to.” - participant 3

“if there will be more positions, because it's the main problem is that there are few positions, few positions and short positions, but this is funding, so this goes all the way back to the ‘statsbudsjet,’ so it's hard to, I mean, research is not really a priority in Norway, compared to Germany, for example.” - participant 4

“I guess one thing could be just having more money for longer projects, so even for funds which are women specific. Because I guess something I saw also about the types of jobs that are written out in terms of assistant professorships, and the types of funding themes that are written out might not necessarily also reflect the type of things that women research on, for instance.” - participant 7

“It should be easier to get the permanent position, I think. And it should be harder to, you know, employ people for six months, one year, then take them out for another six months, bring them back. There are a lot of histories like that, and it's not good. Or perhaps postdocs too could last longer sometimes to give them some predictability.” - participant 9

In regards to perceptions of the potential gendered disadvantages explored, some trends emerged from the interviews. First, time demands were the only potentially gendered disadvantage within the early academic career structure in Norway that were viewed more positively than negatively, with seven mostly positive perceptions and five mostly negative perceptions. Further, while four participants stated that time demands negatively informed their thought processes around staying in academia, four said that time was a positive consideration

because they prefer a flexible schedule to a consistent one. Both performance expectations and mobility were perceived altogether more negatively, with nine negative perceptions and three positive perceptions. Eight participants stated that mobility was a consideration that could sway them towards leaving academia, while six participants stated that performance expectations were a negative consideration. Academic job security was the element of the career structure perceived most negatively, with ten negative perceptions and two positive perceptions. Six participants stated that job security negatively impacts their decisions around staying in academia.

Finally, demographically, it is interesting to note that all five participants leaning towards leaving academia were Norwegian citizens. In comparison, only two Norwegians were leaning towards staying in academia, in addition to all five of the international participants. Out of the five leaning towards leaving, one participant has a child, and three others want children. Four out of five are in a relationship. Out of the seven leaning towards staying, three have children, two want children, and one expressed that they do not want children. Four out of the seven are in a relationship. Three of the participants leaning towards leaving are in the natural sciences, while two are in the social sciences. In contrast, all four of the humanities participants are leaning towards staying in academia, in addition to two social science participants and one natural science participant.

Based on the findings of this study, it appears that perceptions of the Norwegian early academic career structure can often inform female academics' career decisions regarding whether to continue in academia. For example, for those who are leaning towards leaving the university research sector, four out of five participants noted that an element of the career structure did inform their decision to leave. For some, a structural element was the primary reason for leaving. For others, the career structure was one of many reasons. Further, all of the postdoctoral participants who plan to remain in academia gave caveats that they would reconsider if they could only find temporary positions after their current one. This structural caveat that could push them to leave academia reveals that the career structure also informs their thought processes around remaining in academia. As a result, for both the participants staying and those leaving, the early academic career structure in Norway often informed their decisions.

Analysis: How Perceptions of the Career Structure Inform Career Planning

Concerning how perceptions of the early academic career structure inform career planning, two main themes emerge. First, the findings in this study reveal that for women in their early careers within Norwegian academia, their perceptions of the career structure often inform their decisions on whether to continue in academia. While there are other considerations in regards to whether a participant plans to continue in academia, the career structure was considered by both participants planning to stay in academia and those planning to leave. Second, as many of those who intend to remain in academia indicated that challenges with the career structure could eventually cause them to pursue a different career path, the findings from this study align with the theoretical framework (Nielsen, 2017).

To begin with, based on the findings, it appears that female academics' perceptions of the early academic career structure do inform the career decisions of both those who intend to leave and those who intend to continue in academia. In spite of this finding, however, it is necessary to note that participants' perceptions of the early academic career structure were not their only consideration for staying in academia or leaving for a different career. Specifically, many of the participants' perceptions were contrary to their career intentions. Some of the most critical participants plan to stay regardless of their negative perceptions of the early academic career structure. Further, some of the participants who intend to leave academia were much less critical of the early academic career structure than those who intend to stay. This finding doesn't discount the finding that the early academic career structure in Norway often informs the participants' career plans. Instead, it highlights that the early academic career structure is often one of many considerations that academics consider when making career choices.

Based on this idea that the early academic career structure is a consideration that can eventually cause the participants to change their career plans, the findings corroborate the theoretical framework that the gendered nature of the academic organization can eventually cause women to adapt their preferences and opt out of academia (Nielsen, 2017). As aforementioned, for the postdoctoral participants that plan to continue in an academic career, many gave the caveat that they don't want another temporary position, and that they may leave academia if that is all they can find. All of these participants communicated that the personal strain from temporary positions weighs heavily on them, and that continued temporary positions

conflict with their personal lives. For instance, two of the participants stated that they want to have children, and feel that continued mobility between temporary positions would conflict with this plan. Further, the other two participants stated that their relationship and family situations are not compatible with further temporary positions. These participants desire to continue in academia, but acknowledge that they may pursue a different path because the early academic career structure conflicts with their personal lives. As a result, their situations are good examples of women adapting their preferences based on organizational constraints. Further, as many of these participants perceive that the early career structure is incompatible with their personal lives because of reasons such as family planning, these situations reveal that the conflict is with a gendered organizational structure in which the ideal worker has traditionally 'masculine' traits, such as having a personal life which allows them to prioritize career responsibility above domestic responsibility.

Discussion: How Does the Early Academic Career Structure Inform Female Academics' Decisions Around Remaining in Academia?

From the findings and analysis of this master's thesis, four main points emerge in answer to the overarching research question. First, using the analytical framework (Nielsen, 2017), *this thesis found that gendered disadvantages related to the academic career structure in Norway are perceived by the participants*. Specifically, this study used deductive analysis methods to determine if the participants experience Nielsen's concept of a feedback loop of work-life tensions which disadvantage women. Ultimately, this study found that many participants did perceive gender disadvantages in at least one of the four categories of the feedback loop: time demands, performance expectations, mobility demands and job security. Further, many of the participants did perceive that these disadvantages often related to one another, which aligns with the idea that these disadvantages can often exist as a loop which feeds into itself. However, it is important to note that while at least some of the participants perceived a disadvantage in each category, there was varying agreement amongst participants on which categories disadvantaged women, and on the conditions around these disadvantages. For instance, many participants perceived that gendered disadvantages do not exist until women have children, and some felt that

disadvantages were more related to parental status than gender. These variations in the perceptions could be explained by the epistemological idea that there is no singular female perception, because women's intersecting social identities result in a multiplicity of perceptions.

Second, while the participants' perceptions are multifaceted and informed by their intersecting social identities, there is a common theme that the participants perceive that the early academic career structure in Norway as a hindrance to achieving a permanent academic position, although many perceive it as a better structure than other systems which they have experienced. Considering that many of the participants who plan on continuing in academia concede that they may eventually leave academia based on structural barriers, *the findings in this thesis align with the theoretical framework to indicate that the gendered nature of the academic organization can cause women to adjust their preferences and 'opt-out' (Nielsen, 2017)*. Specifically, some of the participants who plan to continue stated that they may eventually choose a different career because the temporary nature of early academic positions conflicts with their life outside of the workplace. As these conflicts often revolved around gender-specific reasons, such as fertility, this thesis makes the argument that these potential career changes would be the result of a career structure that is gendered in a way that disadvantages women.

Third, in order to analyze the recurring perceptions that disadvantage in the career structure is more related to parental status than gender, *this thesis builds on the theoretical framework to theorize that as men in Norway increasingly take on traditionally 'female' tasks in the domestic sphere, they are also disadvantaged by a career structure that caters to patriarchal gender roles*. Specifically, many of the participants perceived that men in Norway increasingly take on an equal share of parental labor as women, and thus face the same disadvantages in their early academic careers. Based on the idea that gender is a social construct, this thesis argues that men in Norwegian society are shifting their social behavior and adapting some traditionally 'female' gendered tasks in the domestic sphere. For example, by taking paternity leave or partaking in equal childcare responsibilities. As a result of this shift in behavior, men who engage in more domestic tasks are faced with many of the same disadvantages as women when navigating the early academic career structure in Norway, because the ideal worker in this system is one who is able to prioritize career responsibilities before family responsibilities (for example, by being mobile or putting in extra work hours). Considering this theory, it could be

argued that changes to the career structure would result in better retention of not only women, but also many men.

Fourth, understanding the knowledge contribution of these perceptions through feminist standpoint epistemology, *this thesis illuminates perceptions of the early academic career structure in Norway which challenge the hegemonic understanding of organizations as gender-neutral (Hirschmann, 1997; Acker, 1990, p.142)*. It is not possible to state that the perceptions of the participants in this study form a feminist standpoint, because as stated in the epistemology section, this would require that they collectively recognize that the dominant hegemonic narrative does not account for their material reality. While many of the participants perceived that there are gendered disadvantages related to elements of the career structure, when asked more directly if they felt the career structure affected women differently than men, many were hesitant to say yes. As a result, there is a discrepancy where the participants often perceive disadvantages on a micro-level, but not on a macro-level. However, the lack of a shared participant standpoint doesn't discount that more participants leaned towards the perception that the career structure does have a gendered impact. Based on this finding, the perceptions in this study challenge the dominant narrative on the career structure, and encourage further exploration of whether the academic organization in Norway is structured in an androcentric way.

Conclusion

Recognizing the current debate around how to structure postdoctoral positions in Norway in addition to the lack of growth within the share of female postdoctoral fellows over the 2010-2020 decade, this study sought to understand the primary research question: *how does the early academic career structure in Norway inform female academics' decisions to remain in academia?* In order to answer this question, four subsequent research questions were formed. First, *how do female academics perceive the early academic career structure in Norway?* Second, *how does gender play a role in female academics' perceptions of the early academic career structure?* Third, *how do disciplinary differences play a role in female academics' perceptions of the early academic career structure?* Finally, *how do female academics' perceptions of the early academic career structure inform their career decisions?* Using a

qualitative case-study methodology, this study endeavored to answer these questions through interviews with twelve female academics who are in their early careers at the University of Oslo.

In regards to how female academics perceive the early academic career structure in Norway, this study found that there is no singular female perception, and academics' perceptions are often informed by their intersecting social identities. For example, Norwegian academics were more likely than their international counterparts to perceive fathers and mothers as facing equal challenges within the early career structure. However, despite this lack of a singular female perspective, there were some themes identified within the participants' varied perspectives. The foremost theme identified is that the participants tend to perceive the early academic career structure in Norway in a negative manner. However, another theme identified is that, for participants who have experienced working in other countries, the Norwegian system is perceived to be comparatively better for early career academics. Additionally, for many of the academics interviewed, their perception of the Norwegian system was tied to their perceptions of other systems with which they interact. As a result, it appears that the transnational nature of academia informs how individuals perceive career structures on a national level.

Concerning how gender plays a role in female academics' perceptions of the early academic career structure, this study used Mathias Wullum Nielsen's (2017) concept of path-dependent feedback loops of gendered disadvantages in academia as an analytical framework to determine the role of gender in participants' perceptions. Specifically, this study used Nielsen's feedback loop of work-life balance disadvantages, because the four categories of disadvantages in this loop are related to the way in which early academic careers are structured. These categories are limitless time demands, blurry performance thresholds, research mobility demands and job insecurity. Using this analytical framework, this study found that the female academics interviewed perceived disadvantages in each of these categories, and that these disadvantages often were interrelated. With this said, participants tended to perceive that gendered disadvantages were more pronounced for those who are planning to have children or have children. As a result, there were clear perceptions that disadvantages related to biological sex do exist for women who want children. However, many participants, particularly those from Norway, perceived these disadvantages in terms of parental status instead of gender, with fathers experiencing equal challenges. Examining these perceptions through the theoretical framework, which argues that women often must adapt their career preferences when faced with gendered

organizations (Nielsen, 2017), this study theorizes that shifting gender norms in Norway cause some men to equally struggle within the gendered organizational structure of early academia, as they increasingly take on traditionally female gender roles in the domestic sphere.

With respect to how disciplinary differences play a role in female academics' perceptions of the early academic career structure, a few interesting differences were observed between the disciplines. For example, Norwegian language qualifications were perceived as more stringent in the humanities, and some of the natural scientists perceived that there is a lack of advancement opportunities for fundamental research. Further, while a singular observation instead of a theme, one participant perceived that longer maternity leave in some of the laboratory sciences makes it more difficult for women in those disciplines to reenter the academic workforce. From these findings, it appears that disciplinary differences sometimes play a role in participants' perceptions of the early academic career structure. However, there is not enough information to determine the exact role of these disciplinary differences. Finally, an interesting observation that emerged was that the career intentions of the participants tended to align with the findings from the 2020 figures of the NIFU FoU Statistikkbanken R&D personnel by field of science, position and gender (see figures 1, 3, 4 and 5). Specifically, the natural sciences had the most participants who intended to leave academia and the humanities had the most participants who intended to continue in academia. Based on these findings, it appears that while the role of discipline in regards to individuals' perceptions of the career structure is still uncertain, there is clearly a disciplinary divide in female retention.

Finally, regarding how female academics' perceptions of the early academic career structure inform their career decisions, this study found that the participants' perceptions of the career structure did inform their career planning. However, it appears that the career structure is one of many considerations for participants, as many of them had perceptions of the early academic career structure which conflicted with their career intentions. Nonetheless, many of the participants who currently plan to continue in academia expressed that some elements of the career structure could eventually cause them to change their career plans. This finding is crucial for this research project, as it aligns with the theoretical framework that the gendered nature of academic organizations can cause women to adjust their career preferences and opt-out (Nielsen, 2017). Moreover, this corroboration of the theoretical framework highlights the importance of reevaluating how academic careers are structured, because there is an apparent problem if even

those most dedicated to staying concede that they may eventually reach a point where they change their minds.

So, how does the early academic career structure in Norway inform female academics' decisions to remain in academia? Ultimately, this thesis comes up with four key conclusions to answer this overarching research question. First, through the analytical framework, *this thesis finds that gendered disadvantages related to the academic career structure in Norway are perceived by the participants*. Second, the *findings in this thesis align with the theoretical framework to indicate that the gendered nature of the academic organization can cause women to adjust their preferences and 'opt-out' (Nielsen, 2017)*. Third, *this thesis builds on the theoretical framework to theorize that as men in Norway increasingly take on traditionally 'female' tasks in the domestic sphere, they are also disadvantaged by a career structure that caters to patriarchal gender roles*. Fourth and finally, framed by the epistemological underpinnings and theoretical framework, *this thesis illuminates perceptions of the early academic career structure in Norway which challenge the hegemonic understanding of organizations as gender-neutral (Hirschmann, 1997; Acker, 1990, p.142)*. From these main points, this thesis points to a clear need for reevaluation and reorganization of the early academic career structure in Norway, in order to better retain academics in their early careers. The system is currently losing promising academics because of its career structure, which is detrimental to the Norwegian academic system as a whole. Through policies that make the career structure more adapted to the lives of modern Norwegian society, the organization will become less gendered, and thus more attractive to academics in their early careers.

Limitations and Suggestions for Further Research

In regards to the limitations of this thesis, the scope of this study was relatively small, with only twelve participants from one university. As this study sought depth over breadth, this small scope was inevitable with the time constraints. However, due to the small scope, this study is less able to definitively make a conclusion that reflects the perceptions of all female academics in their early careers in Norway. However, based on the epistemological underpinnings which posit that there are a multiplicity of female standpoints which reflect the various realities of women, it can be argued that a universal finding is unachievable anyways. Considering this,

although the scope of this study is limited, the findings reveal some of the facets of a multifaceted female perception.

Concerning further research, the findings in this study encourage further studies in two particular areas. First, using the theoretical framework as a lens for understanding the perceptions that parents face equal disadvantages in the Norwegian system, this study theorizes that shifting gender roles in the domestic sphere result in men also facing challenges within the gendered early academic career structure. As this theory is based on the perceptions of the female academics interviewed, it would be interesting to conduct a similar study with fathers in the early academic career structure as participants. Specifically, this study could explore how the early academic career structure in Norway informs the career choices of male academics with children. Comparing results between this initial study and the potential follow-up, one could determine whether the theory proposed in this study has merit. Second, as stated in the introduction, this study did not seek to make specific policy suggestions for how to achieve structural changes. With this said, as some changes to the early career structure in Norwegian academia are already underway, for example via tenure track postdoctoral positions, further studies on the impact of these changes could be useful. Additionally, studies on potential early academic career structure changes at the wider European level would be beneficial, as national academic systems are shown to be embedded in larger transnational contexts.

As shown in this thesis, how the early academic career is structured is important for the satisfaction and retention of talented academics, particularly female academics. Considering that retaining talented academics is necessary to have a flourishing higher education and research sector, all countries should endeavor to have an early academic career structure that attracts academics in their early career and supports their ability to thrive. Academics are passionate about their work, but academic systems that demand sacrifice and withhold support can often prevent this passion from reaching its full potential.

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Appendix A - Interview Guides

Interview Guide – Doctoral Research Fellows

Before we begin, can you sign this information and consent form? It is the same one that I sent over email. You can take the time to read over it and ask questions if you haven't already.

To start, I am going to ask you some introductory questions in order to get an understanding of your situation. These questions will pertain to both your career and your personal life outside of your career.

- 1) How many years of your doctoral studies have you completed?
 - a) Is this your first PhD?
- 2) What is your academic discipline?
- 3) How old are you?
- 4) What is your relationship status?
- 5) Do you have children?
- 6) How do you feel about the job possibilities within Norwegian academia for your discipline?
- 7) What are the possible career paths that you're considering after completing your doctoral degree?
 - a) Do you already know what your next job will be?
- 8) Can you describe for me the career progression from a phd position to a permanent professorship in Norway? Specifically, what positions would someone hold as they advance in their careers and for how long?
- 9) In your opinion, what characterizes the postdoctoral phase of academia?
- 10) Have you heard about tenure-track postdocs in Norway (innstegsstillinger in Norwegian)?

Now I'm going to ask you some questions about time and work demands in your job.

- 1) How many hours a week do you usually work?

- a) How do you experience the time demands in your work?
- a) How do you feel about this in terms of work-life balance?

2) How do you experience the culture around working hours within your academic discipline?
By culture, I mean how those in your discipline approach working hours?

- a) Are there differences for men and women? Can you elaborate?
- b) Ask international academics about differences between Norway and elsewhere.

3) How do time demands at work affect your personal life?

4) How do time demands at work affect your future plans regarding your personal life?

5) How do time demands in academia compare to time demands in other career paths in your field?

6) How do the time demands in early academia influence how you are thinking about future career plans?

Now I'm going to ask you some questions about performance expectations within your position. By performance expectations, I mean the expectations to achieve certain tasks in a satisfactory way. For example, publishing expectations, teaching expectations, and so on. .

1) How clear are the performance expectations within your workplace? Can you explain?

2) What type of performance would be expected of you to advance from a PhD to a postdoc?

3) What are the performance expectations for an academic who wants to advance from a postdoc to an associate professor?

4) How do you feel that gender affects performance expectations in your discipline?

- a) Do you feel that you need to perform more than your male colleagues to achieve the same opportunities?

5) How do performance expectations in early academia compare to the performance expectations in the other career paths in your field?

6) How do performance expectations in early academia influence how you think about your future career plans?

Now I will ask you some questions about demands for mobility within academia. By mobility, I'm referring to working and living in different cities and countries during an academic career.

- 1) In your academic career so far, have you worked or studied in multiple locations (for example: different cities or countries)?
 - a) How did you experience that from a personal perspective?
- 2) How necessary is it to work in multiple locations in order to succeed in an academic career?
 - a) If it is necessary, how much mobility is enough to succeed?
 - b) How do you feel about these mobility demands?
- 3) How would you describe mobility demands within your disciplinary culture?
- 4) How do mobility demands affect female academics in comparison to their male colleagues?
- 5) How do mobility demands in early academia compare to mobility demands in the other career paths in your field?
- 6) How do mobility demands in early academia influence how you think about your future career plans?

Okay. Thank you for your responses so far. Now we are going to talk about job security.

- 1) Can you describe for me how you see your career path progressing?
 - a) Which positions do you imagine you'll hold and for how long?
 - b) What uncertainties exist within this imagined career path?
- 2) How secure is academia as a career path?
 - a) How secure is a career path in your academic discipline?
- 3) How does academic job security impact you personally?
- 4) How do female academics experience job insecurity in comparison to their male colleagues?
- 5) How does job security in early academia compare to job security in the other career paths in your field?
- 6) How does job security in early academia influence how you think about your future career plans?

Based on this discussion, I'm going to ask you to think about opportunities for change within the career structure.

- 1) What changes would you make to the academic career structure in Norway in order to make it more desirable for female academics in the early stages of their careers? Why?
 - a) What changes would you make that are specific for your own discipline?

Now I am going to ask some final questions.

- 1) Do you feel that the academic career structure in Norway affects female and male academics differently? Why?
 - a) If yes, do you think the situation is better or worse within your discipline? Why? Do you have any examples?
- 2) Do you have anything to add about your experience as a woman in your early career in Norwegian academia? By early career, I mean the doctoral and postdoctoral phases of academia.
- 3) Do you have anything to add regarding how the early academic career structure in Norway influences your career plans?
- 4) Are there any questions that I didn't ask you that you think I should have asked?

Thank you for your participation in this interview. I really appreciate you taking the time to meet with me! Can I contact you if I have any further questions?

Interview Guide - Postdoctoral Fellows

Before we begin, can you sign this information and consent form? It is the same one that I sent over email. You can take the time to read over it and ask questions if you haven't already.

To start, I am going to ask you some introductory questions in order to get an understanding of your situation. These questions will pertain to both your career and your personal life outside of your career.

- 1) Can you tell me about your academic career so far? What positions have you held and for how long?
 - a) Is this your first postdoctoral position?
- 2) What is your academic discipline?
- 3) How old are you?
- 4) What is your relationship status?
- 5) Do you have children?
- 6) How do you feel about the job possibilities within Norwegian academia for your discipline?
- 7) What are the possible career paths that you're considering after completing your postdoc?
- 8) Can you describe for me the career progression from a phd position to a permanent professorship in Norway? Specifically, what positions would someone hold as they advance in their careers and for how long?
- 9) In your opinion, what characterizes the postdoc phase of academia?
- 10) Have you heard about tenure-track postdocs in Norway (innstegsstillinger in Norwegian)?
- 11) Can you tell me about your decision to do a postdoc?
 - a) What factors did you consider? Why?
 - b) Were there any factors that were challenging for this decision?
 - c) How do you feel about that decision now that you are in the midst of your postdoc?

Now I'm going to ask you some questions about time and work demands in your job.

- 1) How many hours a week do you usually work?
 - a) How do you experience the time demands in your work?
 - a) How do you feel about this in terms of work-life balance?

- 2) How do you experience the culture around working hours within your academic discipline?
By culture, I mean how those in your discipline approach working hours?
 - a) Are there differences for men and women? Can you elaborate?
 - b) For international academics: What differences are there between the working hours here in Norway and the working hours in your home country?

- 3) How do time demands at work affect your personal life?

- 4) How do time demands at work affect your future plans regarding your personal life?

- 5) How do time demands in academia compare to time demands in the other career paths in your field?

- 6) How do the time demands in early academia influence how you are thinking about future career plans?

Now I'm going to ask you some questions about performance expectations within your position. By performance expectations, I mean the expectations to achieve certain tasks in a satisfactory way. For example, publishing expectations, teaching expectations, and so on.

- 1) How clear are the performance expectations within your workplace? Can you explain?

- 2) What are the performance expectations for an academic who wants to advance from a PhD to a postdoc?

- 3) What type of performance would be expected of you to advance from a postdoc to an associate professor?

- 4) How do you feel that gender affects performance expectations in your discipline?
 - a) Do you feel that you need to perform more than your male colleagues to achieve the same opportunities?

- 5) How do performance expectations in early academia compare to the performance expectations in other career paths in your field?

6) How do performance expectations in early academia for academics influence how you think about your future career plans?

Now I will ask you some questions about demands for mobility within academia. By mobility, I'm referring to working and living in different cities and countries during an academic career.

1) In your academic career so far, have you worked or studied in multiple locations (for example: different cities or countries)?

a) How did you experience that from a personal perspective?

2) How necessary is it to work in multiple locations in order to succeed in an academic career?

a) If it is necessary, how much mobility is enough to succeed?

b) How do you feel about these mobility demands?

3) How would you describe mobility demands within your disciplinary culture?

4) How do mobility demands affect female academics in comparison to their male colleagues?

5) How do mobility demands in early academia compare to mobility demands in the other career paths in your field?

6) How do mobility demands in early academia influence how you think about your future career plans?

Okay. Thank you for your responses so far. Now we are going to talk about job security.

1) Can you describe for me how you see your career path progressing?

a) Which positions do you imagine you'll hold and for how long?

b) What uncertainties exist within this imagined career path?

2) How secure is academia as a career path?

a) How secure is a career path in your academic discipline?

3) How does academic job security impact you personally?

4) How do female academics experience job insecurity in comparison to their male colleagues?

5) How does job security in early academia compare to job security in the other career paths in your field?

6) How does job security in early academia influence how you think about your future career plans?

Based on this discussion, I'm going to ask you to think about opportunities for change within the career structure.

1) What changes would you make to the academic career structure in Norway in order to make it more desirable for female academics in the early stages of their careers? Why?

a) What changes would you make that are specific for your own discipline?

Now I am going to ask some final questions.

1) Do you feel that the academic career structure in Norway affects female and male academics differently? Why?

a) If yes, do you think the situation is better or worse within your discipline? Why? Do you have any examples?

Do you have anything to add about your experience as a woman in your early career in Norwegian academia? By early career, I mean the doctoral and postdoctoral phases of academia.

3) Do you have anything to add regarding how the early academic career structure in Norway influences your career plans?

4) What advice would you give to female phd candidates who are hoping to pursue a postdoctoral position?

5) Are there any questions that I didn't ask you that you think I should have asked?

Thank you for your participation in this interview. I really appreciate you taking the time to meet with me! Can I contact you if I have any further questions?

Appendix B - Code Template

Perceptions of Career Structure Elements as Defined in this Thesis:

- *career progression (carprog)*: When a participant describes the different jobs held in an academic career and/or their perceptions of these positions.
- *qualifications (qual)*: When a participant describes the qualifications needed to advance from one academic position to the next.
- *advancement opportunities (advO)*: When a participant discusses advancement opportunities in early academia and their perceptions around these opportunities.

Potential Structural Gendered Disadvantages Facing Female Academics (inspired by Nielsen's concept of a work-life balance feedback loop of gendered disadvantages (2017, p.29)):

- *positive time/work (posT)*: When the participant expresses a positive perception of the time/work demands in early academia.
- *negative time/work (negT)*: When the participant expresses a negative perception of the time/work demands in early academia.
- *positive performance expectations (posP)*: When the participant expresses a positive perception of the performance expectations in early academia.
- *negative performance expectations (negP)*: When the participant expresses a negative perception of the performance expectations in early academia.
- *positive mobility (posM)*: When the participant expresses a positive perception of the mobility expectations in early academia.
- *negative mobility (negM)*: When the participant expresses a negative perception of the mobility expectations in early academia.
- *positive security (posS)*: When the participant expresses a positive perception of job security in early academia.

- *negative security (negS)*: When the participant expresses a negative perception of job security in early academia.

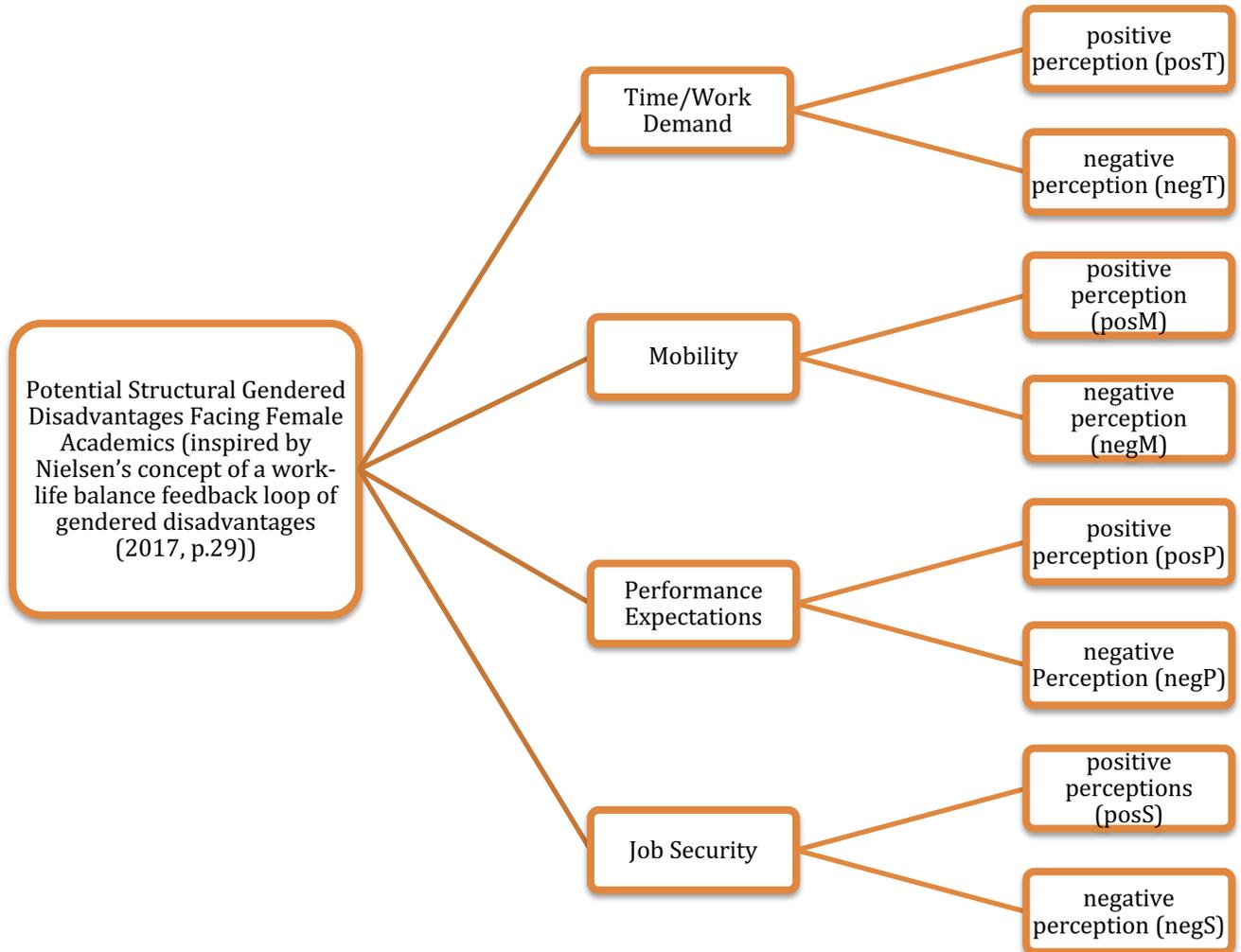
How Perceived Disadvantages Inform Career Choices:

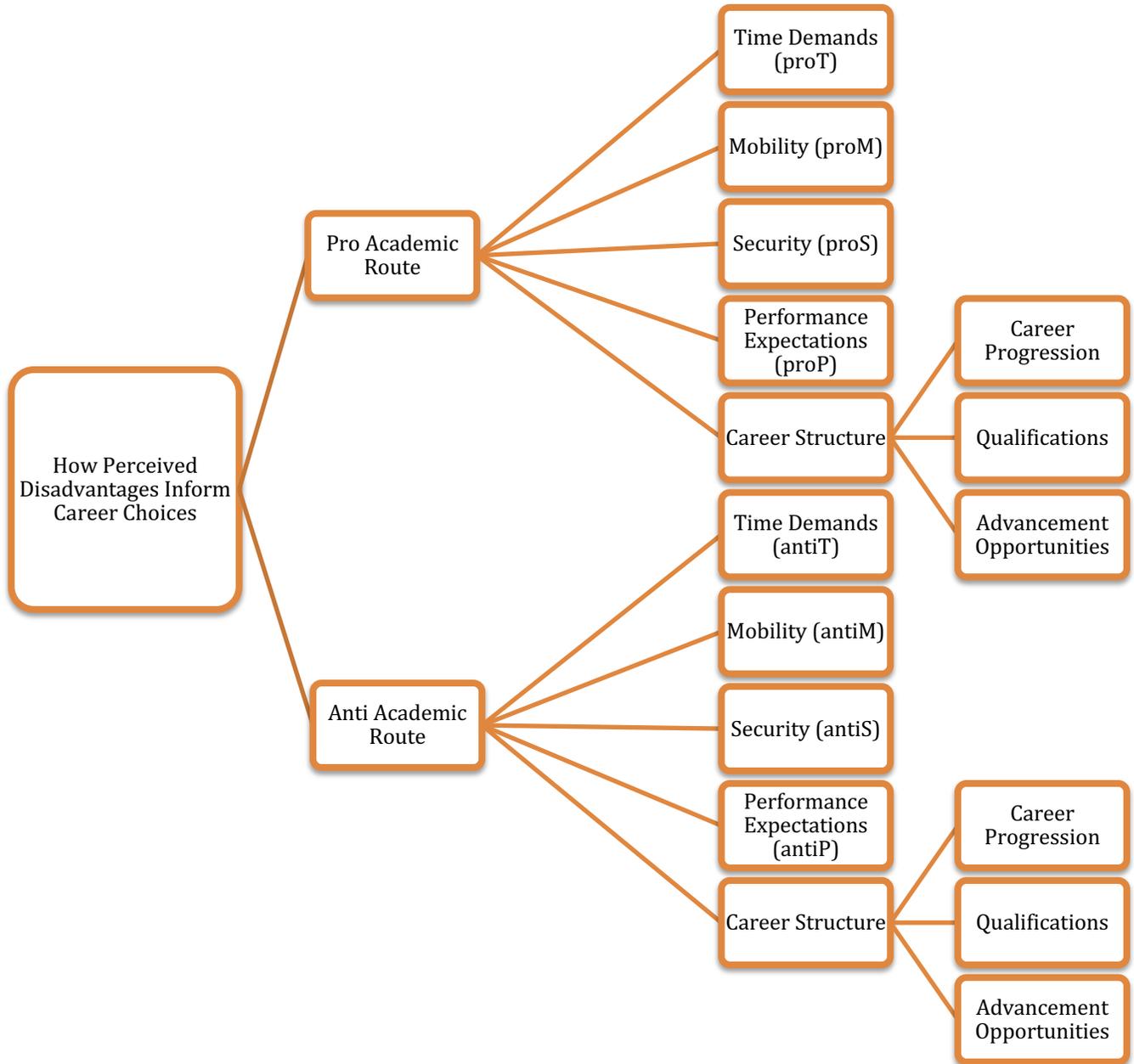
- *pro academic route (pro)*: When a participant expresses that an element of the early academic career structure is a positive consideration for staying in academia.
 - career structure
 - career progression (*proCarprog*)
 - qualifications (*proQual*)
 - advancement opportunities (*proAdvo*)
 - time/work (*proT*)
 - performance expectations (*proP*)
 - mobility (*proM*)
 - security (*proS*)
- *anti academic route (anti)*: When a participant expresses that an element of the early academic career structure is a negative consideration for staying in academia.
 - career structure
 - career progression (*antiCarprog*)
 - qualifications (*antiQual*)
 - advancement opportunities (*antiAdvo*)
 - time/work (*antiT*)
 - performance expectations (*antiP*)
 - mobility (*antiM*)
 - security (*antiS*)

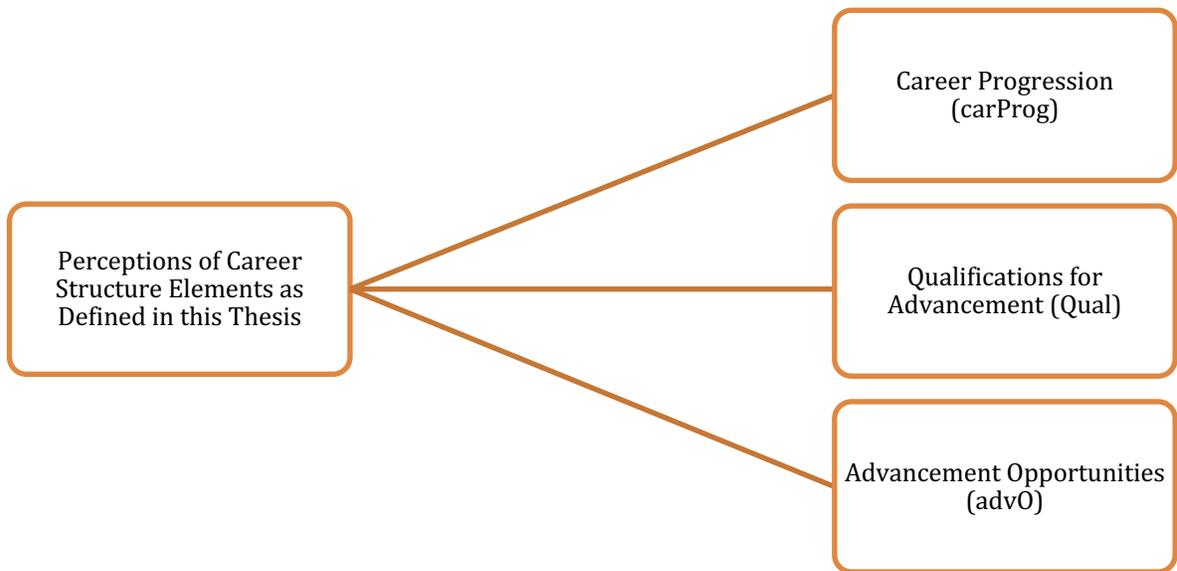
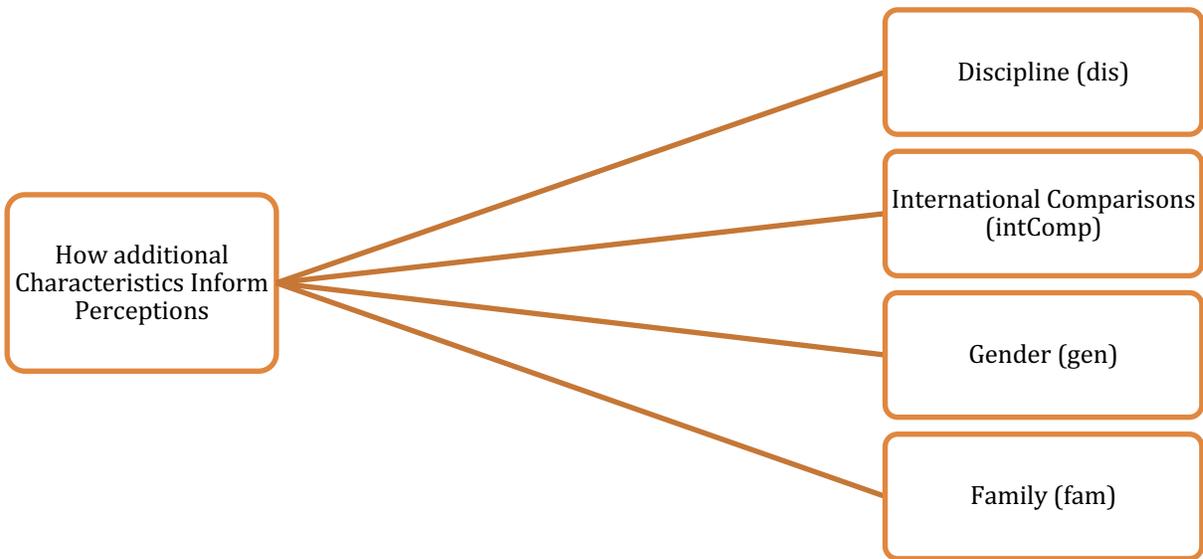
How additional Characteristics Inform Perceptions:

- *discipline (dis)*: When a participant mentions a disciplinary dimension
- *gender description (gen)*: When a participant discusses potential gender differences.
- *family differences (fam)*: When a participant discusses how academics with children are affected.
- *international comparison (intComp)*: When a participant makes a comparison between the Norwegian system and a different country's system.

Appendix C - Coding Clusters







Appendix D - Recruitment Email

Dear (insert name here),

My name is Rachel Griffith, and I am writing my master's thesis in Higher Education at the Department of Education at UiO. I am interested in understanding how higher education institutions can best support and retain female academics. With this said, I am writing my master's thesis on how female academics in their early career view postdoctoral positions, and how this informs their career choices.

Therefore, I am seeking to interview female doctoral candidates and postdoctoral fellows in the Humanities, Social Sciences and Natural Sciences about their perceptions of early academic careers in Norway. As you are a (phd or postdoc) in (name of discipline), would you be willing to partake in an interview for this study?

The interview will be in-person and take around one hour. It can take place at the location of your choice. Additionally, all participants and identifying information will be anonymized during transcriptions.

If you are interested in participating in this study or have any questions about the study, please respond to this email via the email address: rachelmg@student.uv.uio.no.

Thank you for taking the time to consider this request. I understand that you are very busy with your own research, but I hope that you can participate.

Have a lovely day!

Sincerely,
Rachel Griffith

Appendix E - Participant Information Letter

Are you interested in taking part in the research project “Female Perspectives on the Norwegian Early Academic Career Structure?”

The main purpose of this research project is to explore how female academics in their early career perceive the current early academic career structure in Norway. Based on your perspectives, I hope to understand how career structure plays a role in female academics' career decisions.

Purpose of the Project

This project is a master's thesis at University of Oslo Department of Education.

The aims of this project are:

- To explore female academics' perceptions of the early academic career structure.
- To investigate the drop in female academics between PhD and Postdoctoral levels.
- To analyze disciplinary differences in female academics' perceptions of the early academic career system in Norway.

Who is responsible for the research project?

The University of Oslo is the institution responsible for this project. Rachel Griffith, a master's student at the Department of Education, is the responsible researcher. Hannah Mülder, a PhD candidate at the Department of Education, is the project leader.

Why are you being asked to participate?

I have contacted you because your perspective and experiences as a female academic in your early career are invaluable to this study.

What does participation involve for you?

I am asking you to partake in a personal interview that will take approximately one hour. This interview will be in-person and will be recorded.

Participation is voluntary.

Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you choose not to participate or later decide to withdraw.

Your personal privacy - how we will store and use your personal data

We will only use your personal data for the purpose specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). Only the responsible researcher, Rachel Griffith, and the project leader, Hannah Mülder, will have access to your personal data. Data will be stored on a protected, University of Oslo approved server. Participant identities and all identifying data will be hidden in the processed data and the released research.

What will happen to your personal data at the end of the research project?

The project is scheduled to end on December 31st, 2023. After this date, all personal data, including recordings, will be deleted.

Your rights

So long as you can be identified in the collected data, you have the right to:

- Access the personal data that is being processed about you
- Request that your personal data is deleted

- Request that personal data about you is corrected/rectified
- Receive a copy of your personal data (data portability), and
- Send a complaint to the Data Protection Officer at the Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with the University of Oslo, Data Protection Services has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?

If you have questions about the project or want to exercise your rights, contact:

- ❖ The Department of Education at the University of Oslo via the responsible researcher, Rachel Griffith and/or the project leader, Hannah Mülder:
 - Contact Rachel Griffith by email (rachelmg@student.uv.uio.no)
 - Contact Hannah Mülder by email (hannah.mulder@iped.uio.no) or by telephone (+47 22 84 44 27)
- ❖ Our Data Protection Officer, Roger Markgraf-Bye:
 - Contact Roger Markgraf-Bye by email (personvernombud@uio.no)
- ❖ Data Protection Services:
 - Contact Data Protection Services by email (personverntjenester@nsd.no) or by telephone (+47 55 58 21 17)

Sincerely,

Rachel Griffith (responsible researcher) and Hannah Mülder (project leader)

Appendix F - Participant Consent Form

Consent Form

I have received and understood information about the project “Female Perspectives on the Norwegian Early Academic Career Structure” and have been given the opportunity to ask questions. I give consent:

- To participate in an interview and to be sound recorded

I give consent for my personal data to be processed until the end date of the project, approximately December 31, 2023.

(Full name)

(Participant’s Signature and Date)