Careers of Doctorate Holders

A Study of the Gendered Context of Family Dynamics and Earnings

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Abstract

At the international level, Iceland is faring well on gender assessments concerning economic status, political position, education, and health. However, despite the ambitious goal of the Icelandic Government to fully reach gender equality, the gender pay gap prevails. Education is considered crucial in mitigating this pay gap. In Iceland, the percentage of female doctorate holders has been steadily increasing, however, little attention has been given to how gender may affect the interplay between work–family balance, career making, and earnings of doctorate holders.

This dissertation is one of the outcomes of the NORDICORE research collaboration. The objective of the thesis is to obtain a better understanding of the gendered differences in career making among doctorate holders in Iceland, using both quantitative and qualitative methods. By utilizing Statistics Iceland's longitudinal individual register-based census data of the period between 1997 and 2017, we were able to identify all individuals who obtained a doctorate degree in the fields of science, technology, engineering, and mathematics as well as social sciences and humanities between 1997 and 2013. The year 2017 is set as the baseline, which is the point in time when the identified individuals held 5- to 20-year-old doctorate degrees (N=814). A special focus was aimed at investigating possible inequalities in earnings of doctorate holders, with a particular focus on how gender, field of study, employment within or outside academia, and family transitions such as childbirths and periods of parental leave influence career development through period of up to 20 years. Furthermore, 32 in-depth interviews were conducted with individuals from the same pool of doctorate holders to understand people's perceptions on possibilities and constraints regarding their career-making and examine how various family elements, such as having children and running a household, were influencing, or had influenced, their choices and decision-making throughout

their careers. The extensive family policies provided by the Icelandic government, designed to help facilitate equal rights for men and women within the labor force as well as to provide better opportunities for women to advance their career, have contributed to Iceland reaching a higher level of gender equality compared with many other countries. Therefore, Iceland provides an interesting setting to research gender (in)equality from another starting point than previous studies.

The findings from the quantitative phase of the study reveal—despite Iceland's reputation as a 'gender-equality-paradise'—a continuous gender pay gap among Icelandic doctorate holders through a 20-year period. This applies regardless of field of study or the employment being within or outside academia. Not only do male doctorate holders earn significantly more than their female counterparts, but having children positively impacts men's earnings whereas for women, children start to have a negative impact 10 years after graduation. Furthermore, the findings from the qualitative phase reveal that male doctorate holders generally felt a higher level of agency regarding their work–family balance and time management compared with female doctorate holders who more often expressed difficulties in finding a proper balance and expressed being more stressed about the often-fragmented time they had to combine their career and family obligations successfully. The findings further underline that the widely accepted notion of women's education as a tool for closing the gender gap and the widely known reputation of Iceland as a "gender-equality-paradise" in some ways serves as a façade behind which the more accepted, traditional gendered functions disappear. Although the traditional male breadwinner model is assumed to be outdated in Icelandic society, some of its pillar thoughts still persist beneath the surface, also among doctorate holders. In such an environment, cultural habits, such as the traditional division of labor at home, are more easily portrayed as individualistic choices or agreements between partners. Moreover, the gender power divisions within the home also stay in place, negatively and continuously affecting the

careers and finances of women. Therefore, it can be concluded that equality-promoting legislation—despite contributing to changing norms and values to some extent—is not by itself sufficient to fully improve gender equality within the organizational environment of workplaces or the gendered power relations between partners, coupled with traditional gendered identities/gender roles. A constant discussion on both the organizational and societal levels of deeply embedded gendered cultural values and ideas is also required.

Ágrip

Ísland hefur komið vel út í alþjóðlegum samanburði á jafnrétti kynjanna. Þrátt fyrir gott gengi og metnaðarfull markmið íslenskra stjórnvalda til þess að ná fullu kynjajafnrétti, ríkir enn kynbundinn launamunur á almennum vinnumarkaði. Því hefur verið haldið fram að aukin menntun kvenna sé lykilatriði í því að jafna stöðu kynjanna á vinnumarkaði og afnema kynbundinn launamun. Menntun kvenna hefur aukist mikið hér landi og hlutfall kvenna sem lýkur doktorsprófi hefur einnig verið í stöðugum vexti. Þrátt fyrir það hafa fáar rannsóknir verið gerðar á tengslum doktorsprófs við starfs- og launaþróun kynjanna, einkum með tilliti til fjölskyldustöðu.

Doktorsritgerðin er ein afurða NORDICORE rannsóknarsamstarfsins, en markmið hennar er að öðlast betri skilning á starfs- og launaþróun doktorsmenntaðra einstaklinga á Íslandi, sem starfa bæði innan og utan akademíunnar, einkum með tilliti til þess hvernig kyn og fjölskyldustaða geta haft áhrif á þá þróun. Bæði megindlegum og eigindlegum aðferðum var beitt við gerð rannsóknarinnar.

Til greiningar voru nýtt langtímagögn frá Hagstofu Íslands frá árunum 1997 til 2017. Með langtímagögnunum var hægt að greina alla þá einstaklinga sem á tímabilinu 1997 til 2013 hlutu doktorsgráðu á sviði raunvísinda, tæknifræði, verkfræði og stærðfræði auk hug- og félagsvísinda og höfðu þar með árið 2017 náð 5-20 ára starfsferli að loknu prófi (N = 814). Sérstök áhersla var lögð á að kanna launamun kynjanna á áðurnefndu tímabili með hliðsjón af prófsviði og starfsvettvangi innan og utan akademíu auk fjölskylduþátta á borð við barneignir og fæðingarorlofstöku. Að auki voru 32- hálfstöðluð viðtöl tekin úr sama hópi doktorsmenntaðra einstaklinga. Við greiningu viðtalsgagnanna beindist áherslan hins vegar að því að skoða hvernig þátttakendur lýsa upplifun sinni á bæði tækifærum og hindrunum á sínum starfsferli og hvernig ýmiskonar fjölskylduþættir eins og barneignir, stofnun fjölskyldu og rekstur heimilis hefðu,

eða hefðu á einhverjum tímapunkti haft áhrif á ákvarðanatökur er vörðuðu starfsferilinn. Framsækni Íslands hvað varðar atvinnuþátttöku kvenna auk umfangsmikillar fjölskyldustefnu stjórnvalda, sem ætluð er að stuðla að jöfnum rétti karla og kvenna á vinnumarkaði hefur vakið alþjóðlega athygli þar sem Ísland er álitið hafa náð langt hvað varðar kynjajafnrétti samanborið við aðrar þjóðir. Í ljósi þessa, veitir Ísland áhugaverða umgjörð til þess að rannsaka jafnrétti kynjanna út frá öðrum sjónarhóli en fyrri rannsóknir.

Niðurstöður greiningar langtímagagnanna leiddu í ljós að þrátt fyrir orðspor Íslands sem „jafnréttisparadísar“ má finna viðvarandi kynbundinn launamun meðal doktorsmenntaðra einstaklinga á því 20 ára tímabili sem til skoðunar var, óháð námssviði eða starfsvettvangi. Þess utan kom í ljós að börn á heimili hafa jákvæð áhrif á tekjur karla meðan því er öfugt farið hjá konum. Hjá þeim verða áhrifin neikvæð 10 árum eftir útskrift. Enn fremur sýndu niðurstöður úr greiningu viðtalsgagnanna að doktorsmenntaðir karlar hafi yfir meiri gerendahæfni og svigrúmi að ráða heldur en konur þegar kemur að því að stjórna sínum eigin tíma og finna jafnvægi milli vinnu og fjölskyldulífs. Konur á hinn boginn tjáðu sig oftar en karlar um erfiðleika við að finna slíkt jafnvægi og lýstu frekar mikilli streitu í viðleitni sinni til að nýta sundurslitinn tíma sinn í að sameina atvinnu og fjölskylduábyrgð svo að sómi væri að. Niðurstöðurnar undirstrika enn fremur að hin almennt viðurkennda hugmynd um að aukin menntun kvenna sé lykilatriði í því að afnema kynbundinn launamun, auk orðspors Íslands sem „kynjajafnréttisparadís“ hefur að einhverju leyti þjónað sem nokkurs konar huliðsblæja fyrir hin hefðbundnari kynhlutverk. Því þrátt fyrir að fyrirvinnu-módelið teljist í dag ekki ráðandi í íslensku samfélagi, hafa grunnhugmyndir þess þó haldið velli undir yfirborðinu, einnig meðal fólks með doktorspróf. Í slíku umhverfi verður auðveldara að túlka hefðbundin kynjuð menningarleg gildi og venjur, líkt og raunin er með hefðbundna verkaskiptingu á heimilum, sem einstaklingsbundið val eða samkomulag milli maka. Með þessum hætti hefur hin kynbundna verka- og valdastaða innan heimilisins tilhneigingu til að standa í stað sem getur haft langvarandi neikvæð áhrif á

starfsferil og fjárhagstöðu kvenna. Af niðurstöðunum má því draga þá ályktun að pólitísk stefnumótun sem ætlað er að jafna hlut kynjanna á sviði atvinnulífs og á heimilum (þrátt fyrir að hún vissulega að einhverju leyti stuðli að breyttum viðmiðum og gildum), dugar ekki ein og sér til að jafna stöðu kynjanna. Þá skiptir ekki máli hvort um er að ræða kynbundin launamun eða valdatengsl í atvinnulífinu og á heimilum. Þörf er á stöðugri umræðu, hvort sem er samfélagslegri, pólitískri eða á svið atvinnulífsins, um hin djúpstæðu og innbyggðu kynjuðu gildi og viðmið í samfélaginu til þess að möguleiki sé fyrir hendi að mjakast í rétta átt.

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1 Introduction

During my graduate studies at the University of Potsdam, Germany, I got the opportunity to work as a research assistant and later as a researcher at the Department of Sport- and Health Sociology. In this manner, I was introduced to the life of an academic through my participation in research projects as well as working with and evolving friendships with my colleagues, many of whom were doctorate holders or PhD candidates. The life of an academic, or a researcher, is in many ways intriguing. Being able to work on topics of interest and dive deep into research, often in collaboration with other like-minded people, is fascinating and something that many would consider making a career out of. This career path, however, is not all rainbows and unicorns. During my work at the Department of Sport- and Health Sociology, I realized that the majority of work is driven by highly educated people who for years only get temporary contracts—commonly only one year at a time—and on top of that, often only part-time jobs. It is evident that this kind of working environment is not something people strive for but rather put up with for their love of research and in hopes for a better position later. Through my first—and of course only—skin-deep experience of German academia, I was not convinced that pursuing a PhD and striving for an academic career was something I would be interested in. However, this also made me think about what opportunities existed for doctorate holders—especially within social sciences—who choose employment outside academia. I was also interested in knowing the ways in which the Icelandic academic environment could differ from German academia and if the Icelandic welfare system, with its dual-earner family model, (in contrast, the German welfare system is rather based on a modified male-breadwinner model), would facilitate better opportunities for doctorate-holding women to advance their career, whether from within or outside academia. Thus, when I was presented with the opportunity to enroll as a PhD student in the NORDICORE (Nordic Center for Research on Gender Equality in Research and Innovation)

research project that aimed to investigate the fate of those who have completed doctoral degrees and work within or outside the academia in Sweden, Norway and Iceland (NORDICORE, 2021), my former doubts on whether to continue my studies with a PhD or not, went out of the window.

The main objective of the NORDICORE project, which is financed by NordForsk (2021), is to study gender differences in career-path developments among doctorate holders both within the public and private sectors in Nordic countries. Specifically, we wanted to analyze how gender, age, and family dynamics influence people's career progressions and explore the impact of these factors on the gender gap over one's life course. This dissertation is one of the outcomes of this research collaboration.

This study has a pragmatic approach; it utilizes a multi-method design combining analyses of longitudinal register data with in-depth semi-structured interviews. Such combination of methods can allow more scope and depth, drawing a more comprehensive picture of complex phenomena (Creswell & Clark, 2018).

1.1 The Objective and Scientific Value of the Study

The objective of this dissertation is to investigate possible gender inequalities in career-making and earnings among doctorate holders in Iceland. A special focus is put on how factors such as gender, family status, and societal gendered norms (for instance, regarding time use) influence the doctorate holders' work–family balance and consequently their career development and earnings over a time period spanning up to 20 years.

While numerous empirical studies on academia already exist, specifically regarding its gendered organizational work culture (Acker, 1990, 2006; Aiston & Jung, 2015; Raddon, 2002; Van den Brink & Benschop, 2012) and its influence in terms of different outcomes for men and women regarding work–family balance and career progression (Caprile et al., 2011; Halrynjo & Lyng, 2009; Heijstra et al., 2013; Nakhaie, 2009; Rafnsdóttir & Heijstra, 2013), doctorate holders in general have been largely understudied. However, the

number of doctorate holders have been on the rise over the last few decades (Auriol, Misu, & Freeman, 2013; Boosten & Vandevelde, 2014; Gokhberg, Shmatko, & Auriol, 2016) and not everyone chooses to work within academia. The lack of knowledge regarding doctorate holders, especially those who work outside academia, is evident when reading the existing literature on academia.

Moreover, Iceland is a country where gender equality is assumed to be at a higher level compared with other countries, due to its extensive family policies in terms of parental leave benefits and the availability of publicly funded childcare facilities as well as policies against discriminatory practices at the workplace. This produces an excellent setting and opportunity to study the production and reproduction of gender inequality among doctorate holders from a different perspective compared with previous studies. Accordingly, the research questions for this dissertation are as follows: In light of the extensive family policies implemented by the Icelandic government, designed to help facilitate equal rights for men and women within the labor force as well as to provide better opportunities for women to advance their career, are there any differences between female and male doctorate holders in Iceland in terms of their earnings? If so, are there differences in terms of the field of study chosen or the employment being within or outside academia? Do family structures impact the earnings of male and female doctorate holders in different ways? How beneficial is it for male and female doctorate holders to be in a relationship compared to being single, and does having children play a role in this context? Does taking parental leave have a different effect on male and female doctorate holders in terms of their earnings? Also, are there observable gendered patterns in the way doctorate holders make sense of their agency regarding their time management and how they negotiate employment and family decisions with their partners? Are there any gendered differences in how doctorate holders make sense of their lived experience of having children, taking parental leave, and balancing work and family?

The added scientific value of this research lies in its thorough analysis of earnings among doctorate holders in Iceland. More concretely, by focusing on gender wage (in)equality and by analyzing the data from a feminist perspective, this research contributes to Sustainability Development Goal no. 5, which aims to achieve gender equality and empower all women and girls (Sachs, Kroll, Lafortune, Fuller & Woelm, 2021). Furthermore, research on gender wage equality among doctorate holders is vital because education is assumed to empower women and is seen as one of the key drivers in improving gender equality and diminishing the gender pay gap (Blau & Kahn, 2017; Casey, 2009; Bobbitt-Zeher, 2007). Furthermore, as mentioned earlier, while prior research has primarily focused on academia, this research expands to doctorate holders outside academia and compares the situation of those who work within academia to that of those who work outside. Additionally, the literature on career path development, especially within academia, predominantly revolves around women. On the other hand, this study, apart from expanding to doctorate holders outside academia, also puts equal emphasis on the experiences of men and women. Moreover, emphasizing the significant others' role in terms of work–family negotiations and career-making of the doctorate holders counts as an innovative contribution to the existing literature. Finally, the Icelandic register-based census data used in this study not only provides a count of the entire population of doctorate holders holding 5–20-year-old degrees but also includes information on their partners. This made it possible to follow the annual earnings as well as the educational level of the partners and to investigate the possible impact of the partners' earnings on the earnings of the doctorate holders. This is a unique addition to the topics covered in previous studies.

1.2 The Icelandic Context

Most researchers, situated in Iceland, probably know the struggle of 'selling the idea' to international journals that the Icelandic context is a significant one in the big scheme of everything. Because, why should people from all over the

world be interested in what is happening in this small and sparsely populated island of 364.000 inhabitants, a country counting more sheep than people (Statistics Iceland, 2019, 2020a). However, due to its uniqueness in many aspects, Iceland serves as an interesting research context, for instance, researching gender equality.

The Icelandic state provides extensive family policies for its citizens. The Icelandic welfare society is a dual-earner family model where men and women take on "shared societal roles" in "a dual-earner, care-sharing family" (Leira, 2002). This perhaps becomes most visible through the Icelandic paid parental leave policy and the childcare facilities provided by municipalities. Iceland defines both mothers and fathers as active caregivers as well as employees, and it has done so by reserving three out of nine months of parental leave exclusively for fathers, while three months are for mothers, and the remaining three are shared parental leave. The Act on Parental Leave is now two decades old (Act on Parental Leave No. 95/2000). However, in December of 2019, the Icelandic Parliament agreed on lengthening the parental leave progressively up to 12 months in January 2021. Now six months (of which six weeks are transferable) are reserved for each parent (Act on Extending the Parental Leave No. 143/2019).

Until recently, the birth rate in Iceland was relatively high compared to other northern European countries, although it has seen some decrease over the last few years with the birth rate in 2020 being 1.7 children per woman (Statistics Iceland, 2021a). Moreover, compared to other northern European countries, Icelandic men and women establish families and have children at a relatively young age (Jónsson, 2017; Hognert et al., 2017), with the average age of mothers at the birth of their first child being 28.6 in 2020 and men on average about two years older (Statistics Iceland, 2021b). The labor market participation of Icelandic women is nonetheless one of the highest in the world and also the highest among women in OECD countries (81% in the year 2019 compared to 86.2% for men) (OECD, 2020). Nevertheless, women are still more likely to

work part-time (34.5% of women compared to 12.8% of men worked part-time in 2020) (Statistics Iceland, 2021c). Furthermore, women worked 34.8 hours per week on average, whereas men worked 41.7 hours per week. For comparison, the OECD average for women is 33.4 hours and for men is 39.2 hours (OECD, 2021)

For these reasons, Iceland has been considered to be at the forefront of gender equality worldwide and has consistently been ranked first since 2009 by The World Economic Forum's Global Gender Gap Report (The World Economic Forum, 2020). Iceland's reputation as the most gender-equal country in the world has been quite prominent in public discourse and media, both in Iceland and around the world. This media discourse portrays Iceland as a paradise for women and implies that gender equality in Iceland has more or less been achieved (see e.g., Hertz, 2016; Jakobsdottir, 2018; Kilpatrick, 2017; Tuttle, 2017). In an international comparison, Iceland is certainly doing well when it comes to gender equality concerning economic status, political activity, education, and health. Still, there are some cracks in the image.

The Icelandic labor market is gender segregated, both horizontally and vertically. Women in Iceland are far less likely to be in managerial positions than men, being only 23,4% of CEOs when all companies are considered. However, the proportion significantly lowers as the companies get bigger. Only 15,2% of CEOs employing 250+ people are women (Einarsdóttir, Rafnsdóttir, & Valdimarsdóttir, 2019; Júlíusdóttir, Rafnsdóttir, & Einarsdóttir, 2018; Statistics Iceland, 2021f). Furthermore, the gendered pay gap in the general labor market has been ongoing. In 2019 the unadjusted gender pay gap was 14%, but in 2020 had narrowed down to 12.6%. However, within the private sector the gender pay gap stood in 12.9% in 2020, whereas it was 11.2% in the public sector (Statistics Iceland, 2020c).

The levels of higher education have been on the rise in Iceland, especially among women, who now receive 70% of university degrees in the country (Bjarnason & Edvardsson, 2017) and are surpassing men in terms of

numbers of PhD graduations (University of Iceland, 2019). However, Heijstra et al. (2015) indicate that men are more likely to be full professors than women.

Additionally, despite the very high rate of active female participation both in the labor market as well as in higher education, the Icelandic labor market remains significantly gendered and the rates of gender segregation both in the line of work and educational choices are striking (Rafnsdóttir & Weigt, 2019). In fact, professions such as kindergarten teachers and nurses are extremely feminized with only 1-2% of the employees being men (Statistics Iceland, 2017). Such gender segregation in higher education has been acknowledged as a critical factor in terms of ongoing gender inequalities in the labor market (Bobbitt-Zeher, 2007; Barone & Assirelli, 2020).

According to Ólafsdóttir and Rögnvaldsdóttir (2015), overall pay in sectors dominant by women is lower than that of sectors dominant by men. Furthermore, according to Statistics Iceland (2021e), the more male dominated the sector becomes, the greater the gender pay gap. For instance, in 2020 the gender pay gap among office workers was 0.1% whereas it was 18% among managers and 23% among technicians.

Trade union participation in Iceland is very high or approximately 90% (Confederation of University Graduates, 2021). All academics within public universities and public research institutions receive wages based on collective pay scales. Academic employees are assigned to a pay bracket based on rank/type of occupation and job performance. Within public universities and research institutions individual pay negotiations are not possible (Association of University Teachers, 2021). Similarly, to academics employed within public universities, non-academic employees working within the public sector are members of the Confederation of University Graduates. The union preserve the right to negotiate collective agreements for their members. This means that non-academic employees working within the public sector also receive wages determined by collective pay scales, where individual pay negotiations are not possible. On the other hand, academic employees working for private

universities do not receive wages based on these collective pay scales, and individual pay negotiations are central to the employees' wages. The same goes for non-academic employees working within the private sector. Although many employees within the private sector are part of trade unions as well, these trade unions only help with making sure the employees do not receive less pay than similar jobs within the public sector. However, individual pay negotiations are mostly what determines people's pay within the private sector (Confederation of University Graduates, 2021).

Closing the gender pay gap is, however, considered crucial in Iceland and to address it, the Government of Iceland became the first in the world to implement an Equal Pay Standard in 2018—an equal pay certification. This was done through an amendment (no. 56/2017) to the Act on Equal Status and Equal Rights of Women and Men (no. 10/2008). The aim of this legislation is to prohibit gender-based discriminatory practices. It requires that women and men working for the same employer are paid equal wages and enjoy equal terms of employment for the same jobs or jobs of equal value. Companies and institutions employing 25 or more workers, on an annual basis, will be required to obtain equal pay certification, following an audit of the company's or institution's equal pay system; the equal pay system and the implementation thereof should meet the requirements of the ÍST 85 standard (Government of Iceland, 2017). To ensure that the companies adhere to the standard in the long run, the certification is supposed to be renewed after every three years. This legislation is considered progressive and has gained international recognition (see e.g. Henley, 2018; Morad, 2018; Rubery, 2019). High expectations have been associated with the Equal Pay Standard that it will 'do the trick' and finally bridge the gendered pay gap in the Icelandic labor market (Alderman, 2017; Morad, 2018). Although, disadvantages inherent in job evaluation systems, such as the Equal Pay Standard is, have also been addressed (Wagner, 2020).

Despite the various measures implemented over the years at the institutional level to effect changes towards a more gender-equal labor market, considerably less attention has been given to gender equality in the home and in the interplay between home and work. A study by Thorsdottir (2012) indicates however that although men are indeed participating in housework to an increasing extent, women still bear the primary responsibility of the home, and the traditional gender division in the home is still prevalent. This could indicate that gender equality within the macro environment, achieved through equality legislations and public policy changes, does not automatically or by itself abolish gender inequality within close relationships.

Finally, in light of the aforementioned public and media discourse around Iceland's success and even its nation branding (Einarsdóttir, 2020) as a very progressive country and role model among nations with respect to gender equality, the Icelandic context provides a unique setting to research the production and reproduction of gender inequality among doctorate holders from a slightly different perspective compared to previous studies.

1.3 Terminology

1.3.1 Doctorate Holder

Icelandic universities award students with the degree 'Doctor of Philosophy' or PhD regardless of their field of study. However, this is not the case for all countries. Both depending on the students' field of study as well as the country from where the degree is awarded, the name of the doctoral degrees can vary significantly. Most Icelandic doctorate holders finish their degrees from other countries and due to these differences, I decided to use the term 'doctorate holders' as often as possible in my dissertation. However, in cases where I have used the term PhDs in my articles, I do not exclude doctorate holders with other types of degrees.

1.3.2 Science, Technology, Engineering, and Mathematics versus Social Sciences and Humanities

In the early stages of the NORDICORE project, a decision was made to only investigate the career trajectories of people holding doctorate degrees either within Science, Technology, Engineering, and Mathematics (STEM) or Social Sciences and Humanities (SSH). This means that the fields of Medical and Health Sciences as well as Agricultural Sciences were excluded. The reason why we decided to exclude these particular fields is because they often differ from the other fields in term of how the doctorate degrees are attained. In this dissertation, I stay true to the NORDICORE decision and only include doctorate holders from either STEM or SSH, which we based on the OECD classification (OECD, 2007).

1.3.3 Inside Academia versus Outside Academia

In all the articles, I compare or make a distinction between academic staff and people working in the general labor market outside academia. However, when it comes to the term 'academics' who gets included does vary between articles. Technically, the term includes all professionals who are either tenured or teach at a university level. More concretely, it includes all employees in the Icelandic *lektor*, *dósent*, and *prófessor* positions, (comparable to assistant professor, associate professor, and full professor) as well as the *aðjúnkt* and *stundakennari* positions (English: adjuncts and part-time lecturers). In the register census data, all the above-mentioned positions are included in the term 'academic.' However, as we were preparing to take the interviews, a decision was made to narrow the term down to assistant professor, associate professor, and full professor positions only to obtain a better match between interviewees and a quicker saturation of our narratives. This implies that in the qualitative interviews, the term academic only refers to tenured or tenured–tracked positions.

I make no distinctions, in any of my articles, between the people working within the general labor market. That is, they are not further

categorized based on occupational status/responsibility or on their employment being within the public or private sector.

1.3.4 Gender

For the purpose of this dissertation, in my definition of gender, I draw from Giddens's structuration theory as well as on Risman's (1998, 2004) theory of gender as a social structure. Risman uses Giddens's structuration theory "to help conceptualize gender as a structure that creates stratification with an emphasis on the recursive relationship between structure and individuals". Risman (1998, 2004) further states that the gender structure has consequences on three dimensions in terms of the opportunities and constraints they inhibit: (1) at the individual level, regarding the development of gendered selves; (2) through everyday interaction that reproduce gendered status expectations, which in turn create cognitive biases that can explain the reproduction of gender inequality; and (3) at the institutional level where both cultural logic and regulations regarding resource distribution and material goods are explicitly gender specific. Drawing on both Risman and Giddens, I define gender as a structure, socially constructed around assumed distinctions between females and males, embodied by individuals through elements such as informal rules, beliefs, values, or patterns that are constantly being produced, reproduced, and transformed within society through time by agents who are engaged in their practice (Risman, 1998, 2004; Giddens, 1978). However, in general, I do not believe gender to be a dichotomous structure, as the definition might imply. The message men and women receive regarding the adoption of their gendered roles can be contradictory, can change over time, and can differ between cultures. It can also differ by age, class position, sexual orientation, gender identity, sex characteristics (intersex), physique, disability, and other statuses people might have in society (Hinsegin frá Ö til A, n.d.). Gender is thus a very complex social construct which for many people is more of a fluid spectrum instead of discrete male/female categories. However, a decision was made by the NORDICORE network to narrow the term down to a distinction between male and female.

This was done because the statistical offices only provide quantitative data categorized by male versus female. Furthermore, I also use the male/female distinction in the interviews to better protect the interviewees' anonymity.

1.3.5 Family

In this dissertation, I define 'family' the same way as Statistics Iceland (n.d.) has defined the 'Nuclear Family' since 1999. A nuclear family refers to couples (either married or cohabiting), both without children and with children below the age of 18. Single individuals who live with children below the age of 18 also count as family, whereas single individuals who either live with no children or children above the age of 17 are excluded from the nuclear family definition.

1.3.6 Work–Life/ Work–Family Balance

There is an extensive literature on work–life/work–family balance as well as its converse, work–life conflict (Bell, Rajendran, & Theiler, 2012; Hayman, 2005; Moore, 2007). In its broader sense, work–life balance could be defined as the absence of conflict between work and personal as well as family obligations (Quick & Tetrick, 2003). More concretely, it is the extent to which an individual can concurrently balance the emotional and time demands of both paid work and unpaid personal and family responsibilities (Bell et al., 2012). Conversely, work–life conflict arises, for example, when work or family life interferes with one's involvement in the other domain, resulting in a negative outcome (Bell et al., 2012).

However, as this dissertation predominantly revolves around family dynamics, its influences, and possible gendered outcomes in terms of peoples' career advancement, I find Grzywacz's and Carlson's (2007) definition of work–family balance, "the accomplishment of role-related expectations that are negotiated and shared between an individual and his or her role-related partners in the work and family domains" to be a very fitting one. This is because although both terms (i.e. work–life balance and work–family balance) are referring to a very similar phenomenon, there is still a slight distinction between the two. While work–life balance refers to people balancing both personal as

well as family responsibilities with that of their paid work, work–family balance, on the other hand, only refers to the balancing between family obligations and paid work.

Of the 32 participants who gave in-depth interviews, on which this dissertation is partly based, two participants were childfree and single individuals. From these two individuals' accounts, it was quite clear that work–life balance was not as much of an issue in their life as it was for the other interviewees. On the other hand, the interviewees who were part of a nuclear family (see 1.3.5 Family) all mentioned how balancing between family obligations and paid work included constant negotiation with their partners regarding how they managed their time and shared their responsibilities.

1.3.7 Meritocracy

Meritocracy "is a social system in which merit or talent is the basis for sorting people into positions and distributing rewards, such that the positions of highest authority are occupied by those of greatest merit" (Scully, 2015, p. 1). The term "meritocracy" was originally coined by Michel Young back in 1958 (Scully, 2015; see also Young, 1958). In his satirical essay, *The Rise of the Meritocracy*, Young imagined a future Britain in which a meritocratic elite had replaced the old aristocratic order (Bloodworth, 2016), but the society itself could not abide by the perfect meritocracy it had created (Scully, 2015). However, as Scully (2015) points out by citing Bell (1972), meritocracy as a term is now commonly applied without the originally intended irony, often to distinguish between the capitalist system and the aristocratic or class-based systems.

According to Daniels (1978), meritocracy is a social order built around a particular notion of merit, where merit is construed as *ability* + *effort*. Furthermore, a meritocratic system relies on three principles: 1) merit is a well-defined and measurable standard for selecting individuals for positions; 2) individuals have equal opportunities to develop and demonstrate their merits and to advance; and 3) the positions into which individuals are sorted are mapped to stratified levels of rewards, such as income or status (Scully, 2015;

see also Daniels, 1978). Advocates for meritocracy argue that a meritocratic system directs the most talented people to the most important positions and thus enhances a society's or an organization's survival and efficiency.

However, meritocracy as an idea has also received its fair share of criticism both regarding capitalist societies in general (Bloodwoth, 2016; Markovits, 2019; Scully, 2002, 2015) but also specifically in terms of academia (Aiston, 2011; Hearn, 2004; Knights & Richards, 2003; Van den Brink & Benschop, 2011). According to Scully (2015), the ethical discussion around the idea of meritocracy can be divided into two main topics. The first topic concerns the question whether societies or organizations can truly deliver their meritocratic promises, and the second topic concerns the moral rationalization of meritocracy (even if perfect) as a legitimate distributive system. Scully (2015, p. 1) however points out that the second topic is not as common in critical debate, as meritocracy is generally accepted as a fair and legitimate principle "and deeply woven into the culture and political rhetoric in many advanced capitalist societies and organizations".

In this dissertation, whenever I mention the idea of meritocracy, I am mostly relying on the critical debate of scholars such as Aiston (2011), Beddoes and Pawley (2014), Hearn (2004), Knights and Richards (2003) and Van den Brink and Benschop (2011) who argue that meritocracy often conceals the practices of inequality that, in truth, have little or nothing to do with merit. For instance, both Aiston (2011) and Beddoes and Pawley (2014) argue that while the idea puts enormous emphasis on individual qualities, it also simultaneously downplays the institutional and social contexts. In other words, meritocracy as an idea emphasizes the notion that individuals' success is solely based on their own merit with no regard for the micro- and/or macro-patterns of (gender) disparities within the system, which consequently makes it easier to blame individuals who fail to advance through the system. A system built on the idea of meritocracy, regardless of whether it truly is a meritocratic system or not, thus has the power to pass the responsibility for unequal outcomes back onto the

individual and stigmatize the unsuccessful candidate as incompetent, something which the individual is then likely to internalize (Aiston, 2011; Knights & Richards, 2003).

1.3.8 Cultural Hegemony

For the purpose of this dissertation, I will be utilizing Gramsci's (1971) concept of cultural hegemony. Gramsci explained cultural hegemony as "the 'spontaneous' consent given by the great masses of the population to the general direction imposed on social life by the dominant fundamental group; this consent is 'historically' caused by the prestige (and consequent confidence) which the dominant group enjoys because of its position and function in the world of production" (Gramsci, 1971, 12). Although Gramsci used this concept to address the relationship between culture and power under capitalism, the concept and theory behind it has proven useful in explaining situations beyond its original context. By analyzing the interviews, it became apparent that the way our interviewees spoke and reflected on certain issues was quite gendered in terms of power and personal autonomy; issues such as their own time management, work–family balance, as well as the opportunities and hindrances in terms of advancing in their career. Especially regarding how our interviewees experienced their personal autonomy and power, (even if they didn't articulate it with those exact words), I felt the manner in which they spoke resonated well with Gramsci's ideas, especially on how the hegemonic groups (in this particular context: men), through constant dialectical interaction with the subordinated groups (women), have managed to re-negotiate the legitimacy for their rule. This negotiation process has not occurred in opposition to, but much rather alongside, the ever-growing awareness about the importance and benefits of a gender-equal society.

2 Conceptual Framework

In this chapter, I will describe the concepts and theoretical framework underpinning this PhD project. First, I will briefly introduce the manner in which sociologists have handled the issue of the two central, but opposing, epistemological frameworks of subjectivism and objectivism and how these opposites are closely linked to the structure versus agency debate. However, because this thesis adopts a pragmatic approach and applies both qualitative and quantitative research methods (as will be discussed in Chapter 4), I deemed it desirable to situate the thesis in a theoretical framework that attempts to integrate agency and structure and thus, in a way, bridge the gap between the opposite epistemologies of subjectivism and objectivism (Ritzer, 2010). Giddens (1984) is thought to be one of the best-known scholars attempting to integrate agency and structure as part of his structuration theory, and I will discuss this theory further in section 2.2. The reason I find Gidden's (1984) theory on structuration suitable for this project is twofold. Not only does he attempt to bridge the gap between two opposing epistemologies, advantageous for a mixed-method approach, but he also incorporates a temporal element into his theory. Structuration theory thus rhymes well with feminist time theories as well as Gramsci's concept of cultural hegemony (discussed in sections 2.3 and 2.4), which together constitute the theoretical framework of this thesis.

2.1 The Structure versus Agency Debate

The dominance of Parsonian functionalism and positivism began its rapid decline during the 1960s, as scholars from various competing camps, such as structuralism/post-structuralism, symbolic interactionism, phenomenological sociology, ethnomethodology increasingly began to challenge its ideas. However, this decline of Parsons's ideas and enhanced support of other approaches also gave way to extreme compartmentalization between different theoretical traditions, such that within modern sociology, taking an

epistemological stance either within the framework of subjectivism or that of objectivism became a central issue (Mouzelis, 2000). This conflict among different theoretical camps is commonly referred to as the 'paradigm wars' (which will be further discussed in Chapter 4), where each camp claimed the monopoly of truth, arguing for complete epistemological and methodological incompatibility between theoretical camps (Morgan, 2007; Mouzelis, 2000). The objectivist camp maintains that "things exist as meaningful entities independently of consciousness and experience" and through scientific research, the objective truth or facts can be attained (Crotty, 1998, p. 12). This is the epistemology underpinning the positivist standpoint, within which, for instance, Durkheim and his study of social facts, Parsons's system theory, and the theories of structural Marxists have been placed (Ritzer, 2010). In contrast, the subjectivist camp claims that knowledge is merely subjective, and that external or objective truth or facts do not exist. In their mind, people give meaning to objects such that the truth is what individuals create it to be (Crotty, 1998; Pernecky, 2016).

Especially in European sociology, the debate on objectivism and subjectivism is closely related to the discussion on agency and structure and is considered by many to be a central issue in modern sociological theory debate (Ritzer, 2010). Agency is perceived as the capacity of individuals or groups to act according to their own free will, whereas structure describes the fundamental rules or the social patterns within society that influence or constrain individual action (Ritzer, 2010). Similar to the objectivist versus subjectivist debate, structure and agency is perceived by many theoretical traditions in a dualistic manner. Sociologists differ in their perspective on how much individuals (agents/subject) are constrained in their action by external social forces or structures (structure/object). Agency is therefore commonly linked to the subjectivist epistemology, whereas structure is linked to the objectivist epistemology. The structure versus agency debate has therefore been characterized by the two opposing epistemological frameworks, extensively

debating and criticizing each other for either focusing too much on external structures and ignoring the power of individual agency or for focusing too excessively on agency and intentionality and disregarding the rules and systems that regulate and constrain individual agency.

More recent sociological scholars have attempted to integrate agency and structure into a single theoretical framework (Ritzer, 2010). In this context, two major contemporary figures are commonly mentioned: Pierre Bourdieu (1977) with his *theory of practice* and Anthony Giddens (1984) with his *structuration theory*. Both Bourdieu and Giddens approach agency and structure as a duality rather than as a dualism and argue that the two entities cannot be separated from one another. That is, agency is implicated in structure and structure is involved in agency. However, despite their similar views, they also differ in terms of the weightage they give to either structure or agency. While Bourdieu views structure as more important, Giddens assigns more power to the agent and agency (Ritzer, 2010).

I agree with these two scholars in terms of viewing agency and structure as a duality. Even if they differ in terms the weightage given to either one of the two, I find that both Bourdieu and Giddens provide compelling arguments for their viewpoints. It is however the temporality and movement which Giddens incorporates into his structuration theory that draws me toward using his theory. Therefore, I will discuss Giddens's structuration theory in more detail in the following section.

2.2 The Structuration Theory: The Element of Continuity, Change and Agency

Giddens makes power one of the central issues in his structuration theory, where he contemplates on how power is generated in and through structures of domination. In this context Giddens is interested in understanding both continuity and change.

> Human action occurs as a durée, a continuous flow of conduct, as does cognition. Purposive action is not composed of an aggregate or series of separate intentions, reasons and motives. Thus it is useful to speak of

> reflexivity as grounded in the continuous monitoring of action which human beings display and expect others to display. The reflexive monitoring of action depends upon rationalization, understood here as a process rather than a state and as inherently involved in the competence of agents. An ontology of time-space as constitutive of social practices is basic to the conception of structuration, which begins from temporality and thus, in one sense, 'history' (Giddens, 1984, p. 3).

He argues that social structures such as institutions, identities, and ideas are not static entities but are maintained or reshaped through time by the repetition of individual acts that accumulate as social practices. It is here where the duality in his ideas on structure and agency become evident, as from this perspective, agency can be understood as a vital component of social structure rather than in opposition to it (Bryson, 2007; Giddens, 1984; Ritzer, 2010). Giddens indeed puts significant weight on the power of individual agency in his theory and also sees structure not only as constraining but as enabling as well. He does however acknowledge that although individual agents can in many instances reshape or modify social structures, it "does not prevent the structured properties of social systems from stretching away, in time and space, beyond the control of any individual actors" (Giddens, 1984, p. 25). Indeed, "the more institutions bite into time and space – the more resistant they are to manipulation or change by any individual agent" (Giddens, 1984, p. 170).

In his work, Giddens (1984, p. 377) defines structure as "rules and resources, recursively implicated in the reproduction of social systems". He also maintains that structure only exists as "memory traces, the organic basis of human knowledgeability, and as instantiated in action." Sewell (1992) further developed this definition by replacing "rules" with "schemas" and thus speaks of "schemas and resources" as he elaborates on the concept of agency. Sewell (1992) argues that structures cannot only be "virtual" (i.e., exist only as memory traces) as there are many examples of some rules and resources being "actual" rather than "virtual". Furthermore, he argues that the term "schema" serves as a better fit in the definition of structure as "schema" incorporates not only the formally stated prescriptions as would be implied by the term "rules" but also

the "informal and not always conscious schemas, metaphors, or assumptions presupposed by such formal statements" (Sewell, 1992, p. 8). Therefore, in his discussion on agency, Sewell argues that agency is embedded in the creative combination of schemas and resources. That is, actors "have knowledge of the schemas that inform social life and have access to some measure of human and nonhuman resources" (Sewell, 1992, p. 20). Furthermore, he argues that agency arises from the actors' knowledge of schemas as well as their control of resources and that the capacity for acting creatively is inherent in all humans. However, agency can vary significantly between individuals because the cultural schemas and resources available to each individual is determined by their particular social milieu. Thus, different social positions including "gender, wealth, social prestige, class, ethnicity, occupation, generation, sexual preference, or education gives people knowledge of different schemas and access to different kinds and amounts of resources and hence different possibilities for transformative action" (Sewell, 1992, p. 21).

Although Giddens himself did not formulate his theories specifically around gender, his theory on structuration has served as a fitting foundation for other scholars in their definitions on gender. For instance, Risman (1998, 2004, 2013) uses Giddens's structuration theory to conceptualize gender as a structure. In her conceptualization, Risman embraces the transformative power of human action by arguing that not only do social structures act on people but people act on social structures as well. "[S]ocial structures are created not by mysterious forces, but by human action" (Risman, 2013, p. 743). Similar to Giddens, she sees actors as knowledgeable and competent agents who reflexively monitor actions. Even when these actions are routine bound and taken for granted, actors "reflexively monitor the intended and unintended consequences of their action, sometimes reifying the structure, and sometimes changing it" (Risman, 2013, p. 744). Risman (1998, 2004) further argues that in terms of the opportunities and constraints, the gender structure has consequences on three dimensions that work in intertwined ways: (1) at the

individual level, regarding the development of gendered selves; (2) through everyday interactions that reproduce gendered status expectations, which in turn create cognitive biases that can explain the reproduction of gender inequality; and (3) at the institutional level where both cultural logic and explicit regulations regarding resource distribution and material goods are gender specific.

Giddens's interest in understanding both continuity and changes also resonates well as Bryson (2007) notes, with other feminist ideas like the one of Butler's, 'doing-gender' (Butler, 1990). Both Giddens and Butler place considerable emphasis on individual agents' capacity to make changes to the (gendered) social structures. An example would be by not repeating certain acts that would reproduce the structure, whether intentional or not (Giddens, 1984), or in Butler's terms, by 'undoing gender' generated through the 'failure' to behave in gender appropriate ways (Butler, 1990). I find the ideas or concepts of both Giddens and Butler quite suitable in terms of explaining the social changes that certainly have occurred over time, but it is important not to forget that social structures can often be deeply embedded in our ways of living and that changes in them certainly do not take place overnight. Any effort to change can engender significant resistance from the majority who are conforming to the norms. Thus, both Giddens and Butler have also been criticized—Giddens for assigning too much power to individual agency in terms of making changes (Ritzer, 2010) and Butler for her "vision of [people's] freely chosen, ever subverting gender performance[s]" (Bryson, 2007, p. 114). In this regard, Lorber (2000, p. 83) has pointed out that although gender is a constant performance, "its enactment is [still] hemmed in by the general rules of social life, cultural expectations, workplace norms and laws. These social restraints are also amenable to change, but not easily, because the social order is structured for stability." Similarly, Bryson (2007) takes patriarchy as an example. She argues how the concept serves well in pointing out that men, as the structurally dominant group, are the beneficiaries of gendered inequalities, and they, both in

terms of material conditions as well as through the centrality of their experiences and perceptions, are a socially privileged group. In this context, Bryson emphasizes different forms of gendered temporal disparities and the "ways in which these both reflect and sustain other aspects of women's subordination" (Bryson, 2007, p. 60). However, she does argue, drawing on Giddens's structuration theory, that despite social structures such as patriarchal norms may pose powerful constraints on human action and the future ways, these same structures have a history of being maintained and can thus also be changed by ongoing social practices. "Because they are socially constructed, patriarchal norms can also be challenged and modified by changes in practice as well as discourse – for example by state policies that assume that 'good fathers' should spend time with their children and that 'good mothers' can spend some time in the workplace." (Bryson, 2007, p. 61). On this note, I will shift my focus toward feminist time theories in the following section.

2.3 Feminist Time Theories

Time is something of which people are generally very conscious. Our everyday life is controlled by it down to our simplest thoughts and actions. Everything we do, and everything that happens, whether it is part of nature or society, occurs in time and space (Davies, 1989; Giddens, 1984). We for instance cannot possibly be in two places at once, and therefore we are forced to budget our time accordingly (Davies, 1989). However, time is something we do not give much thought to on a daily basis. It is simply there and we sort of take it for granted. Our watches or smartphones are always with us, telling us which day or time it is and making sure that we get to work, school, or practice or do whatever we have scheduled to do *on time*. We think of time in terms of how we spend it, save it, or buy it. Weeks can be divided into days, days to hours, and hours to minutes. "Present-day Western society is dominated by a linear time consciousness and the minutely precise measurements of the clock on a concrete, practical level" (Davies, 1989, p. 17). However, linear time is far from the only way people conceive of time. Both Davies (1989) and Adam (1990)

emphasize how time consciousness is not like a constant variable in any way. It can differ between periods in time, culturally distinctive groups, as well as between groups within the same society. Multiple temporal consciousnesses can also exist within the same person. Linear clock time and other temporal rhythms, whether we call them cyclical, task-oriented, or relational, are thus not mutually exclusive opposites but are woven together in a complicated pattern (Davies, 1989). How one conceives of time is closely connected to the individual's needs as well as the worldview and level of technology in the society they live in. However, while different time consciousnesses coexist, it is not to be stated that they are all equal in status (Adam, 1990, 1995; Bryson, 2007; Davies, 1989). As Adam (1990, 1995) argues, these are inevitably linked to power. "Not all time is money. Not all human relations are exclusively governed by the rationalized time of the clock. Not all times are equal. That is to say, all work relations touched by clock time are tied up with hegemony and power" (Adam, 1995, p. 94).

In this dissertation, the unequal distribution of time is given substantial attention and it centers mainly around the work of Adam (1990, 1995), Bryson (2007) and Davies (1989) who argue that the dominant clock time is far from being genderless. On the contrary, the present-day dominant temporal consciousness of the Western capitalist society is as Davies (1989, p. 9) argues, socially constructed and "partly risen out of male interests, [which] has a variety of implications for women's everyday lives". Although both Adam and Bryson refrain from discussing the differences between women's and men's time use in dichotomous terms as if "all women at all times of their lives" stood in the shadow of the hegemony of universal clock time (Adam, 1995, p. 94), they do emphasize that general differences in physical and social experiences often present women and men with different relationships to time (Bryson, 2007). Moreover, the devaluation of the responsibilities associated with women within the hierarchical framework through history has forced the temporal rhythms bound up with these activities to adapt to the dominant "time is money" culture.

Power is crucial in relation to temporal agency, and as Bryson (2007) claims, it is important to remember that the experiences of temporal privilege and oppression do not neatly divide along a gender line. On the contrary, a range of social and physical differences among women, such as socio-economic status, 'race', age, marital status, sexual orientation, and physical ability make the meaning and experience of being a woman highly variable, resulting in great differences in temporal experiences (Bryson, 2007). However, the concept of power can highlight how women are generally disadvantaged in comparison with men when it comes to temporal agency (Adam, 1995; Bryson, 2007; Davies, 1989). "Women's [generally] subordinate position in the public sphere as well as their ascribed role in the private sphere have major implication with regard to this" (Davies, 1989, p. 38); those who possess more power are also generally in a better position to manage and negotiate their own time to their advantage whether it is in the public or the private sphere (Bryson, 2007; Davies, 1989).

From the viewpoint of the commodified clock time of modern capitalist societies in which time is regarded as a genderless scarce resource that can be spent or saved at will, it is often forgotten that domestic responsibilities such as cooking and cleaning for the family and certain needs—physical, emotional, or communal—are still commonly bound up with women's work in the home, which has a way of preventing women from entering the public sphere on the same terms as men (Bryson, 2007; Davies, 1989). Indeed, as Bryson (2007, p. 57) argues, "gendered time norms play a key role in maintaining oppressive gender differences."

This dissertation focuses on quite a homogenous group in terms of its educational attainment, its employment status as academics or professionals outside academia, as well as in terms of their socio-economic status. This status indeed provides this group with certain temporal privileges, especially in terms of its ability to 'buy time' by purchasing services such as meal delivery and house cleaning services (Bryson, 2007). However, this ability can be important,

especially for women, as holding an professional or executive career is often associated with excessive work and long working hours, where workplace loyalty and commitment are commonly considered essential in striving for a successful career progression (Bryson, 2007; Hochschild, 1997). Although prolonged working hours cause men to face external constraints and normative pressures as well when allocating their time, resent studies show that women, even with professional careers, bear the main responsibility for domestic obligations more often than men, such as the overall planning and coordination of activities for other family members when coming home from work (Acker & Armenti, 2004; Hochschild & Machung, 2012; Moreno-Colom, 2017; Rafnsdóttir & Heijstra, 2013; Rafnsdóttir & Júlíusdóttir, 2018). Moreover, what is often forgotten in our clock-time-oriented society is that the home sphere does not only consist of a set of distinct and identifiable activities that can just be "organized into a tick list of tasks to be performed in pre-allocated time slots" (Bryson, 2007, p. 132). People's needs, whether children or grown-ups, do not always conform to the logic of the commodified clock, so the attempt to squeeze "quality time" into the cost-efficient timetable of the labor market can often feel like what Boyd (2002: 466) refers to as the "McDonaldization of love." This lack of family time and the attempt to organize it more efficiently around the demands of the workplace necessitates generates the often guilt-ridden "third shift," which refers to emotional labor at home (frequently done by women) attempting to repair the damage caused by time pressures felt from juggling work and family life (Hochschild, 2003).

However, it is not only the lives within the public and private sphere that are dominated by the commodified linear clock time. As scientific research has historically been the domain of men, it perhaps comes as no surprise that the linear clock time is also the temporal measure that traditional scientific research applies, whether it is in physics, mathematics, biology, economics, or social sciences (Bryson, 2007; Davies, 1989). In fact, in recent decades, time as an important scientific tool has gained a strong foothold in various disciplines in

the social sciences. For instance, the field of economics has incorporated a temporal element in its approach with the theory of allocation of time. Similarly, time has become a prominent analytical tool in social geography and sociologists have further carried out numerous time-use studies in recent decades (Bryson, 2007; Davies, 1989). The idea upon which time-use studies are based and the way they are conducted, as both Davies (1989) and Bryson (2007) argue, presents a certain problem. Although many of these studies unequivocally confirm that women still do significantly more unpaid work than men, and that men have not matched their increased time in paid employment with an equivalent contribution in the home, most of these studies are still based on a view of time as divisible into small measurable components. This results in these studies consistently overlooking the magnitude of the double burden (Bryson, 2007; Davies, 1989). In this context, Bryson (2007, p. 157) points out that these studies are "unable to record the intermittent worrying, guilt and stress individuals may experience around what they are *not* doing while they are doing something else", and although these studies have indicated that the total disposable time of men and women is continually becoming more similar, they fail to see how women's time is more fragmented and therefore less usable than men's (Bryson, 2007). It is thus vital to critically examine different time-use among men and women with a feminist lens to highlight the power dynamics of gendered time in terms of privilege and oppression.

2.4 The Concept of Cultural Hegemony from a Gendered Perspective

As mentioned in Chapter 1.3.8., Gramsci's (1971) concept of cultural hegemony is applied in this dissertation as a tool to contemplate on gendered power relations both in the private and in the public spheres. Although Gramsci used this concept to address the relation between culture and power under capitalism, the theory behind it has proven useful in explaining situations beyond its original setting, such as in discussions of race and gender (Artz & Murphy, 2000). Gramsci explained cultural hegemony as "the 'spontaneous'

consent given by the great masses of the population to the general direction imposed on social life by the dominant fundamental group; this consent is 'historically' caused by the prestige (and consequent confidence) which the dominant group enjoys because of its position and function in the world of production" (Gramsci et al., 1971, p. 12).

In some ways, the concept of cultural hegemony has interesting affinities with Giddens's theory of structuration. Giddens (1984) argues that power within social systems "presumes regularized relations of autonomy and dependence between actors or collectivities in contexts of social interaction" and that all forms of dependence embody certain resources in which subordinate groups can influence the activities of their superiors and thus make changes to the social system. This he refers to as "the dialectic of control in social systems" (Giddens, 1984, p. 16). Similarly, Gramsci's overall picture of society is not that of a static, closed system of ruling class domination. Instead, he sees society as a continuous process in which the creation of counterhegemonies remain a live option. He further stresses that societies are not external entities that have needs and interests separate from human agency. On the contrary, people with their socially shaped needs and interests are the creators of culture (Lears, 1985). However, despite the similarities found in Giddens's and Gramsci's ideas, Giddens does assign more power to individual agency—even that of subordinate groups—to change things, whereas Gramsci focuses more on how the dominant groups manage to convince subordinate groups of the legitimacy of their rule and how they receive consent (however genuine) of the majority to do so. He sees cultural hegemony as coercion, except it wears "the velvet glove of consent" (Artz & Murphy, 2000).

Although, in Gramsci's mind, consent and force nearly always coexist, he argues that in Western societies, instead of forcing their rule, ruling groups maintain their hegemonic power by "giving their domination an aura of moral authority through the creation and perpetuation of legitimating symbols" (Lears, 1985). Gramsci further went on to argue that people create their own symbolic

universes to make better sense of their lives. Of course, not all these symbolic universes become hegemonic. According to Gramsci, the transformation of a symbolic universe into a hegemonic entity depends on how successfully it forms alliances with other groups (Gramsci et al., 1971). “The keys to success are ideological and economic: to achieve cultural hegemony, the leaders of a historical bloc must develop a world view that appeals to a wide range of other groups within the society, and they must be able to claim with at least some plausibility that their particular interests are those of society at large” (Lears, 1985). However, hegemonic symbolic universes never serve the interests of all groups equally; if they convincingly seem to have the most logical or plausible way of running things, subordinate groups may participate in maintaining that hegemonic symbolic universe even if it serves to legitimate their domination (Gramsci et al., 1971).

Cultural hegemony is an interesting concept to examine with regard to women and gendered power relations, especially in terms of consent and cooption. Because as Artz and Murphy (2000) point out, the conditions are somewhat different compared to the power struggles of other groups. For instance, in the context of subordinate ethnic or economic groups, it has been possible for those in power to sustain their domination through physical separation, where the upper classes, for instance, can afford to live in different places than the working class and the poor. “The sharper the separation between those with power and those without, the less incentive there usually is for the former to understand and negotiate with the latter and the more possible it often is to stop “insurrection with unmasked force” (Artz & Murphy, 2000, p. 153). On the contrary, women are usually integral parts of men’s public and private lives, such that the privileged group (men) cannot effectively distance themselves in the same ways as those privileged by race and class. Therefore, when it comes to gender power relations, cooption has shown to be instrumental in renegotiating subordinate (women’s) consent. For cooption to work, it is required that a large section of the subordinate group’s representatives reject

their identities as subordinate group members. This then enables the dominant groups to better sell the idea of dominant relations as beneficial to all. In this context, Artz and Murphy (2000) take examples from U.S. history to show how the government, at different time points, has joined hands with religious and educational institutions as well as with mass media, such as the movie industry, and commercial businesses to continuously define and re-define what "real womanhood" consists of to keep dominant interests intact in spite of social changes. So even though hegemonic masculinity has continuingly changed over the years, especially around ideas regarding work participation, sexuality, fatherhood, and housework responsibility—partly owing to a number of progressive public policy changes over the years toward gender equality—men remain as the hegemonic group that holds the power (Hearn, 2004).

This dissertation closely considers certain hegemonic ideologies, such as that of meritocracy and the "time is money" norm, which have shown to serve the interest of men much better than that of women. In fact, the hegemonic group has negotiated these ideologies over time as gender neutral and in favor of all, resulting in them becoming widely culturally accepted by women as well (Artz & Murphy, 2000). Thus, the concept of cultural hegemony provides a fitting lens to examine these ideologies.

3 Literature Review

In this chapter, I will present a review of the literature relevant to this PhD thesis. In the first section of this chapter, I will provide literature revolving around the gendered pay gap, as it is a recurring theme in three out of four articles. In this section, the existing research on the gendered pay gap, both in general as well as among doctorate holders will be introduced. Thereafter, the topic will be situated within the context of family status as well as work–family balance and the power of time in terms of negotiating the share in housework and childcare. In the second section, the focus will be turned toward the careers of doctorate holders and the barriers and opportunities they face, especially during their early career-making, both inside and outside academia. I will then turn to literature concerning the gendered aspects of career-making among doctorate holders with a special focus on how the ideology of meritocracy and excellence conceal practices of inequality in the workplace, powered through the notion that individuals' success and excellence is solely based on their own merit with no regard given to micro and/or macro patterns of (gender) disparities within the system.

3.1 Gendered Wage-Gap Among Doctorate Holders

Since the mid-20th century, a growing awareness about the importance and benefits of a gender-equal labor market has resulted in a significant number of equality legislations against gender-based discrimination, such that national courts across the world as well the European Union (EU) court have worked toward eliminating it at the institutional level (Caprile, Meulders, O'Dorchai, & Vallès, 2011).

However, although gender inequality in its overt forms, has not been deemed acceptable for decades, studies show that covert forms of discrimination continue to prevail worldwide (Caprile et al., 2011; Das, 2015). These covert forms are often hard to detect and tend to thrive behind gender-

neutral conceptions which are rooted in the idea of the power of individual agency as well as in the idea that gender equality has more or less been reached (Aiston, 2011).

However, in the Western context, the gender pay gap is perhaps the most visible manifestation of gender discrimination in the labor market around which a broad societal consensus seemingly exists when discussing the importance of eliminating it. 'Equal pay for equal work' is an idea that was already presented in 1951 as a proposal by the International Labour Organization at the Equal Remuneration Convention (no. 100) (International Labour Organization, 1951). In 1957, 'Equal pay for equal work' was included in the EU's Treaty of Rome, followed by the US's and UK's Equal Pay Acts passed in 1963 and 1970, respectively (Bridge, 1982). Iceland also passed its own law on equal pay for men and women in 1961. The aim of the law was to raise women's wages progressively by 1/6 of the wage difference annually until in 1967 when, through this action, gender equality was supposed to be fully reached. The drafters of the bill as well as other members of parliament were, in fact, of the opinion that the passing of the bill was the only aspect remaining in the struggle for perfect gender equality. In a statement following the bill, they wrote, "When the final victory in this struggle has been won, the fight for gender equality will be over, because in other areas of human rights, women have since long ago gained the same rights as men." (64th Bill on Equal Pay for Men and Women, 1960). Despite the ambitious goal to fully reach gender equality by 1967, Iceland has still not managed to close the gender pay gap fully. Although it has continuously been decreasing since 1960, the unadjusted gender pay gap still stood at 12.6% in 2020 (Statistics Iceland, 2020c).

In the past few decades, high hopes have been bound up with the increasing educational attainment of women as pivotal in the success of women and the key driver in diminishing the gender wage gap (Blau & Kahn, 2017; Bobbitt-Zeher, 2007). However, findings from Italy, Belgium, Denmark, the US, and Canada suggest that there might be more complicated issues underlying

the pay gap than education, since there is an indication of gendered wage gap among doctorate holders just as it is among the wider population (Alfano, Cicatiello, Gaeta, & Pinto, 2019; Gaeta, Lubrano Lavadera, & Pastore, 2018; Levecque, Baute, Van Rossem, & Anseel, 2014; Pedersen, 2016; Waite, 2017; Webber & Canché, 2015). In some cases, the gender wage gap among PhDs is even greater than that among people with Master's degrees (Levecque et al., 2014; Waite, 2017). One of the reasons for this gender wage gap among doctorate holders, studies show, is that women are employed in temporarily appointed jobs more often than men which results in lesser earnings (Boosten, 2014; Webber & Canché, 2015). However, Casey (2009) indicates that a PhD degree might still be more valuable for women since female doctoral holders appeared to improve their earning power to a greater extent than men.

Studies have also shown that the positive wage premium for completing a PhD as well as the gender wage gap among doctorate holders varies significantly by field of study and occupation (Bobbitt-Zeher, 2007; Casey, 2009; Ochsenfeld, 2014; Waite, 2017). These studies point out that women continue to be underrepresented in STEM fields, which tend to lead to better opportunities for high-paying jobs compared to SSH fields. In her study, Bobbitt-Zeher (2007) links the horizontal gender segregation in higher education, and its influence on earnings, to the devaluation theory, which holds that certain tasks are socially and economically devaluated as they are done mostly by women. Ochsenfeld (2014), on the other hand, links his findings on the gender wage gap among doctorate holders to the gender role theory. Ochsenfeld finds indications that men are much likelier to internalize a breadwinner role during adolescence than women, which they then act on when choosing their study program at university. This makes men disproportionately self-select into STEM fields. On the contrary, women rather self-select into SSH fields, which are better compatible with the traditional feminine role where making money is less important compared to the breadwinner role. Moreover, Charles and Bradley (2009) explored sex segregation by field of study in 44

countries; they found a general tendency for even greater segregation of academic fields in more economically developed countries. These findings, they argue, reflect the interacting effect of gender-essentialist ideologies, (which they argue have proven to be extremely resilient even in the most liberal-egalitarian contexts) and self-expressive value systems, which create opportunities and incentives for the expression of "gendered selves."

However, despite the gendered selection of the field of study as well as occupation, and the explanation value it might have when it comes to differences in wage premiums and the gender wage gap, Webber and Canché (2015) found that women in the US consistently earned lower salaries than male peers, regardless of the employment sector. Furthermore, Waite (2017) found that although educational attainment among women in Canada has increased significantly and despite the gender desegregation of some traditionally male-dominated study fields has come to pass, the gender wage gap continues to persist, even among the younger generation.

3.1.1 The Gender Wage Gap Depending on Family Status and Children

It is well documented that family/marital status may account for a considerable part of the gender pay gap as different family structures affect men and women differently (Cukrowska-Torzewska & Matysiak, 2020; Gangl & Ziefle, 2009; Gough & Noonan, 2013; Magnusson, 2010; Napari, 2010; Zhang, 2009). For instance, several studies have illustrated that mothers earn less, on average, than childless women and men, and women earn less on average than their male partners (Cukrowska-Torzewska & Matysiak, 2020; Klesment & Van Bavel, 2017; Molina & Montuenga, 2009). Furthermore, mothers experience more job interruptions (Jefferson, 2009), get lower pensions (Dotti Sani & Luppi, 2020), and face a greater risk of poverty in old age compared to men (Peeters & De Tavernier, 2015). On the contrary, marriage and family as well as children have been shown to positively impact men's careers and earnings (Bardasi & Taylor, 2008; Glauber, 2008). A study by Killewald (2013) found that men tend to

increase their work effort when they become fathers, resulting in improvement in their current income situation and thus laying the cornerstone for their long-term economic security.

This phenomenon is usually referred to as the 'motherhood penalty' or in the case of the men, as the 'marital/fatherhood bonus'. Although the results may vary depending on the sample and analytic techniques utilized in each study, Gough and Noonan's (2013) meta-analysis found the gross motherhood penalty to be between 5–10% per child, whereas Cukrowska-Torzewska and Matysiak (2020) found it to be around 4%.

For explanatory value, both the human capital theory as well as the theory of compensating wage differential have been considered useful theoretical frameworks. The human capital theory suggests that mothers earn less than childless women because they invest less in market human capital (Becker, 1985). Embedded in the human capital theory is the theory of the "family plans thesis" which emphasizes the notion that men and women "deliberately adjust their early career decisions to accommodate their anticipated family roles" (Cech, 2016, p. 265). Similarly, Hakim's (2006, 2011) "preference theory", takes the notion further in terms of 'blaming the women', arguing that they choose to invest in the family rather than in a career outside the family, consequently resulting in less earnings. Other scholars, however, argue that the reason mothers fall behind is that they still bear the primary responsibility for domestic obligations and childcare more frequently than men and are thus forced to spend more time out of the labor market to successfully accommodate their family's needs (Magnusson, 2010). This results in less accumulated work experience than childless women (Napari, 2010). Furthermore, findings from Cech's (2016) study, drawing on 100 in-depth interviews with college students from different fields, question the validity of the family plans thesis. A majority of the students did not include family plans in their study or early career decisions. Moreover, the men who anticipated a future provider role had not typically enrolled in more men-dominated fields,

and the women who planned on taking up caregiver-friendly occupations had not typically enrolled in more women-dominated fields.

The theory of compensating wage differential suggests that the motherhood penalty can partly be explained by mothers' need to seek out more family-friendly jobs that would make it easier to combine familial and household obligations (Cukrowska-Torzewska & Matysiak, 2020; Gough & Noonan, 2013). When it comes to family-friendly policies, Nordic countries have long been considered frontrunners. However, some researchers emphasize that the dual-earner family policy models, common to Nordic countries, might function contrary to their motivation and have unintended paradoxical consequences. Such consequences are more likely to maintain the motherhood penalty and thus the gender pay gap in general (Halldén, 2009; Mandel & Semyonov, 2005). Countries that offer extensive family-friendly policies (especially those tailored to women and mothers) are also commonly associated with highly gender-segregated labor markets with significant under-representation of women in supervisory positions and a greater proportion of women working part-time (Mandel & Semyonov, 2005; Rafnsdóttir & Weigt, 2019; Ridgeway, 2009). Mandel and Semyonov (2005) compared 20 countries, including Nordic countries. In their study, they argue that although the intended purpose of family-friendly policies is to facilitate women's employment and protect their rights, the unintended influence of long absence from paid employment—as it disproportionately falls on women to use parental leaves—may result in reducing mothers' earning capacity by lowering their employment continuity and work experience. Moreover, they argue that family policies, which facilitate work interruptions in labor markets that require long-term, continuous skill development can also result in employers' increasing tendency to implement discriminatory practices against mothers. Essentially, employers might be discouraged to hire mothers for high-paying, time-consuming managerial positions (Mandel & Semyonov, 2005). However, Grönlund, Halldén and Magnusson (2016) point out that between the Scandinavian

countries, the gender gaps vary considerably both in size and in terms of the mechanisms producing them and that gender segregation has different impacts depending on the country. Furthermore, other studies have come to conclusions different from those of Mandel and Semyonov (2005). For instance, Cukrowska-Torzewska (2017), Budig, Misra, and Boeckmann (2016) and Halldén, Levanon, and Kricheli-Katz (2016) found that in countries where reconciliation for paid work and family is both socially accepted as well as institutionally supported, mothers spend more time in the labor market and are more likely to achieve better labor market outcomes with respect to pay or promotion opportunities.

Most studies in the field typically focus on analyzing the effect of the number of children and/or the extent of time taken in child-related career breaks. The meta-analysis conducted by Cukrowska-Torzewska and Matysiak (2020) revealed that while the motherhood wage gap associated with having more than one child was mostly explained by the loss of mothers' human capital during child-related career breaks, the penalty associated with having only one child was mostly driven by mothers opting for occupations that were more family-friendly and that paid less.

In a Finnish study by Napari (2010), mothers' child-related career breaks and their possibly depreciative influence on the accumulated human capital were emphasized. Napari (2010) found that the motherhood penalty significantly increased in terms of the length of the child-related career break. However, the study also revealed that a quick return to the labor market minimizes the effect such that mothers who returned within two years did not differ from non-mothers in terms of wages after the second year from return to employment (Napari, 2010).

Although research on the economic effect of family status and children usually applies longitudinal data, studies on the long-term economic effect of having children and taking child-related career breaks are rare. However, two recent studies by Möhring (2018) and Dotti Sani and Luppi (2020) have

considered this aspect. Möhring (2018) investigated whether motherhood and the number of children affected the retirement incomes of women aged 60–75 in 13 European countries. She found that fewer years in employment and lower-status jobs were predominantly responsible for mothers' lower retirement incomes but that institutional factors such as redistributive pension systems help mitigate gendered income differences in later life. Similarly, Dotti Sani and Luppi (2020) examined whether the length of career break after the birth of the first child was associated with mothers' retirement incomes at age 60 and above in 10 European countries. They found that the longer mothers abstained from work after giving birth to their first child, the lower their retirement income became, both in absolute terms and relative to their partners. However, in countries where mothers are supported by a comprehensive welfare system, through both a highly redistributive pension system and generous maternity packages—such as in case of Sweden, Denmark, and the Netherlands—no association between the extent of time taken in career breaks and retirement income could be found.

Education is believed to be an important moderating factor regarding motherhood penalty (Cukrowska-Torzewska & Matysiak, 2020; Gangl & Ziefle, 2009; Gough & Noonan, 2013; Magnusson, 2010; Napari, 2010; Zhang, 2009). However, empirical research on how the economic aspect is influenced by education has yielded mixed results (Gough & Noonan, 2013). For instance, Amuedo-Dorantes and Kimmel (2005) found that the penalty for highly educated mothers is smaller compared to lower educated ones, whereas Anderson, Binder, and Krause (2003) found that medium-skilled mothers faced the highest penalty compared to both high school dropouts and college educated women. Contrary to these findings, other researchers find highly educated mothers to suffer larger penalty compared to others (Magnusson, 2010; Napari, 2010; Wilde, Batchelder, & Ellwood, 2010; Zhang, 2009). The reason for such mixed results for highly educated women could be explained through the variation in job characteristics attributed to different types of jobs. For instance,

working within academia, as Anderson et al. (2003) and Heijstra and Rafnsdottir (2010) have pointed out, is likely to provide more flexibility to self-determine when and where to perform paid work, contributing to effectively being able to combine work and family while maintaining a high level of work commitment and productivity. On the other hand, managerial or top executive positions are likely to produce quite different outcomes. This is because they often demand constant availability combined with non-agreement overtime work, organizational meetings and assemblies outside regular hours, constant travelling, and other time-consuming activities, which are unlikely to give room to another career within the household (Magnusson, 2010).

3.1.2 Work-Family Balance and the Power of Time: The Negative Effect of Housework on Wages

A significant body of research on managerial and academic career-making has attributed attention to the reconciliation between career-making and family life (Caprile et al., 2011; Halrynjo & Lyng, 2009; Heijstra, O'Connor, & Rafnsdóttir, 2013; Nakhaie, 2009; Rafnsdóttir & Heijstra, 2013) and the role of the partner and the family in career development (Heikkinen, Lämsä, & Hiillos, 2014; Mäkelä & Suutari, 2011; Ocampo, Restubog, Liwag, Wang, & Petelczyc, 2018; Schneer & Reitman, 2002; Thoresson, 2020).

Over the last few decades, there has been a slow progression toward gender convergence in the time use of paid and unpaid work, as women have continuously increased their hours in paid labor and decreased their household labor hours (Kan, Sullivan, & Gershuny, 2011; Moreno-Colom, 2017). However, despite the slow progress toward more equality, many longitudinal analyses have highlighted how gendered division of housework still persists, with women still disproportionately performing the bulk of routine and essential daily tasks; men have increased their contribution with more occasional, less rigid tasks around the home and spend more time with their children than before (Alonso-Domínguez, Callejo, & Díaz-Méndez, 2020; Kan et al., 2011; Moreno-Colom, 2017; Treas, 2010).

Several studies have documented a negative individual relationship between wages and unpaid housework, suggesting that gender discrepancies in housework may in fact explain a considerable portion of the gender wage gap (Bryan & Sevilla-Sanz, 2011; Keith & Malone, 2005; Matteazzi & Scherer, 2020). For instance, Matteazzi and Scherer (2020) investigated individual wages in terms of individual housework as well as the partner's contribution to housework in Italy, Germany, and the US. Not only did they find a sizeable within-couple wage gap in favor of men in all countries but also the wage gap between partners was found to increase with women's increased housework; the men's housework had no significant effect. The absence of the relevant effects of the male partner's contribution, Matteazzi and Scherer (2020) suggest, could be due to the overly low amount of time men dedicate to domestic activities in general. Based on their findings, they argue that even within different country contexts, both individual and even to a greater extent their partners' housework explains a considerable part of the gender wage gap, such that women seem to gain little in terms of wages from their partners' domestic work whereas as the men gain much more. However, they also argue that a more equal share of domestic tasks among men and women would contribute to reducing gender wage inequalities.

In her study, Thoresson (2020) took advantage of a Swedish promotion reform set forth for teachers in 2013 (a traditionally female-dominated occupation), which resulted in a substantial salary increase. Consequently, the within-household gender pay gap declined by 32% among couples affected by the reform and the probability that the woman became primary earners increased by 30%. Furthermore, she found that promoted spouses responded to their new economic positions by reducing their use of temporary parental leave relative to their partners: the promoted women reduced the number of days taken, while the male spouses increased the number of days taken. She argues that the explanation for this could lie in the so called "primary earner effect",

which suggest that the partners' bargaining power peaks when they out-earn their partner.

Although, women today have legitimately become able to compete with men for positions and career progression in the labor market, feminist scholars argue that they still do so on preestablished culturally male-dominated terms. The gendered difference in the use of time makes this especially evident, or as Bryson (2007, p. 57) argues, "gendered time norms play a key role in maintaining oppressive gender differences." According to feminist scholars, it is not uncommon that partners, throughout their educational and/or career paths, continuously make unequal employment and domestic decisions that favor men instead of women. In other words, it contributes to the reproduction of gendered power within relationships in which the men can, for instance, work longer hours and thus, advance their career and increase their earnings, whereas their partners take on the bulk of the household responsibilities (Bryson, 2007; Everingham, 2002; Hochschild & Machung, 2012; Hochschild, 1997; Moreno-Colom, 2017).

Within the home, the traditional breadwinner model is now believed to be mostly outdated in Western societies. In this model, a clear work division between men and women is apparent in which the woman/mother stays at home, raises the children, and takes care of the household while the man/father puts his undivided attention to his career (Raddon, 2002; Schneer & Reitman, 2002). In most Western countries, a dual-earner family model has largely replaced the traditional breadwinner model. Although, it has also been argued that in many countries—instead of an actual dual-earner family model—the traditional breadwinner model has been replaced with a modified breadwinner model, in which women still temporarily leave the labor market (Le Feuvre, Bataille, & Sautier, 2020). However, when it comes to the dual-earner family model, the Nordic countries are considered to maintain a frontrunner status, with their governments consciously facilitating extensive welfare systems that enhance this particular family model (Leira, 2002).

Studies have shown that in countries where comprehensive welfare systems are in place offering, for example, more flexible working time and equal, individual non-transferable parental leave, resulting in more equally distributed time use among partners, labor market participation among women increases (Hook, 2010; Sayer, 2010). However, as for instance Treas (2010), Sayer (2010) Kan et al. (2011) and Grunow, Begall and Buchler (2018) have found, despite the variation in the division of housework between partners depending on different country contexts and their welfare regimes and social policies, traditional and other modified gender ideologies such as that of the egalitarian essentialism compete with more egalitarian ideology for influence, greatly affecting this division. Egalitarian essentialism for instance, relies heavily on the notion of free choice. It is the belief that both the work sphere and the care sphere are of equal value and importance. In this ideological frame, stay-at-home mothering is for instance considered a woman's choice, and an equivalent one to the choice of earning. Thus, although to some degree accepting both joint and separate spheres of earning and caring, the egalitarian essentialist ideology "exalts traditional gendered traits and discounts hierarchical power relations, denying any implications of lower status or power for women" (Grunow, Begall & Buchler, 2018). In her study, Sayer (2010) argues that in determining the share regarding housework and childcare, gender ideology is even more important than the influence of the welfare regime, and time use is related more to gender roles than to institutional factors. This might explain why, in Nordic countries, despite the gender gap in time use being smaller, women still spend more time on unpaid work than men. This is the case both in Norway and Sweden (Hagqvist, Toivanen, & Vinberg, 2019; Sayer, 2010). Moreover, an Icelandic study conducted by Thorsdottir (2012) among the general public also indicates that although men are indeed participating in housework to an increasing extent, women still bear the main responsibility of the home and the traditional gender division of labor within the home remains prevalent. Rafnsdóttir and Heijstra (2013) also come to a similar conclusion in

their study on women in Iceland with academic careers, and so do Rafnsdóttir and Júlíusdóttir (2018) in their study on men and women in business leadership. This is what Pétursdóttir (2012, p. 5) calls "The aura of gender equality, [which] describes the social process, or phenomena, in which men and women convince themselves that equality reigns despite practical evidence indicating otherwise." The aura of gender equality and emphasized femininity (Connell, 1987) became clear in Pétursdóttir's study (2012) as she spoke to women and asked them to compare their earnings with those of their partners to determine the explanations and justifications they resorted to and how the differences in their earnings affected their gendered power relations. Out of 48 participants, four women had higher earnings compared to their partners. For those who earned less than their partners, two themes were especially detectable: the conviction that their earnings were *about the same* even if they were clearly not and *factual reasons*, such as a higher educational level or additional responsibility justifying the disparity. For the women who earned more than their partners, *his choice* was an especially apparent theme, in which they explained how their partners could definitely earn more if they simply chose to (Pétursdóttir, 2012).

3.2 Careers Choices of Doctorate Holders: Barriers and Opportunities

Traditionally, an academic career toward professorship has been considered the single, most valued career path for doctorate holders (Gemme & Gingras, 2012). However, in recent decades, some rapid changes in the academic labor market have taken place (Castellacci & Viñas-Bardolet, 2021; Waaijer, Belder, Sonneveld, van Bochove, & van der Weijden, 2017). The number of doctoral graduates has been steadily increasing (Auriol et al., 2013; Boosten, 2014; Cyranoski, Gilbert, Ledford, Nayar, & Yahia, 2011; Gokhberg et al., 2016), and the average rise within OECD countries is a little under 40% for the first decade of the 21st century (Auriol et al., 2013; Cyranoski et al., 2011). Accordingly, academic labor market changes are aiming for more deregulation and flexibility of employment, such that work within the higher education system is

increasingly being run on non-tenured academics employed through temporary contracts with less job security and career prospects than before (Brechelmacher, Park, Ates, & Campbell, 2015; Castellacci & Viñas-Bardolet, 2021; Le Feuvre, Bataille, Kradolfer, del Rio Carral, & Sautier, 2018; Steinþórsdóttir, Brorsen Smidt, Pétursdóttir, Einarsdóttir, & Le Feuvre, 2019; Waaijer et al., 2017). Findings from the 2010 OECD, UNESCO, and Eurostat survey revealed that the percentage of temporary contracts within academia differ in terms of years of work experience after graduating. Over 80% of doctorate holders, employed within academia, who had between one and three years of work experience, held temporary contracts. Of those who had 3–5 years of work experience, 72% were employed temporarily and of those with 5–10 years of work experience, still 37% had not received permanent contracts.

The growing production of doctorate holders has long been encouraged by policy advisers (Bloch, Graversen, & Pedersen, 2015; Bryan & Guccione, 2018; Pedersen, 2016), despite it being known that academic institutions are unable to employ the increasing number of doctorate holders. In fact, their mobility between academia and other sectors in the innovation business is considered an important channel for knowledge transfer and thus a key to economic growth (Bloch et al., 2015; Cyranoski et al., 2011). The Careers of Doctorate Holders Survey 2010, conducted in the OECD countries (Auriol et al., 2013), concludes that 31.4% of the survey's participants had never left university, while 68.6% of the participants had worked in 'other business' sectors at least once after finishing their PhDs (Derycke & Van Rossem, 2014).

Scholars have highlighted that still little is known about the processes that drive people to career choices in terms of sectors and occupation (Bloch et al., 2015; Pedersen, 2014). Roach and Sauermann (2010) found that doctorate holders who prefer industrial employment over academic jobs have weaker 'taste for science' than those who aspire to work within academia. However, Bloch et al. (2015) reveal a more complex reality since the doctorate holders not only make career choices between higher-education institutions and the industry

but also between research and development and non-research and development sectors. Therefore, career choices seem to follow more complex patterns than suggested earlier (Bloch et al., 2015).

Few studies have focused on the life and experiences of those who have made their way to non-academic workplaces after their PhD (Di Paolo & Mañé, 2016; Skakni, Inouye, & McAlpine, 2021). Skakni et al's (2021) study conducted in Switzerland and the UK found that doctorate holders who transferred to non-academic jobs after their graduation often encountered multifaceted challenges and experienced 'organizational culture shock' while adapting and integrating into a new workplace environment different from what they were accustomed to within academia. Sinche et al. (2017) found, in a US-based study, that the majority of the study sample were satisfied with their job outside academia and found no significant differences between non-research-intensive employees and research-intensive employees in terms of satisfaction. They also found that in some aspects such as management and teamwork skills, improvements could be made to doctoral programs to better prepare doctorate holders for work outside academia. Bryan and Guccione (2018) come to a similar conclusion in their UK-based study; most participants considered their doctoral degrees to be crucial in their non-academic employment and that it contributed positively to their career development. However, many also claimed that their doctoral programs alone may not have adequately prepared them for all aspects of their new workplaces' organizational culture, suggesting that doctoral programs need to adapt and be able to introduce explicit development of broader workplace skills and experiences (Bryan & Guccione, 2018).

On the other hand, a Spanish study by Di Paolo and Mañé (2016) analyzed the effect of overeducation and over skilling on job satisfaction and found that doctorate holders within academia were generally more satisfied with their jobs compared with those working outside academia. They found mismatch to be harmful for job satisfaction among doctorate holders and that working within the private sector, and even more so within the public sector,

substantially increased the likelihood of being mismatched. However, people working in research-intensive jobs were not at risk of being overeducated or over-skilled. Unlike Bryan and Guccione (2018) and Sinche et al. (2017), Di Paolo and Mañé (2016) do not suggest a redesigning of doctoral programs in general, but rather highlight the problem stemming from lack of recognition of the PhD credential outside academia as well as the common tendency among employers outside academia to underutilize their employees' skills and education.

Considering the above-mentioned literature, it is evident that academia is no longer the primary employer of doctorate holders today, and people are increasingly taking advantage of opportunities outside academia. Nonetheless, prior studies have mainly focused on academia. This dissertation, however, seeks to fill this knowledge gap by expanding its focus to doctorate holders outside academia and comparing those who work within academia to those who work outside.

3.2.1 The Gendered Aspect of Academia as Precarious Employment System

The precarious employment situation increasingly attributed to academia, as described in the chapter above, does disproportionally affect women. (Dubois-Shaik, Fusulier, & Vincke, 2018; Kulp, 2020; Le Feuvre et al., 2018). A Belgian study found that women are more likely than men to be in temporarily appointed positions (Boosten, 2014) and in the US, they are less likely to receive tenure-track positions (Kulp, 2020). Several studies, which draw on Acker's (1990) organizational theory, demonstrate how women face more constraints within the academic system than men due to gendered cultural assumptions about men and women; which also influences organizational structures and rewards in the workplace (O Grada, Ní Laoire, Linehan, Boylan, & Connolly, 2015; Steinþórsdóttir et al., 2019; Van den Brink & Benschop, 2011, 2012). In other words, the academic employment system produces a variety of gender inequalities, which has been described as the *glass ceiling* and

the *sticky floor* (Dubois-Shaik et al., 2018). These gender-specific hindrances have resulted in women disproportionally opting out of academia at every career stage, a phenomenon commonly referred to as the *leaky pipeline* (Dubois-Shaik et al., 2018). However, the *leaky pipeline* metaphor has been criticized for assuming linearity and because of its assumption that it is a failure to leave academia, thereby underestimating the value of alternative career trajectories (Etzkowitz & Ranga, 2011). Instead, more recent research is focused on women's ability to opt out of the academic labor market which fails to provide the independence, rewards, and stability to which they, to no less extent than men, aspire (Etzkowitz & Ranga, 2011; Glass, Sassler, Levitte, & Michelmore, 2013; Le Feuvre et al., 2018).

3.2.2 The Ideology of Meritocracy and Excellence and its Gendered Implications

In the recent decades, many work organizations have gradually replaced the traditional model of employment, which included lifetime jobs with predictable career advancement and pay raises based on seniority, with that of market-driven employment models characterized by merit-based reward systems and other performance management practices (Capelli, 1999). Castilla (2008, 2016) and Castilla and Bernard (2010) have focused on the central role of merit-based reward systems in several work organizations and investigated how they shape gender and racial disparities with respect to wages and promotions. In one study, Castilla (2008) specifically focused on a previously overlooked stage at which structural conditions for gendered and racial bias is likely to occur. The purpose was to examine the link between performance evaluations and salary increments over time. He calls this link "performance-reward bias", referring to the process whereby even after merit (as a measuring instrument), has been constructed through the evaluation process, employers, either consciously or unconsciously discount performances of employees, evaluated as equally performing because of their gender or race. In his longitudinal analysis, Castilla found empirical evidence of the existence of this bias and shows that after

having controlled for the performance evaluation stage, both gender and race continue to negatively affect salary growth. Moreover, Castilla and Bernard (2010) found that managers within organizational cultures who promote meritocracy, compared to those who do not, ironically show greater bias in favor of men over equally performing women.

Internationalization, marketization, and merit-based reward systems have also gradually become essential in the management and financing of academic institutions (O'Connor, 2015; Välimaa, 2012). This trend is clearly visible with the increasing emphasis on global ranking systems, such as the Shanghai Jiao Tong University list (SJTU) and the Times Higher Education Supplement rankings (THE). Through these lists, academic institutions worldwide compete for status and prestige, with academic excellence being one of the chief qualifiers (Butler & Spoelstra, 2014; O'Connor, 2015; Steinþórsdóttir, Heijstra, & Einarsdóttir, 2017). Several quantitative criteria, such as publication rates, journal rankings, citation indexes, and funding success rates are utilized as proof of academic excellence (O'Connor, 2015; Steinþórsdóttir et al., 2017). Therefore, through these seemingly objective and neutral quantitative criteria, the idea of academic excellence gets entangled with that of meritocracy; this emphasizes the notion that individuals' success is solely based on their own merit with no regard given to micro and/or macro patterns of (gender) disparities within the system (Aiston, 2011). However, research has shown academic excellence, in many ways, to be an ambiguous social construct that is inherently gendered (O'Connor, 2015; Van den Brink & Benschop, 2011, 2012). In their study on gender discriminatory recruitment practices within Dutch academia, Van den Brink and Benschop (2011, 2012) found that women were systematically overlooked in the recruiting process for permanent academic positions and for promotions to higher leadership positions based on vague, male-hegemonic standards of excellence, when in fact (male) candidates were actually being appointed because of their suitability instead of excellence. Essentially, women were frequently under-selected due to the

culturally embedded notion that women are somehow 'different' and therefore less suitable. In this context, physical appearance, care-taking responsibilities, and assumption regarding lack of leadership skills due to being 'too nice' were frequently matters of disqualification (Van den Brink & Benschop, 2012). However, a recent survey experiment conducted among Nordic countries reveals a female advantage in the evaluation of candidates to associate professor positions, such that women were both viewed as more competent and more hireable on average (Carlsson, Finseraas, Midtbøen & Rafnsdóttir, 2021).

Several scholars have weighed in on the debate regarding how the ideology of meritocracy conceals practices of inequality that, in truth, have little or nothing to do with merit (Hearn, 2004; Knights & Richards, 2003; Scully, 2002; Van den Brink & Benschop, 2011). Not only does the ideology conceal inequality, but the fact that meritocracy is based on the notion of fairness and justice and on the belief that standards in the labor market are neutral, objective, and universal, also gives it an enormous power to pass the responsibility of unequal outcomes back to the individual and to stigmatize the unsuccessful candidate as incompetent, which the individual is then likely to internalize (Aiston, 2011; Knights and Richards, 2003). In this context, Gramsci's concept of cultural hegemony can serve as a suitable lens (Gramsci et al., 1971) to assess how covert forms of discrimination have in a way, been "negotiated" by the group in power, as gender-neutral conceptions rooted in the idea of the power of individual agency as well as the notion that equality has more or less been reached (Aiston, 2011). In a recent study by Seron, Silbey, Cech, and Rubineau (2018) based on diary entries of female undergraduate engineering students, this is clearly illustrated. The findings show that although the women recognize their marginality and even provide criticism of their experiences, they do not bring it into a broader context of organizational or institutional criticism of engineering and the culture surrounding it. In contrast, they very much believed in the central values of the engineering culture: meritocracy and individualism. "Despite their direct experiences with sexism, respondents

typically embrace these values as ideological justifications of the existing distributions of status and reward in engineering and […] view engineering's nonmeritocratic system as meritocratic" (Seron et al., 2018, p. 131).

A growing body of critical literature has shown how standards of merit within the higher education system have been constructed by academics who, through their position of power, can present and profit from the idea of excellence as being objective, universal, and fair when in fact deeply embedded inequalities are inherent in the system (Knights & Richards, 2003; Scully, 2002; Van den Brink & Benschop, 2012). Nevertheless, universities worldwide continue to uncritically utilize criteria such as publication rates, journal rankings, citation indexes, and funding success rates as proof of excellence, basing the achievements of academic performance in the myth of individual merit and excellence (Steinþórsdóttir et al., 2019; Finnborg Salome Steinþórsdóttir et al., 2017; Van den Brink & Benschop, 2011).

3.2.3 Gendered Aspects of International Mobility among Doctorate Holders

Driven by the global economy and partly associated with the idea of excellence, international organizations, multinational corporations, as well as academic institutions have made international mobility a fundamental aspect of successful career development (Ackers & Gill, 2009; Jöns, 2011; Leemann, 2010; Moguérou, 2004; Suter & Cangia, 2020).

Internationalization has become central to the higher education system in which academic institutions around the world compete for status and prestige by demonstrating that they are global in both profile and influence and that their study programs are competitive in international comparison. It is now commonplace for universities to publish ambitious strategies aiming to strengthen their international presence by supporting international mobility of students and staff, and having international professional experience is increasingly considered to be of high value for early career development and a standard for employability (Standley, 2015; Van den Brink & Benschop, 2012).

Especially in non-native English-speaking countries, it is common to view advanced degrees obtained from foreign countries with academically competitive university systems as indicators of academic excellence (Shin, Jung, Postiglione, & Azman, 2014). In this sense, Iceland is no exception. Despite efforts by Icelandic universities to become top-ranked international universities, it is still considered to be of significant value for Icelandic graduates to go abroad to more prestigious institutions as determined by global ranking (Bawa, Guðmundsson, Jayaram, & Kiley, 2014; University of Iceland, 2012). However, because the concept of excellence is commonly presented as this objective, fair, and universal standard for great academic achievements with no regard for the gender-specific disparities it embodies, it overshadows the fact that social conditions such as partnerships, families, and dual-career constellations can constrain international mobility in gender-specific ways (Ackers & Gill, 2009; Jöns, 2011; Leemann, 2010; Moguérou, 2004). For instance, in a Swiss study, potential post-docs contemplated whether it would be worthwhile to move abroad or if it would mean too much disturbance of family life; relocation would most likely be temporary and not result in a tenured position in that same location. The study, however, also found that female doctorate holders faced even greater challenges because of the country's very conservative gender regime, which provides limited career prospects to mothers both within and outside academia (Le Feuvre et al., 2020). Moguérou (2004) surveyed young French doctoral graduates and found that married women, compared with their unmarried counterparts, were less internationally mobile during the post-doc phase; this was not the case for men. Ackers and Gill (2009) investigated the impact of being in a relationship and having children on international mobility among researchers from Bulgaria and Poland who had moved to the UK and Germany. They found that when partnership and family hindered mobility, a negative effect on career development was likely, constricting the ability to work effectively and productively. Furthermore, they found that women were particularly affected by these barriers because they

were more frequently tied up with private and family responsibilities as well as dual-career partnerships compared to their male colleagues (Ackers & Gill, 2009). Solga and Rusconi (2007) come to a similar conclusion in their study on dual-career-making in Germany. Because female academics are more likely to be married to other academics than men, they also more frequently encountered barriers linked to the special situation of having to attune their career plans to their partners' in a country in which the interest in dual-career arrangements and institutional support for dual-careers has not been prevalent in either scholarly debates or personnel strategies (Solga & Rusconi, 2007).

Therefore, due to gendered differences in relationship patterns regarding partnering, childcare responsibilities, and household labor, most female researchers still face greater barriers in terms of international mobility than their male colleagues, and they have been shown to be much less geographically mobile compared to men who are in a better position when it comes to moving abroad with their entire family (Jöns, 2011). International mobility can thus serve as a major hindrance in women's career development as not being able to spend long periods abroad does not correspond well with the existing image of the excellent academic or the 'ideal scientist' (Acker, 1990). This can result in women receiving fewer opportunities for permanent academic positions or promotion to higher leadership positions (Van den Brink & Benschop, 2012).

3.3 Summary

In this chapter, I presented a review of the literature relevant to the dissertation. As the gender pay gap forms a recurring theme in three out of four articles constituting this dissertation, the main thread of the literature review also revolves around the topic. In the first section, the existing research on the gendered pay gap, both in general as well as among doctorate holders, was introduced. Thereafter, the focus was shifted toward the gender pay gap in the context of family status as well as work–family balance and the power of time in terms of negotiating the share in housework and childcare. This dissertation

provides a few unique additions to the existing literature. Although research on the gender pay gap among doctorate holders has been conducted in Italy, Belgium, Denmark, US, and Canada, none of it applies population data as the current research does. Furthermore, considering the widely accepted assumption that education is one of the key drivers in improving gender equality and diminishing the gender pay gap (Blau & Kahn, 2017; Casey, 2009; Bobbitt-Zeher, 2007), the Icelandic context provides a unique setting as the number of women graduating from universities in Iceland has exceeded that of men at every level, PhD included. Another addition to prior studies is that this research also includes information on the partners of the doctorate holders, which makes it possible to follow the annual earnings as well as the educational level of the partners and investigate the possible impact of the partners' earnings on that of the doctorate holders.

In the second section, the focus was turned toward the careers of doctorate holders and the barriers and opportunities they encounter, especially during early stages of career-making, both within and outside academia. In this section, the literature on the gendered aspects of career-making among doctorate holders was introduced, with a focus on how the ideology of meritocracy and excellence can conceal practices of inequality in the workplace; this constitutes one of the themes in two out of the four articles. In the next chapter, the methodology and methods will be described and discussed along with the ethical considerations.

4 Methods and Framework of Analysis

In this chapter, the methodology and methods utilized in the thesis will be described and discussed. First, I will provide a brief history on the paradigm shifts that have occurred since the second half of the 20th century and discuss the reemergence of the pragmatic paradigm. This is important as the pragmatic paradigm is considered to be the philosophical underpinning of the methodology for mixed-methods. Subsequently, I will provide some details on the mixed-method strategies that were utilized in the thesis followed by some information on how the data was generated along with insights into the analytical procedures. Finally, some reflection on ethical considerations as well as the strengths and limitations of the project will be presented followed by reflection on my positionality as a researcher.

4.1 On Paradigm Shifts and the Benefit of the Pragmatic Approach

For the last few decades, when it comes to the use of research methods in social sciences, the dominant discussion has been on the distinction between quantitative and qualitative research, especially the creditability of one research method over the other. However, this discussion revolves around not just mere 'methods' (as in only the techniques researchers apply to go about their research) but the 'methodology' and even the 'epistemological stance' the researchers take when carrying out research. It is here that the concept of 'paradigms' comes into play (Bryman, 2008; Morgan, 2007).

Paradigms have become a central concept in social science research methodology, so much so that the term has often been used quite freely and sometimes becomes a bit confusing what actually is meant by the concept. Morgan (2007) argues for a necessary paradigm shift in social sciences from what he calls the dominant 'metaphysical paradigm' to a more 'pragmatic approach.' He summarizes the four most common versions of the term to provide the reader some clarity while building up his case for the merit of mixed

methodology. These four versions are 1. *paradigms as worldviews,* 2. *paradigms as epistemological stance*, 3. *paradigms as shared beliefs and practices among the members of a specialty area and* 4. *Paradigms as model examples.* Out of those four versions, two receive special attention in Morgan's (2007) article: *Paradigms as epistemological stance*, within which the dominant metaphysical paradigm falls, and *paradigms as shared beliefs and practices among the members of a specialty area*. Drawing on Kuhn (1977), Morgan then positions himself with the latter.

In his article, Morgan mentions how the beliefs and practices that guided research work in the post-World War II period were, as its challengers labeled it, dominantly of 'positivist' nature. Quantitative research methods received more attention than qualitative methods. However, in the late 1970s, qualitative research methodology regained momentum (Morgan, 2007). With the renewed focus on qualitative research, a debate also emerged regarding the merit of either qualitative or quantitative research methods with respect to social sciences (Bryman, 2008; Kelle, 2006). In an attempt to enhance the legitimacy of qualitative research, this debate was raised to a more philosophical level where "methods became as much to do with philosophical choices as technical ones", and the reflections on the epistemological foundations of different research strategies was considered essential (Bryman, 2008, p. 161).

The paradigm shift toward what Morgan (2007) calls the 'metaphysical paradigm' is to a great extent attributed to Lincoln and Guba (1985). Lincoln and Guba developed a system through which they compared different paradigms (i.e., positivism, post-positivism, constructivism, critical theory, and participatory inquiry) (Guba & Lincoln, 1994). This they did through a top-down philosophical approach toward knowledge with ontology at the top, followed by epistemology, methodology, and, finally, methods. However, despite the system including a variety of existing paradigms, it essentially divides them based on ontological assumptions about the nature of reality. Consequently, the system mainly focuses on the fundamental difference

between the paradigms, which also gives space for the notion of their complete incompatibility (especially between positivism and constructivism) (Baban, 2008; Morgan, 2007; Tuli, 2010). Thus, such an *epistemological stance* to differentiate between paradigms also enhanced the belief that a researcher who chooses to operate within one set of metaphysical assumptions must inherently reject the principles that guides researchers who operated within other paradigms (Morgan, 2007; Tuli, 2010).

However, many scholars, especially those adhering to mixed methods in their research, argue that the epistemological stance is not as waterproof as the advocates for the metaphysical paradigm maintain (Bryman, 2008; Creswell & Clark, 2018; Gage, 1989; Morgan, 2007; Rabinowitz & Weseen, 2001). For instance, Morgan (2007) argues that Guba and Lincoln (1994) subsequently added post-positivism, critical theory, and participatory inquiry paradigms to their initial list of opposing paradigms (i.e. positivism vs. constructivism). Therefore, this brings up the question "what constitutes a paradigm within social science research methodology—and who gets to define and label the paradigms that are included in that list" (Morgan, 2007, p. 60). In his view, this shows that the metaphysical assumptions perhaps do not really determine the key decisions in social science research. Instead, what constitutes a paradigm has more to do with *shared beliefs and practices among the members of a specialty area.* In this sense, the so-called 'paradigm war' is possibly more of a political nature instead of being an epistemological one, comprising a series of ongoing struggles between competing interest groups (Bryman, 2008; Gage, 1989; Morgan, 2007; Rabinowitz & Weseen, 2001). Gage (1989) posits a similar view in his article; he argues that the reason for the 'paradigm war' has more to do with power and money issues in an environment where different disciplines must compete for limited research funding and academic position.

Although the pragmatic approach does not dismiss the relevance of the epistemological stance, it does reject the top-down privileging of ontological assumptions—as is advocated within the metaphysical paradigm—as too

narrow and restricting for viewing and generating knowledge (Morgan, 2007). Pragmatists do not believe in only one single reality or truth as is common among those who believe in the incompatibility between different paradigms. Conversely, they attempt to "consider multiple viewpoints, perspectives, positions, and standpoints" (Johnson, Onwuegbuzie, & Turner, 2007). Therefore, pragmatists emphasize that different paradigms should not constrict research and that methods should, above all, be influenced by the research question itself and not by methodological and epistemological considerations alone. Furthermore, pragmatists believe that all methods—whether of quantitative or qualitative nature—have limitations and strengths and that they should be combined to compensate for their overlapping weaknesses. Therefore, researchers should be free to utilize the methods, techniques, and procedures that best suit their research purpose. Accordingly, the pragmatic approach is the primary philosophy of mixed methodology (Baban, 2008; Johnson et al., 2007; Kelle, 2006) and also the reason why I position myself with the pragmatic approach in this dissertation.

4.2 Definitions of Mixed-Methods Research

Over the last few years, mixed-methods research, which has been used in this dissertation, has been given many names such as the "third methodological movement" or the "third research paradigm" in line with the notion of paradigm shifts. In this context, this third paradigm follows the development of first quantitative to then qualitative research (Creswell & Clark, 2018). Although researchers have systematically employed and integrated both qualitative and quantitative methods for centuries (Maxwell, 2016), it is safe to say that the mixed-methods approach, as a particularly labeled type of research, has experienced a rapidly increasing popularity for the last two decades (Creswell & Clark, 2018). Many fields within social sciences such as sociology, education, organizations, movements, health, and social policy appear increasingly willing to embrace various innovative ways to combine methods (Small, 2011).

Currently, several definitions for mixed-methods research exist, as the field has been on a journey of on-going development (Creswell & Clark, 2018; Johnson et al., 2007). One of the earlier definitions of mixed-methods research is from Greene, Caracelli, and Graham (1989) (see also Creswell & Clark, 2018). Perhaps in an attempt to distance mixed-methods research from the then dominant metaphysical paradigm, they describe it as the inclusion of "at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular inquiry paradigm" (Greene et al., 1989, p. 256). However, most mixed-methods scholars today would currently agree upon a more methodological orientation than what this early definition describes, including Greene and Caracelli themselves (see Johnson et al., 2007). Thus, most of the current definitions for mixed-methods research combine various elements of methods, research processes, and purposes as well as philosophy (Creswell & Clark, 2018; Johnson et al., 2007). One such definition, which I believe aligns well with the motivation for using mixed methods in this particular project, is that from Udo Kelle:

> Mixed methods means the combination of different qualitative and quantitative methods of data collection and data analysis in one empirical research project. This combination can serve for two different purposes: it can help to discover and to handle threats for validity arising from the use of qualitative or quantitative research by applying methods from the alternative methodological tradition and can thus ensure good scientific practice by enhancing the validity of methods and research findings. Or it can be used to gain a fuller picture and deeper understanding of the investigated phenomenon by relating complementary findings to each other which result from the use of methods from the different methodological traditions of qualitative and quantitative research. (see Johnson et al., 2007, p. 120)

This increasing popularity and innovative use of mixed methods during the last two decades has also sparked a lively discussion addressing both theoretical and methodological issues. As Small (2011) points out, characterizing a study as a mixed-methods one is not a straightforward task as one might expect. It is

perhaps easy to recognize a quantitative survey or register analysis (as is the case in this dissertation) supplemented by qualitative interviews as a mixed-methods approach. However, this is by no means always this clear-cut. Disagreements among different scholars on what exactly constitutes quantitative as well as qualitative methods and debates on the proper ways to combine methods have been central to the discussion on mixed methods. Due to such different perspectives, some research designs, such as a small-sample studies employing formal mathematical models, might be called quantitative by some scholars, qualitative by others, and mixed by still others. Nevertheless, several studies have combined methods in diverse and often innovative ways at different stages of the research process, such as during data collection, analysis, or interpretation of the data.

In the last two articles of this dissertation, and the only articles where mixed method was employed, the mixing of the data takes place during the phase of interpretation of the results (Creswell & Clark, 2018). This will be discussed in more detail in the following chapter.

4.3 The Mixed Method Approach in this Study: Strategy of Integration

Gender inequality is a complex and multifaceted issue. Therefore, we argue that applying both quantitative as well as qualitative research methods provides added value. A collective decision was made, within the NORDICORE project, to take advantage of the rich longitudinal registry-based census data available in Sweden, Norway, and Iceland and use them in this study. Furthermore, to identify some of the more subtle mechanisms and systematic barriers to career advancement, a decision was made to incorporate in-depth interviews to obtain a more comprehensive understanding of this complex phenomenon.

In the initial stage of the research process, the overall frame for the quantitative dataset was decided upon. Thereafter, each country applied for access to the register data at their nations' statistical offices. Concurrent to this process, the interview guide was developed, and it was decided to have it

thematically structured around themes recurrent in the existing literature. Although, this dissertation is one of the outcomes of the NORDICORE project, it focuses on Icelandic data only.

The dissertation combines four articles. The first article builds on the register-based census data, whereas the second article is based on the interviews. On the other hand, the last two articles take advantage of both the qualitative and the quantitative data. In those articles a convergent design was used, where the strands were kept independent during the analysis but then integrated in the results and discussion as complementary to each other, a process commonly referred to as interpretation integration (Creswell & Clark, 2018).

4.4 Methods: Data Collection and Analysis

4.4.1 The Register-Based Census Data

The longitudinal individual register-based census data on which the dissertation builds identifies all individuals who held 5- to 20-year-old doctorate degrees in Iceland in 2017, in the fields of Science, Technology, Engineering, and Mathematics as well as Social Sciences and Humanities (STEM and SSH) (*N*=814; 463 men (57%) and 351 women (43%)). The categorization was based on an OECD classification (OECD, 2007). The identified individuals all graduated between 1997 and 2013. This career period was selected because on the one hand, we anticipated that in five years' time, people would have established a career, and on the other hand, it still included a population whose majority would be actively employed after 20 years.

Through the registers, we were able to identify people's age, gender, field of study, as well as the country from which the PhD was obtained. We could also track their employment status (within or outside academia) and their earnings annually as well as identify family transitions, such as childbirths and periods of parental leave. Furthermore, we were also able to follow their partners' annual earnings and educational level.

The research sets the year 2017 as the baseline. At this point in time, 30% of the individuals had held doctorate degrees for 5–9 years, and 70% had held such degrees for 10–20 years. To be included in the data, the doctorate degree holders had to have been active in the Icelandic labor market at some point during this 20-year period, that is, between 1997 and 2017. Approximately 81% (N=659) had registered earnings 5 years after graduation (T5), and a similar percentage (79%) (N=449) had registered earnings 10 years after graduation (T10). The primary reason for the missing data is probably international mobility because people are dropped from the national register when they move abroad. The mean age of doctorate holders was 41 years at T5, and they had, on average, 1.2 children at T5 and 1.3 children at T10.

Partners, in this research, are defined as those who are officially registered as either married to or cohabiting with the doctorate holders[1]. Sixty-six percent (n=540) of the doctorate holders were living with a partner at T5, and 70% (n=395) were doing so at T10. Furthermore, 85% of partners had registered earnings at both time points. Of the doctorate holders who had reached a ten-year career in 2017, 4% had changed their marital status from being in a relationship to being single between the fifth and tenth career year, and 8% went from being single to having a partner during that same period. The educational level of the partners was, in 80% of the cases, lower than that of the doctorate holders, with 65% having either a bachelor's or a master's degree. Twenty percent of the partners also have a doctorate degree.

4.4.2 Interviews

From the quantitative pool of doctorate holders, 32 individuals were selected using stratified sampling (Given, 2008). The study was reported to the Data Protection Authority before recruitment took place. To our advantage, the National and University Library of Iceland keeps a list of all doctorate holders

[1] The registry data in question did not provide information on people's race/ethnicity, sexual orientation, or partners' gender. Thus, same-sex couples are also included in the analysis.

in Iceland.[2] This list became the sampling frame. The aim was to select participants evenly in terms of gender, field of study (STEM and SSH) (OECD, 2007), and employment position (within or outside academia) and to match pairs of men and women with similar years of work experience (see Table 1). The selected sample received an interview invitation via e-mail. In that same e-mail, we informed them about informed consent, confidentiality and anonymity, as well as their right to withdraw from the study at any given time without explanation. In total, 56 people were contacted via e-mail, and 24 either did not answer the e-mails (75%) or declined participation (25%). Of those who either did not answer or declined participation, 75% were men. An equal proportion were from STEM and SSH. However, 54% were employed outside academia, whereas 45% were employed within academia.

Table 1 *Sampling criteria for in-depth interviews*

Within academia (active research career)				Outside academia			
STEM		SSH		STEM		SSH	
Women	Men	Women	Men	Women	Men	Women	Men
4	4	4	4	4	4	4	4

All the participants gave their consent for us to tape the interviews, which we then uploaded to the *Express Scribe Transcription Software* to help transcribe them. We then applied *Atlas.ti 8* and *MAXQDA 2020* to further analyze the interviews.

The interview guide was pre-determined by the NORDICORE group and thematically structured around recurrent themes based on existing literature, such as working arrangement (working hours, flexibility etc.), the work

[2] The National and University Library of Iceland maintains an open access list of all Icelanders who have obtained a doctoral degree. This list contains individuals from as early as 1666 to the present day. The information found on this list is the full name of each individual, the year they were born, the discipline they studied, the year in which they graduated, and the university from where they graduated. In 2017, the list contained information on 2,276 individuals.

environment, and work–family balance. However, the interview guide was not used to pose formal questions but rather to guide the interviewees into subject areas of interest for the research. Therefore, at the beginning of each interview, to keep the interview process more open, we introduced the interviewees to the idea of a timeline where they could elaborate on points in time which were important to them regarding their career and family life. Here, we were especially interested in different life and career events, important decision-making, turning point, and other milestones. By the means of the timeline, we gave the interviewees the opportunity to both take up and expand upon issues which were important to them as well as define their own milestones.

The interviews were held between March and June 2018 and lasted between 40 and 80 minutes (mean length: 53 minutes). Most of them were conducted at the interviewees' workplaces, although two of them were conducted in an office organized by the interviewers. I conducted almost all the interviews together with another PhD student, Andrea Hjálmsdóttir, who is also part of the NORDICORE project. However, four of them, due to circumstances, were divided between us and conducted individually.

The participants' ages ranged from 38 to 63 years (mean age: 48 years). All interviewees except one were employed full-time. The people within academia either held an assistant, associate, or full professorship positions. Of the people who worked outside academia, 11 held some sort of management position, although not all of them were in charge of other employees. Regarding work hours, a distinction could be found between the people working outside academia versus those working within. Those working outside academia generally worked 40–50 hours a week, with a very few working up to 60 hours. They commonly enjoyed a flextime of around 2–3 hours, offered by the employer, to promote a family-friendly environment. The academics, however, enjoyed a very high level of both flexibility and autonomy, but at the same time, almost all of them worked more than 60 hours a week.

There was a slight difference in the demographics between both men and women as well as between people employed within academia versus people employed outside of academia. Of the women, 3 out of 16 had no children, whereas one man did not have children. Additionally, four of the women were single parents, whereas all male interviewees were married or cohabiting (if not at the time of the study, then during the time their children were growing up).

The average number of children among the people interviewed also varied considerably. The women outside academia had, on average, 2.1 children, whereas the men had 1.8 children. The most significant difference was among the people employed within academia; the women had, on average, 1.3 children whereas the men had, on average, 2.8 children. The children's ages varied from 6 months to a little over 30 years.

4.5 The Quantitative Analysis

Over a year after having applied for access to the register data, Statistics Iceland provided temporary remote access to the register data via cloud along with the necessary software. The data was provided as an *Excel* document, which we then converted into *SPSS Statistics 23* as well as *STATA 16* for further analysis.

The study presented in *article I*, is based on descriptive statistics, OLS-regression analysis, and between-group comparison of median values. The method was chosen as the most appropriate form of analysis as the aim was to compare developments regarding total earnings depending on gender, field of study (SSH and STEM), as well as employment within or outside academia.

It was decided to show the dependent variable—the total earnings of doctorate holders—as measured in US dollars (USD; converted from Icelandic kronas [ISK]). US dollars were chosen to make the results more accessible to international readers. Total earnings include wages and other work-related income such as vehicle subsidy, per diem allowances and other benefits. In addition, remuneration and earnings from abroad, other than capital income are calculated as part of total earnings. However, study and research grants count as capital income and are therefore not part of total earnings.

The outcome variable was derived by first taking the average annual amount of each year in ISK and adjusting it to May 2020 (see Equation 1) using the Wage index (see Table 2). The wage index is a monthly price index for the entire labor market intended to reflect changes in the total wages paid for fixed hours, excluding irregular payments (Statistics Iceland, 2020b).

Table 2 *Information on the Wage Index*

Annual Average	**Indices**
Base January 1989	100
1997	155.8
…	…
2015	518.2
2016	577.1
2017	616.6
Monthly Average	**Index**
May 2020	734.5

Equation 1: Index adjustment of the annual total earnings

$$\left(\frac{\boldsymbol{Annual\ total\ earnings}}{\boldsymbol{Wage\ index\ of\ that\ year}}\right) \times \boldsymbol{Wage\ index\ of\ May\ 2020}$$

Example: Index adjustment of Bruce Banner's annual total earnings from 2015

$$\left(\frac{13{,}288{,}480\ \text{ISK}}{518.2}\right) \times 734.5 = 18{,}835{,}177\ \text{ISK}$$

Much like in *article I*, a decision was made for both *article III* and *article IV* to continue presenting the outcome variable, as total earnings in US dollars. In all our analyses we worked with pre-tax amounts so any tax allowances citizens may receive do not influence our analysis.

For the quantitative phase of *article III*, descriptive analysis, multiple regression analysis, as well as analysis of variance was utilized to compare earnings based on gender, family status, and the country from which the PhD was obtained (Field, 2013). For the quantitative phase presented in *article IV*, descriptive analysis and hierarchical OLS-regression analysis were applied to determine whether and how people's earnings are influenced by gender and family transitions such as childbirth and periods of parental leave. All significance tests were set for $p<0.05$.

4.6 The qualitative analysis

In three of the four articles that constitute the dissertation, a qualitative phase was either used as the sole data material or as a component in a mixed-methods approach. Through the process of interviewing and analyzing the transcripts, I used a phenomenological approach. However, for *article III*, a mixed-methods article, we conducted structural content analysis to improve the balance between the quantitative and qualitative findings.

4.6.1 A Phenomenological Approach

Through the qualitative interviews, we wanted to explore our participants' perceptions of possibilities and constraints in relation to their career path as well as hearing about how they experienced their situation before, during, and after the PhD period. We also wanted to understand their every-day life experience and consciousness regarding things such as their working environment, their family life, and how they juggled their multiple tasks both at work and at home. Moreover, we were interested in understanding their perception of time better and how it is woven into their consciousness as they reflect on their past, present, and future.

Therefore, the phenomenological approach seemed to be the most convenient approach; this particular approach enables the researcher to examine lived experiences from everyday life in depth and, by doing so, come closer to understanding what meaning people put into their lives (Van Manen, 2016). The concepts of consciousness and everyday life are both very important from the phenomenological perspective, Berger, Berger, and Kellner (1974) explain these concepts as follows:

> All social reality has an essential component of consciousness. The consciousness of everyday life is the web of meanings that allow the individual to navigate his way through the ordinary events and encounters of his life with others. The totality of these meanings, which he shares with others, make up a particular social life-world. Consciousness in this context does not refer to ideas, theories or sophisticated constructions of meaning. The consciousness of

> everyday life is, most of the time, pre-theoretical consciousness. Therefore, the sociology of knowledge must not concern itself primarily with the analysis of theoretical consciousness like the history of ideas or the history of philosophy, but rather with the consciousness of ordinary people as they lead their ordinary lives. (p 12)

We then further used the phenomenological approach as a tool to analyze the interviews. We utilized the three analytical steps as explained by Orbe (1998). The first stage is called *description*. In this stage, the interviewing and the transcribing of the audio take place. The second stage is called *reduction*. At this stage, the thematic analysis begins. Here each transcript is read individually until certain themes start to emerge. The primary objective at this stage is to determine which parts of the transcription are important with respect to the research question. The third and the last stage is called *interpretation*. At this stage, as the name indicates, the interpretation takes place. The themes which emerged in the second stage are drawn together and interpreted in depth. Here, the goal is to find deeper meaning of the themes, find relationship between them, and analyze how they possibly interact with each other (Orbe, 1998).

4.6.2 Structural Content Analysis

Structural content analysis is a method for systematically describing the meaning of qualitative data (Mayring, 2015; Schreier, 2013). In structural content analysis, the coding frame is the core. The method helps in focusing on selected aspects of meaning which relate to the research questions. This becomes especially clear when it comes to structuring the coding frame and defining the categories, as the meanings in each text bracket are usually taken to a higher level of abstraction, resulting in categories which include several text brackets with similar but slightly different meanings. Structural content analysis is also a highly systematic method in that it requires a specific sequence of steps regardless of the exact research question and material. This involves building a coding frame, generating category definitions, segmenting the material into coding units, and distinguishing between a pilot and a main phase of analysis.

Moreover, as a quality proof for the category definitions, the coding of the data material, or at least a part of it, should be performed twice. In *article III*, this was carried out by assessing intercoder agreement in line with Campbell et al. (2013). An independent second rater recoded about 10% of the data material. The intercoder agreement reached 81.7%. Furthermore, presenting the findings of structural content analysis commonly involves frequency counts (Mayring, 2015; Schreier, 2013).

Despite the method being so systematic, it is also quite flexible. In structural content analysis, the building of the coding frame is typically performed in both a concept-driven manner (involves basing the categories on previous knowledge such as a theory, prior research, or an interview guide) and a data-driven manner. In fact, to ensure that the categories really match the data material in question and that the codes provide a valid description of the material, a part of the categories should always be data driven (Mayring, 2015; Schreier, 2013).

4.7 Ethical Considerations

When conducting research, there are various ethical issues that need to be considered. Trust is of the essence when conducting research, and thus the researcher has an ethical obligation toward their participants (Brinkmann, 2007). Honesty, integrity, and accuracy are all core virtues in this context and crucial components in perhaps the most important rule—the rule of doing the participants no harm (Kristinsson, 2004).

Prior to every interview, to enhance our interviewees' trust in us, we repeated the information the interviewees had received by email. We explained that we would like to record the interview and made sure to obtain their consent to do so before starting. Our participants were all informed that they could stop the recorder whenever they liked and that it was acceptable not to answer questions with which they felt uncomfortable. We also made sure that they knew that they could withdraw from the interview at any given time without any consequences. Furthermore, in order to protect the anonymity of the

interviewees, not only were fictional names used but other personal characteristics, such as age, and sometimes the number of children were also changed in the interviewees' biographies for better protection. Considering that the population of Iceland is only around 364,000 individuals (Statistics Iceland, 2020a), and those holding a PhD account for less than 1% of the total population, protecting the interviewees' anonymity can be challenging. However, all these procedures toward maintaining anonymity are vital in upholding integrity and trust.

Moreover, it is noteworthy that although we aspire to reinterpret the interviews in the manner truest to what the interviewees said and meant, our analysis is still a reinterpretation. Additionally, the interviews were conducted by two women, which possibly influenced how the interviewees talked about gender, gender equality, and family matters. However, to minimize possible social desirability bias (especially when interviewing the men), we waited with asking about the more difficult topics (for instance regarding share of household responsibilities and childcare) until we felt we had built up trust between us and the interviewee. Furthermore, if we sensed that the topic was somehow making the interviewee uncomfortable (for instance admitting that the share of household and childcare responsibilities was not 50/50), we made effort to portrait the particular situation as a very common one.

Iceland, Norway, and Sweden are one of few countries in the world where extensive register data are available for the total population. Owing to the personal ID code system in these countries, used in almost all aspects of everyday lives, it is possible to follow people's life trajectories at an individual level. This detailed longitudinal register data is gathered and kept by the statistical offices in each country. As the data is very detailed, down to the individual level, it is of utmost importance to handle the data with care. The great responsibility the statistical offices bear in this regard became evident when we applied for access to the data. Statistics Iceland, for instance, takes many safety measures when it comes to providing access to their data (Statistics

Iceland, e.d.). First, before applying for an access, one needs to have a certified backer that Statistics Iceland can trust. In Iceland, only a few institutes have this sort of a certification. At the University of Iceland, both the Schools of Social Sciences and Health Sciences have the status of being a certified backer. The School of Social Sciences is the certified backer for this study.

Furthermore, before any researcher can gain access to microdata from Statistics Iceland, all direct and indirect identification is removed. Thereafter, the risk of traceability is assessed and further measures are taken if considered necessary. Only after these precautions does the researcher, after having paid a sizable start-up fee, receives temporary remote access to the research environment of Statistics Iceland via cloud, which stores the requested confidential data along with the necessary software. The entire process of gaining access to the data is quite a time-consuming one; for this project, it took about one and a half year from the time we applied for the data until we received it. Finally, when the researcher is finished working with the data, the access to the dataset is deleted (Statistics Iceland, e.d.)

4.8 The Strengths of the Study

The research presented in this dissertation has several strengths. One of the major strengths lies in the quantitative section of the study. The data utilized in this study is unique as it is not sample data but longitudinal register-based census data from 1997–2017, counting the entire Icelandic population of PhD graduates holding five to 20-year-old degrees. Through the registers, we were able to identify people's age, gender, field of study, as well as the country from which the PhD was obtained. We could also track their employment status (within or outside academia) and their earnings on an annual basis. Furthermore, owing to Statistics Iceland's ability to run information together with records from other institutions, such as the Parental Leave Fund, it was also possible to identify family transitions, such as childbirths and periods of parental leave. We were also able to follow their partners' annual earnings as well as their educational level, which is a unique addition to prior studies.

Another major strength lies in the fact that this study applies mixed-methods design, combining both analyses of quantitative as well as qualitative data. Working with multiple datasets and combining research methods contributes to more rigorous study outcomes.

Furthermore, while numerous empirical studies on doctorate holders within academia already exist, doctorate holders in general have been largely understudied. This lack of knowledge on doctorate holders, especially working outside academia becomes apparent when reading the existing literature on academia (Etzkowitz & Ranga, 2011). In this study, however, the careers of doctorate holders both within as well as outside academia are explored, which makes a valuable contribution to the existing literature.

Additionally, while the majority of literature on career development, especially within academia, predominantly revolves around women, this study, apart from expanding to doctorate holders outside academia, also puts equal emphasis on the experiences of men and emphasizes on the partners' role in terms of work–family negotiations and career-making of the doctorate holders.

Finally, the strength of the location itself should also be mentioned. In public discourse and the media, Iceland is regularly portrayed as a gender equality paradise (see e.g. Hertz, 2016; Jakobsdottir, 2018; Kilpatrick, 2017; Tuttle, 2017), with the country's extensive policies on paid parental leave, childcare facilities, and its overall dual-earner family model being brought up as evidence. Thus, considering the discourse around Iceland's success and even its nation branding (Einarsdóttir, 2020) as a very progressive country and role model among nations with respect to gender equality, the Icelandic context provides a unique setting to research the production and reproduction of gender inequality among doctorate holders from a perspective slightly different from that of prior studies.

4.9 The Limitations of the Study

This study also includes a few limitations. For the interviewees to be able to fully enjoy their freedom of speech, our commitment as researchers toward anonymity and confidentiality is crucial. Thus, protecting people's anonymity in a small community such as Iceland can be challenging. Although we did cover the variety of doctorate holders by interviewing equal number of people from both STEM and SSH, we did not use this distinction further in any of our articles, as giving readers this kind of detailed information could have risked the anonymity of our interviewees.

Another limitation that should be pointed out concerns the quantitative phase of the study. Our data, regardless of its many strengths (such as being longitudinal and register-based, counting back 20 years of information on the earnings of the entire population of Icelandic STEM and SSH-graduated doctorate holders), did not offer information on the different working hours of men and women (i.e., part-time vs. full-time), occupational field, and occupational status/responsibility nor did it offer information on the difference between the public vs. private sector. This is because Statistics Iceland could not supply us with this information. However, this kind of information would have been immensely valuable to this study in terms of understanding career advancements among Icelandic doctorate holders better. More concretely, this information could have helped us pinpoint to what extent the expression of gendered selves concerning study choices of men and women (which leads to horizontal segregation in the labor market), and to what extent vertical segregation explains the gap in total earnings. Had we been able to control for these aspects, we would have been able to conclude on which types of measures would be most suitable to take in the aim of closing the remaining gender gap.

Also, had we been able to control for different working hours of men and women, we would have had a more detailed explanation as to what influences the earning gap. However, in a study on Icelandic academia, Heijstra et al. (2013) found that proportionally fewer academic women worked part-time

compared to men. On the other hand, more men work beyond full-time, 71.6% of the male academics work 50 hours or more, whereas 61.8% of their female counterparts did the same.

Finally, it can also be considered a limitation that mostly due to the doctorate holders' international mobility, there frequently are gaps in the income data, as people drop out of the register when they move out of the country. These gaps are the reason why we never explore the data by employing panel calculations such as fixed-effect calculations or decomposition techniques. For these techniques to be able to estimate changes between years, data with fewer missing values is required than is the case for this dataset. However, we compensate for this limitation by exploring different time points in people's career (e.g., 5 and 10 years after graduation). In this manner, we obtain an extensive picture of different career stages. The only aspect we do not attain from this kind of calculation is the effect of the changes between years, which without a doubt, would have been valuable.

4.10 Researcher's Reflection

4.10.1 Researcher's Positionality

One of the most important aspects of conducting research is being able to reflect on and be aware of one's own positionality. Positionality can mean several things. It can be "about how people view the world from different embodied locations. We are differently situated by our social, intellectual, and spatial locations, by our intellectual history, and our lived experience, all of which shape our understandings of the world and the knowledge we produce" (Qin, 2016, p. 1). Positionality also concerns one's awareness that people are differently positioned in terms of hierarchical power and privilege, characterized by us belonging, in integrated ways, to different social structures of inequality, such as gender, socio-economic status, race, ethnicity, migrant status, age, ability, and sexual orientation (Milner, 2007; Qin, 2016).

I position myself as a feminist, as well as within the intersectional analysis, recognizing that people are simultaneously positioned within multiple categories that affect their lives and that power shapes and is shaped across the intersections of multiple forms of discrimination (Christensen & Jensen, 2012). My position as a feminist undoubtedly explains a significant portion of my interest in the NORDICORE project as well as my decision to apply for the PhD position. Also affected by my position is the selection of theories that I apply in my research, as most of them are of feminist nature. Furthermore, the fact that I connected with these feminist theories also influenced the manner in which I approached my interviewees as well as the data material. In terms of the interviewing process, the interviewees' wording and body language that caught my attention while conducting the interviews was undoubtedly shaped by this and so was the way we posed questions.

Thinking back on how my confidence in myself as a feminist gradually grew with age, I can in many ways relate with Ahmed's (2017) description of becoming a feminist. That is, as the result of a sensation or "a feeling that something is amiss in one's world" (Parvulescu, 2019, p. 95) and in time through the repetition of events increasing this irritating sensation (Ahmed, 2017; Parvulescu, 2019). I, like so many others, have stories of experiencing countless micro-aggressions; being mansplained, being harassed and being stalked by a man, just to name a few. As Ahmed (2017) describes, these micro aggressions perhaps did not individually cause me to become a feminist, but the cumulative effect and through the function of repetition, they all contributed to me becoming one.

However, I believe I have not only become a feminist through experiencing discrimination on my own skin, but also through "bearing witness" to other people's struggles (Hemmings, 2012, p. 153), recognizing my own privileges at the same time.

One summer, during my summer break from school, I took a job in fish processing. During that summer, I mostly worked with immigrants,

hardworking people, many of whom had moved to Iceland striving for better opportunities for themselves as well as their children. I also realized that despite often having fun on the job interacting with interesting people from all over the world, this was physically the hardest job I had ever done. About two weeks in, I started to wake up every morning with my fingers completely white and numb from a lack of blood flow. Although, the blood flow would return to normal about an hour later, this would not stop happening until I quit the work and started school again, three months later.

That summer I got to know a woman beside whom I greatly enjoyed working. During the day, we would joke around and enjoy each other's company while processing the fish; I felt we connected on a human level. As she was way more experienced at the job (I had never before come near fish processing), she would teach me the ropes. However, I soon realized that the cards we had been dealt in life were very different. For me, this was just a fun summer job that I would not be returning to, whereas she had worked hard to get where she was. Moreover, her life experiences involved poverty as well as an arranged marriage—a reality very far from my own. When she told me about her life, my bubble of privilege burst; this was not something I was simply reading about anymore. This was the tangible reality of a woman standing in front of me. Getting to know this woman strengthened my belief in the fundamental importance and need for feminism.

As my studies in sociology and gender studies have progressed over the years, I have often thought back to this summer, and through my readings I can relate to what Hemmings (2012) articulates as affective dissonance and 'experiences of discomfort' (p. 158) as a starting point for feminist politics, activism, and research. Hemmings (2012) describes 'affective dissonance' as the feeling of disconnect between our experience of self, agency, and epistemic standpoint and the societal and institutional norms and values of the broader societies (see also Chadwick, 2021), which can be felt affectively in multitudinal and nuanced ways such as with anger, discomfort, hostility,

frustration, grief, and disgust. Similar to what Chadwick (2021) describes, I experienced a certain discomfort when my bubble of privilege burst, perhaps not for the first time but at least in a very affective and memorable manner. I believe this experience together with other experiences of both dissonance and discomfort moved me toward 'thinking and knowing differently' (Chadwick, 2021).

Reflecting on my position in this particular project, although my interviewees' circumstances in terms of social status, privilege, and opportunities are very different, I see myself as someone who is "bearing witness" to my interviewees' lived experiences rather than being someone who shares common experiences with them. During the interviews, it became very clear to me that based on their gender, our interviewees had very different relationships with time. Around the same time I began reading through the transcripts, I also started reading about theories regarding the gendered nature of time (Adam, 1990, 1995; Bryson, 2007; Davies, 1989; Everingham, 2002). I immediately felt that this strand of feminist work would be valuable as a theoretical framework through my analysis of the transcripts. Through my readings, I came across a sentence, explaining the disproportionate responsibility women bear in the home, that significantly made an impression on me: "At home, their time—more than any other family member's—becomes others' time" (Davies, 1989, p. 38). Personally, as a childless woman living at my parent's place during my PhD studies, I am very privileged regarding time. Therefore, this sentence did not stick with me because it reflected my own lived experience but because I could see my mom vividly as I read it for the first time. Although both my parents certainly gave immeasurable time into the upbringing of my siblings and I, there was always a fundamental difference between them in this regard. My dad indeed was the one who always dropped us off and picked us up from all the extracurricular activities we attended, and he was the one involved in our sporting activities. Also, growing up in Iceland, the fact that we all speak my dad's native language, Schwitzerdütch (Swiss-

German) as a second mother tongue is a testimony that he spent a significant amount of time with us. On the other hand, the best way to describe my mom's involvement in our lives is to state that she was **always** there. She often worked part-time, and I can remember four years where she exclusively worked night shifts to always be at home when we came from school. She was in charge of the household and communication with the school. She was also the one who helped with homework. Thinking back, I rarely asked mom "Where is Dad?" if he was not home. On the other hand, this was a common question to dad if mom was not home. Moreover, questions such as "Where are my socks?" or "Is my purple sweater clean?" were always only directed at mom. My mom's time was always more fragmented than that of others in the family because as Davies (1989) mentions, her time, more than any other family member's time, was (and often still is) others' time.

My position within the time theories, as I have been using them through this project, is thus not rooted in my own lived experience of giving my time to others but rather in me contributing to my mom's time being more fragmented than any other's time in the family.

4.10.2 Reflection on the Experience of Going to an Interview as a Team

As mentioned previously, the majority of the interviews were conducted by a team of two PhD students, Andrea Hjálmsdóttir and I. It certainly is very important to consider the advantages and disadvantages of conducting an interview with two interviewers versus one interviewee from all angles; in some cases, it might not be an ideal option. Gaining the interviewee's trust is of course always vital, but in some circumstances, especially in cases where the topic is highly sensitive and/or if the interviewee is part of a marginalized group, it could be harder to gain that trust. In such circumstances, the ratio 2:1 might be too uncomfortable for the interviewee. Only having to open up to one person instead of two could therefore possibly establish better trust, thereby yielding a better outcome.

However, the participants in this project can in many ways be considered a part of a privileged group, as all of them have the highest possible degree of education one can obtain and all of them have a professional career. Moreover, the interview frame did not include subjects of highly sensitive nature. That is not to say, however, that people cannot find it hard to share their life experiences and how they managed their family and work lives with two total strangers. Moreover, as mentioned previously, the fact that the interviews were conducted by two women could possibly have influenced how the interviewees talked about matters such as gender, gender equality, and family life.

As the interview frame was being prepared, we discussed how the interviews should be conducted. We decided that Andrea and I would, at least to begin with, go to the interviews together as a team. The primary reason for this decision was that we considered this a good way to synchronize our styles of interviewing. We did however end up conducting almost all the interviews together.

Bearing in mind that my experience of the interviewing process might not be, by any means, the same as that of the interviewees'. However, I felt that the process of taking the interviews together was a very pleasant experience. Due to circumstances, we had to take four interviews separately, which gave us the means to compare it to taking them together. With this comparison, I would argue that at least in the context of our study, it was better to take the interviews together. Instead of having a one-on-one conversation with our interviewees it felt more like a conversation circle. I was of the impression that it even had a good stress-relieving influence on the interviewees (although I cannot truly know that for sure) and us as well, which I think facilitated more insightful conversations. Additionally, on a more technical note, one of the advantages of conducting the interviews as a team was the opportunity to ask follow-up questions and probe for additional information in, what I felt, an interactive and easy manner. Furthermore, four eyes and ears tend to observe better than two.

While one of us was asking the questions, the other had a better opportunity to observe elements such as possible changes in the tone of voice, the choice of wording, or the body language. Finally, conducting an interview as a pair also provided the opportunity to discuss the experience afterwards. This has an analytical advantage, as the first step of the analysis is already taking place through discussion.

5 Summary of Articles

In this chapter, I will present a summary of the four peer-reviewed research articles which constitute this PhD study. This summary is intended to highlight the connection between the articles and to provide insight into how the project progressed through time.

The first article, entitled *Wages, Demographics, and Gender: Register Analysis Among Doctorate Holders in Iceland,* is currently under review by the journal of *Higher Education*. The article focuses on analyzing the gendered wage gap among PhD holders in Iceland, at different career stages, in the fields of science, technology, engineering, and mathematics (STEM) as well as social sciences and humanities, (SSH) working either within or outside academia. The research question posed in the article was as follows: Are there any differences between female and male doctorate holders in Iceland, the seeming cradle of gender equality, in terms of their wages?

This article is the starting point in the project. Following the basic NORDICORE idea, the article provides an overview of the gendered earning-differences among doctorate holders in terms of their field of study and their work location.

The analysis in this article is based on longitudinal individual data from the Icelandic register from 1997 to 2017, where we identified all individuals, who held 5- to 20-year-old doctorate degrees in Iceland in 2017 and were active on the Icelandic labor market at some point during this 20-year period (N =814). The population was categorized based on gender, field of study (STEM vs SSH), and employment either within or outside academia. Based on these categories, we compare people's earnings five and ten years after graduation as well as their earnings in 2017.

Our findings reveal a continuous gender pay gap at all time points of the study. This is consistent with the ongoing gender pay gap in the general labor market in Iceland (Statistics Iceland, 2020c), and unfortunately, it seems

that the highest possible educational degree does not strengthen the situation of women enough to abolish the pay gap. The gender pay gap applies regardless of the field of study from which people graduate, although as the regression analyses suggest, the gender pay gap is explained by the field of study or the field of study in combination with the work location to a great extent. This indicates in line with Barone and Assirelli (2020) and Lörz and Mühleck (2019) that the critical factor of gender segregation in higher education is in terms of the ongoing gender inequalities in the labor market.

The gender pay gap is smaller within academia than in other businesses five years after graduation but changes as people's careers progress, resulting in the gender gap widening within academia but narrowing between years outside academia. Here, the findings from Heijstra, Bjarnason, and Rafnsdóttir (2015) could to some extent explain the situation within academia; they found men to be more likely to be full professors after having controlled for age and other work- and family-related predictors, indicating that academic women in Iceland become disadvantaged somewhere in the promotion process. However, outside academia, the situation could to some extent be explained by the vertical division of the labor market, since men are considerably more likely than women to hold managerial and higher positions (Einarsdóttir et al., 2019; Júlíusdóttir, Rafnsdóttir, & Einarsdóttir, 2018). It could also be that men are likelier to receive higher paid positions earlier on in their career, whereas it takes women longer to work toward better positions.

In conclusion, the main contribution of the study is that despite the relatively high level of gender equality in the country (The Economist, 2020; The World Economic Forum, 2021), we see a clear pattern regarding the gender pay gap among doctorate holders in Iceland. Considering the discourse around Iceland's success and nation branding (Einarsdóttir, 2020) as a very progressive country and its image as a role model among nations in terms of gender equality, it is interesting and unfortunate to see that the gendered pay gap still persists in the favor of men. Furthermore, our findings underline that gender

equality within the macro environment, achieved through equality legislations and public policy, does not necessarily mean total gender equality within the organizational environment of workplaces or in close relationships between partners. The journey toward equal pay is a persistent struggle that needs more than a macro-level policy change to be successful. It also needs a constant discussion of deeply embedded gendered cultural values and ideas.

Parallel to working on the first article and caused by the delay in obtaining the quantitative data, Andrea Hjálmsdóttir and I started the process of conducting the interviews based on an interview frame developed by the NORDICORE research group. Through the interviewing process as well as analysis of the transcript, I developed an understanding of how our interviewees experienced time in terms of balancing their career and family life. This process yielded the second article, entitled *Gender, Agency, and Time Use Among Doctorate Holders: The Case of Iceland*. The article has been published in the journal *Time & Society*, and it is based on the qualitative data collection.

The article focuses on the structuring of time among the doctorate holders. That is, we wanted to know if gender was a defining factor in our participants' sense of time and their time management as part of their career development. Moreover, we also wanted to examine how they perceived their agency regarding time management in combining and balancing their career and family. The study was based on 32 thematically structured, in-depth interviews with individuals from the same pool of doctorate holders as mentioned in the first article. The aim of the interviews was to understand our participants' experiences of everyday life and perceptions regarding working environment, family life, and multiple tasks both at work and at home. Accordingly, we were particularly interested in gaining an improved understanding of their perception of time and how it is woven into their consciousness as they reflected on their past, present, and future.

The interview revealed that although all our interviewees felt the often-enormous pressure that comes from integrating all their needs and obligations

into daily life, whether bound to work or family, the men and women still had quite a different relationship to time in general. In many ways, the women's accounts resonates with what Everingham (2002) argued about how time needs first to be made before it can be spent. Both the female interviewees and the male interviewees' partners, which in all cases were women, handled the communication with their children's schools to a greater extent and maintained the overall planning regarding the children's extra-curricular activities, doctor's appointments, and other arrangements around the family life. Moreover, it was not uncommon that the women in our study and the men's spouses took a part-time job at some point in their career to accommodate the family's needs. This was never the case for the male interviewees or the female interviewees' partners which in all cases were men. Furthermore, the female interviewees expressed feelings of guilt, associated with the thought that they were unable to keep up with their responsibilities to a much greater extent compared with the men. However, they did not want to complain about their situations or blame it on systematic disadvantages; on the contrary, they tended to blame themselves for lacking time-management skills.

In summary, the results indicate that the men generally felt a higher level of agency regarding their work–family balance and time management than did the women, who more often expressed difficulties in finding a proper balance and expressed being more stressed about the often-fragmented time they had to combine their career and family obligations successfully. Therefore, the study highlights how societal time norms among highly educated people are gendered and how time is still inevitably linked to power.

At this point in time, I had already worked with both the quantitative as well as the qualitative data material. Based on the work around the first article, it became apparent that the gender wage gap was in favor of men at all time points under scrutiny, regardless of the field of study or the work location. Furthermore, through the analysis of the interviews, we saw how the realities of

men and women differed in terms of their own agency regarding work–family balance and time.

This led me to reflect on how the doctorate holders negotiated their time and family matters with their partners and whether the partners of doctorate holders influenced, in any way, their career decisions and earnings. These thoughts resulted in the writing of the third article, entitled *"This would never be possible if not for our team play" An Analysis of Icelandic Doctorate Earnings from a Gender Perspective*, which relies on a mixed-methods approach. The article is published in the *Journal of Family and Economic Issues*.

The article focuses on the gendered meaning and implementation of various family structures, as well as the influence of having graduated abroad, on the career development of male and female doctorate holders in Iceland who either have research careers within academia or careers in the public or private sector. The research questions posed in this article were as follows: 1) Is there an observable gender difference in the countries that Icelandic doctorate holders earn their degrees from? 2) Is there a financial benefit to obtaining a PhD degree from abroad as compared to having a domestic degree? 3) Do family structures impact the wages of male and female doctorate holders? 4) How beneficial is it for male and female doctorates to be in a relationship, as compared to being single, and does having children play a role in this context? 5) Are there observable gendered patterns in the way doctorate holders make sense of their time management and negotiate employment and family decisions with their partners?

The findings of this article, apart from revealing a persisting gender wage gap among the doctorate holders, show that receiving a PhD degree from abroad was an asset to the doctorate holders' earnings. An American PhD degree turned out to be the most beneficial for the earnings of doctorate holders, albeit to a larger extent for men than for women. Interestingly enough, the married/cohabiting women in our study seemed less mobile than their male

counterparts. Approximately one-third of them did not leave Iceland to obtain their PhDs. When they did go abroad, they most often headed for one of the other Nordic countries, with welfare systems and cultures with which they were largely familiar. In contrast, married/cohabiting men, akin to the singles, most often opted for PhD programs in the US. Furthermore, the findings suggest that men and women go about family life and having children in different ways in order not to let it affect their earnings. The women are having fewer children on average than men, but they are also more likely to take longer child-related career breaks than them. However, the number of children does not seem to affect men's careers in the same manner, which would explain why they, on average, have more of them.

Through the qualitative phase, we investigated how doctorate holders make sense of their employment and domestic decisions and the manner in which they negotiate employment and family decisions with their partners. Although the participants expressed their experiences in quite gender-neutral terms, using words such as "team play" or "choice" to underline the equality of their status to that of their partners, it is evident that the women still bear the majority of the responsibility for the home and largely handle the communication and responsibilities regarding the organization of everyday life in most cases.

Considering the discourse around Iceland's success as a very progressive country and a role model among nations with regard to gender equality, it is noteworthy that the pay gap in this country remains in favor of men. Women still only gain limited benefits from educating themselves as compared to men. Thus, we conclude that the widely accepted notion of women's education as a tool for closing the gender gap partly serves as a façade behind which the more accepted, traditional gendered functions disappear. In such an environment, cultural habits, such as the traditional division of labor in the home, are more easily portrayed as individualistic choices or agreements between partners. Subsequently, the gender power divisions within the home

stay in place, negatively affecting the careers and finances of women. By settling for this inequality, based on the argument that this is a deliberate choice made between partners, the next generation continues to grow up with inequalities within the home. We therefore encourage future studies to further investigate how gendered power relations are produced and reproduced in close relationships between partners and within the home.

The linear regression analysis in *article III* did not a yield a significant association between the presence of children in the household (dummy variable) and the earnings of the doctorate holders. However, from both the quantitative data and the interviews, we could see that men and women still went about family life and having children differently. For instance, when it came to taking days off in parental leave, most of our female interviewees took a longer time compared to their partners, whereas very few of our male interviewees took equal or a greater share of parental leave compared to their female partners. This raised the question whether a dummy variable representing the presence of children in the household was insufficient for analyzing the influence of children on the earnings of doctorate holders and whether a more detailed analysis of the influence of child-related career breaks was a necessary next step in the process. Contemplation on this aspect yielded a hierarchical OLS-regression analysis including children in the household as a numeric variable instead of a dummy variable, along with a variable counting the days of parental leave taken. The analysis is presented in the fourth and last article constituting this PhD study, entitled *The Gendered Context of Family Transitions and Earnings among Icelandic Doctorate Holders*, which is currently under review in the journal *Review of Economics of the Household*. Similar to the third article, this one also relies on a mixed-methods approach.

The article focuses on analyzing how people's earnings get influenced by gender and family transitions such as childbirths and periods of parental leave 5 and 10 years after graduation. The research questions posed in this article were as follows: 1) Does having children and taking parental leave have

a different effect on male and female doctorate holders in terms of their earnings 5 and 10 years after graduation? 2) Are there any gendered patterns in how doctorate holders make sense of their lived experience of having children, taking parental leave, and balancing work and family?

The findings from the quantitative dataset reveal a clear gender pattern when it comes to having children and taking parental leave. Women have fewer children on average compared to men, and they are also the ones who take considerably more days off for parental leave (144 more days). However, despite men having more children, each additional child has a positive impact on men's earnings, both 5 and 10 years after graduation, whereas for women, each additional child starts having a negative impact on their earnings 10 years after graduation. These results confirm that children as a dummy variable, as was used in article III, does underestimate the influence of children on the earnings of doctorate-holding men and women. However, regardless of analytic techniques used in all the articles (linear, log-linear, or hierarchical regression; split cases or interaction terms), the analysis always revealed a gender pay gap in favor of men.

Through the qualitative dataset, we also investigated how male and female doctorate holders make sense of their lived experience of having children, taking parental leave, and balancing work and family to determine if any gendered differences could be found in that context. Indeed, we found gendered differences regarding how people discussed these matters. This became especially clear when asked about the impact of having children on the study and career pace. The women frequently mentioned how having children and establishing a family affected their study or career pace, whereas none of the men specifically articulated that having children had at any point slowed down their study or career pace. In fact, the men were more focused on concerns regarding their financial responsibility of having a family and more often talked about how they started working even more than before to be able to provide for their family, instead of elaborating on how they shared the caring

responsibility with their partners. However, some of the interviewees specifically expressed how the law securing fathers' non-transferable parental leave had had a comprehensive impact on the societal norms and attitudes toward the role of both mothers and fathers in the home as well as in the workplace.

This suggests that although the Icelandic state has consciously facilitated the dual-earner family model (Leira, 2002) and gender equality in the labor market for years and that it has, without a doubt, resulted in positive changes, some of the breadwinner model's principles still prevail beneath the surface.

6 Collection of Articles

Article I

Wages, Demographics, and Gender: Register Analysis Among Doctorate Holders in Iceland

Higher Education (under review)

Wages, demographics, and gender: Register analysis among doctorate holders in Iceland

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The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Availability of data and material

The data that support the findings of this study are available from Statistics Iceland. Restrictions apply to the availability of these data, which were used under license for this study. Due to the data being register data linked to the personal ID code system in Iceland it is only available after applying for it under strict privacy and ethical regulations of Statistics Iceland.

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Abstract

The percentage of female doctorate holders has been steadily increasing in the Western world over the last decades. However, studies focusing on gender and doctorate holders, within or outside academia, are rare. We analyze the earnings of Icelandic doctorate holders who have either obtained degrees in the fields of science, technology, engineering and mathematics or social sciences and humanities and are employed either within or outside academia. We analyze if there are any gendered differences regarding the doctorates in terms of their wages over time. We argue that gender wage-equality is especially important among doctorate holders as worldwide, education is assumed to empower women and is seen as one of the key drivers in improving gender equality and diminishing the gender pay gap. Despite Iceland's reputation as a gender equality paradise, our findings reveal a continuous gender pay-gap among Icelandic doctorate holders at all time points under scrutiny. Our findings suggest that a PhD degree does not improve women's earning power enough to close the gender pay gap.

Keywords: Doctorate holders; gender; wage-gap; (in)equality; register analysis; longitudinal data.

Introduction

The number of doctorate holders has been on the rise over the last decades in the Western world (Auriol, Misu, & Freeman, 2013; Boosten & Vandevelde, 2014; Cyranoski, Gilbert, Ledford, Nayar, & Yahia, 2011; Gokhberg, Shmatko, & Auriol, 2016), and to some extent, it is growing even faster than the number of graduates with other degrees (Auriol, 2016). Across the Organization for Economic Co-operation and Development (OECD) countries, the average rise in doctorate holders was a little under 40% for the first decade of the 21st century (Auriol et al., 2013; Cyranoski et al., 2011). This can be attributed to the importance of knowledge-intensive industries emphasized by policymakers and the increase of support for PhD graduates, among other things (Bryan & Guccione, 2018; Passaretta, Trivellato, & Triventi, 2019; Pedersen,

2014). Also, educated workers are seen as being key to economic growth in many countries (Cyranoski et al., 2011). However, extensive international research indicates challenges to gender equality among doctorate holders in research and innovation, which needs to be studied further (Bergman & Rustad, 2013; Caprile, Meulders, O'Dorchai, & Vallès, 2011; Heijstra, Steinthorsdóttir, & Einarsdóttir, 2017; Meulders, Plasman, Rigo, & O'Dorchai, 2010).

As Casey (2009, p. 225) points out, 'PhD holders are not a homogenous group. They do different jobs and they are rewarded differently.' Thus, individual advantages differ. Nevertheless, as Bloch, Graversen, and Pedersen (2015) show, doctorate holders as a group, are an under-researched topic, not least in terms of wage differences (Alfano, Cicatiello, Gaeta, & Pinto, 2019; Webber & Canché, 2015). Traditionally, more men than women have finished a PhD degree, but there are signs of this gender gap decreasing with growing female participation in higher education (Carter, Blumenstein, & Cook, 2013; Cidlinská, 2019; Lörz & Mühleck, 2019; Maher, Ford, & Thompson, 2004). Nevertheless, on average, women finish their PhDs later than men (Mastekaasa, 2005), particularly mothers (Kulp, 2020). Moreover, research indicates that female PhD holders earn less than their male counterparts (Alfano et al., 2019; Webber & Canché, 2015).

We add to the current knowledge by analyzing the gendered wage gap among PhD holders in the different fields of science, technology, engineering and mathematics (STEM) as well as social sciences and humanities (SSH). In addition, we compare those who work within academia to those who work outside. Gendered wage-equality is important, as shown in the SDG goal no. 5, which aims to achieve gender equality and empower all women and girls (Sachs, Kroll, Lafortune, Fuller & Woelm, 2021). We argue that gender wage-equality is especially important among doctorate holders because education is assumed to empower women and is seen as one of the key drivers in improving gender equality and diminishing the gender pay gap (Casey, 2009; Bobbitt-Zeher, 2007).

Human capital theory, for instance, considers "education relevant in so far as education creates skills and helps to acquire knowledge that serves as an investment in the productivity of the human being as an economic production factor" (Robeyns, 2006, p. 72). As human capital rises with more educated individuals entering the labor market, the likelihood of employment and possible earnings increases (Damon & Glewwe, 2011). Education and experience as human capital among women has been important in narrowing the gendered pay gap (Blau & Kahn, 2017). However, findings from Italy, Belgium, Denmark, and the US suggest that there might be more complicated issues underlying the pay gap than education, since there is an indication of a gendered wage gap among doctorate holders that is similar to that found in the wider population (Alfano et al., 2019; Gaeta, Lubrano Lavadera, & Pastore, 2018; Levecque, Baute, Van Rossem, & Anseel, 2014; Pedersen, 2016; Webber & Canché, 2015).

The study is conducted in Iceland, which is an interesting country to study a possible pay gap among doctorate holders. The country is considered to be at the forefront of gender equality in the world, in part because it has been ranked first on the Gender Gap Index since 2009 (The World Economic Forum, 2021) as well the Economist glass-ceiling index also ranks Iceland number one in terms of gender equality (The Economist, 2020). The indices take into account women's access to higher education and the labor market, among other things. Like in the other Nordic countries Icelandic childcare policies, which include relatively cheap access to qualified day care for young children, have been claimed to be one of the foundations of the Icelandic and the Nordic welfare model. As Eydal and Rostgaard (2011) point out, this policy is often reviewed and recommended internationally for its contribution to gender equality through high female labor-force participation without reducing fertility to the low levels which characterize many other European countries.

Therefore, we ask: Are there any differences between female and male doctorate holders in Iceland, the seeming cradle of gender equality, in terms of their wages? To answer this

question, total earnings at different career stages were analyzed depending on gender, field of study (STEM vs. SSH), and employment within or outside academia. The strength and uniqueness of the data is that it is based on longitudinal register data counting the whole Icelandic population of STEM and-SSH graduated individuals, who in 2017 held 5- to 20-year-old doctorate degrees in Iceland.

Careers of Doctorate Holders

The number of doctorate holders staying within academia varies across countries. The findings of the Careers of Doctorate Holders Survey 2010, which is a joint project of the OECD, UNESCO Institute for Statistics, and Eurostat (Auriol et al., 2013), concludes that 31.4% of the survey's participants had never left university, while 68.6% of the participants had worked in other business sectors at least once after finishing their PhDs (Derycke & Van Rossem, 2014). When it comes to earning differences, recent research from the United States and Europe shows that doctorate holders working outside academia are better paid than the average professor in academia (Hamermesh, 2018).

Little is known about what processes drive people to early career choices in terms of sectors and occupation (Bloch et al., 2015; Pedersen, 2014). Previous research indicates that PhD students who prefer industrial employment to academic jobs have a weaker 'taste for science' (Bloch et al., 2015; Roach & Sauermann, 2010). However, the findings of Bloch et al. (2015) reveal a more complex reality since doctorate holders do not only make career choices between higher education institutions and industry but also between research and development and non-research and development sectors. Therefore, the choice of careers seems to follow more complex patterns than suggested earlier (Bloch et al., 2015).

Almost 80% of the doctorate holders that participated in the 2010 OECD, UNESCO, and Eurostat survey worked as permanent employees; women, however, were more likely than men to be on temporary contracts and earn less (Boosten, 2014; Webber & Canché, 2015).

However, research done by Casey (2009) indicates that a PhD degree might still be more valuable for women since female doctoral holders appeared to improve their earning power to a greater extent than men. Nevertheless, the labor market is horizontally segregated, and fields of study are gendered. Women are still more likely to hold degrees in disciplines that receive lower wages (Ochsenfeld, 2014; Bobbitt-Zeher, 2007) as research has indicated that graduates from so-called hard disciplines (STEM) earn more than those graduated from soft disciplines (SSH) (Passaretta et al., 2019). Gender segregation in higher education has been acknowledged as a critical factor in terms of ongoing gender inequalities in the labor market (Barone & Assirelli, 2020), and differences in academic careers among men and women as partially accountable for the ongoing pay gap among higher education graduates (Lörz & Mühleck, 2019).

The Icelandic settings

Much like in other parts of the Western world (Auriol et al., 2013; Boosten & Vandevelde, 2014; Gokhberg et al., 2016), higher education has been on the rise in Iceland. This is especially true for women (Bjarnason & Edvardsson, 2017). In 2019, women were around 70% of those who graduated with PhD degrees from Icelandic universities (Reykjavik University, 2019; University of Iceland, 2019).

Iceland's reputation as the most gender-equal country in the world has been quite prominent in public discourse and the media, both in Iceland and around the world. This media discourse has portrayed Iceland as a paradise for women and implies that gender equality in Iceland has more or less been achieved (see e.g. Hertz, 2016; Jakobsdóttir, 2018; Kilpatrick, 2017; Tuttle, 2017). The success has even been used by Icelandic authorities for nation gender branding (Einarsdóttir, 2020).

In an international comparison, Iceland certainly does well when it comes to gender equality concerning economic status, political position, education, and health. Although the

participation of Icelandic women in the labor market is among the highest in the world and also the highest among the women in the OECD countries (81.9% in the year 2019 compared to 86.2% for men) (OECD, 2020), women are far less likely to be in managerial positions (Einarsdóttir, Rafnsdóttir, & Valdimarsdóttir, 2019; Júlíusdóttir, Rafnsdóttir, & Einarsdóttir, 2018). Furthermore, the general gendered pay gap has been ongoing, with the unadjusted gender pay gap for 2019 being 14% (Statistics Iceland, 2020b). This might reflect a gender segregated labor market and the fact that women are more likely to work part-time, with the average working hours in 2020 being 43.5 for men and 36.7 for women (Statistics Iceland, 2021). However, new data from the Office of the Prime Minister in Iceland demonstrates how education is far more economically rewarding for men than for women. For example women with PhDs earn similar wages as men with bachelor's degrees (Icelandic Income Database, 2021). However, the data does not compare wages between SSH and STEM nor wages within and outside academia. The study presented here is the first to address the gender pay gap among doctorate holders in Iceland, with that particular focus.

Closing the gender pay gap is a very important issue in Iceland. As early as 1961, the Icelandic Parliament passed a law on equal pay for men and women (The Economist, 2020). In 2018, the Government of Iceland became the first in the world to implement obligatory equal pay certification under an equal pay standard. The aim is to enforce the current legislation which prohibits discriminatory practices based on gender and requires that women and men working for the same employer are paid equal wages and enjoy equal terms of employment for the same position or positions of equal value. Companies and institutions employing 25 or more employees on an annual basis are required to obtain equal pay certification of their equal pay system and the implementation thereof (Government of Iceland, 2017). This legislation is considered progressive. It has gained international recognition (see e.g. Henley, 2018; Morad, 2018; Rubery, 2019), and high expectations are tied to the Equal Pay Standard to become the

tool for finally bridging the gendered pay gap on the Icelandic labor market (Alderman, 2017; Morad, 2018).

In Iceland, as elsewhere, there is scarce research comparing wages among females and males who hold doctorates in SSH and STEM within and outside academia. The main research contribution of this study is adding to this scant knowledge. This knowledge is important as education is assumed to empower women (Casey, 2009) and has been found to play an important role in narrowing the gendered pay gap (Blau & Khan 2017).

Data and Methods

Study Objectives and Background

The data is part of an on-going Nordic research project called NORDICORE. The main objective of that project is to investigate the career outcomes for people who have completed doctorate degrees and are employed within or outside academia in Sweden, Norway, and Iceland.

Iceland, along with the other Nordic countries, is one of the few countries in the world where extensive register data is available for the total population. The personal ID code system in those countries makes it possible to follow people's life trajectories on an individual level. This detailed longitudinal register data is gathered and maintained by the statistical offices of each country.

Using longitudinal register data allows for the detection of patterns in the whole population, not just in a sample. The data represents a new frontier in the literature on the influence of gender, field of study, and employment on people's earnings over time.

Data Collection and Procedure

The results are based on a dataset derived from Statistics Iceland, the Icelandic statistical office. Longitudinal individual data from Icelandic register from 1997 to 2017 was employed to identify all individuals, who in 2017 held 5- to 20-year-old doctorate degrees in Iceland and were active on the Icelandic labor market at some point during this 20-year period (N =814). We chose this period because we anticipated that, in five years' time, people would have established some kind of a career, and because it still included a population whose majority would be actively employed after 20 years. Furthermore, the population was categorized based on gender, field of study, and employment either within or outside academia. Based on these categories, we compare people's earnings five and ten years after graduation as well as their earnings in 2017 (the last year in the dataset).

The categorization of STEM and SSH is based on the OECD classification (OECD, 2007). However, when putting all fields of study into only two different categories (STEM/SSH), a considerate divergence within each category could also be expected in terms of later possible occupational and earning opportunities. Therefore, the analysis will mostly be conducted with STEM and SSH divided into two categories each to get a clearer picture of the situation. The categories are 1) SSH-education, humanities, and social sciences; 2) SSH-business, economics, and law; 3) STEM-engineering, manufacturing, and construction; and 4) STEM-Science, mathematics, and computing. For a more detailed look at the variables used in the analysis see Table 1. We examine the population data by descriptive analysis and hierarchical log-linear regression analysis.

Table 1 *Variable description*

Log-linear regression analysis		
Dependent variables	*Earnings 5 years after graduation in USD (log transformed)* *Earnings 10 years after graduation in USD (log transformed)* *Earnings of doctorate holders in 2017 in USD (log transformed)*	
Independent variables	Male	Men (1) vs women
	Female	Women (1) vs men
	Academia	Inside academia (1) vs outside
	BEL	Business, economics, and law (1) vs control[1]
	SMC	Science, math, computing (1) vs control[1]
	EMC	Engineering manufacturing, and construction (1) vs control[1]
	Male*Academia[2]	Interaction btw. gender and work location
	Male*BEL[2]	Interaction btw. gender and field of study (BEL)
	Male*SMC[2]	Interaction btw. gender and field of study (SMC)
	Male*EMC[2]	Interaction btw. gender and field of study (EMC)
	Male*BEL*Academia[2]	Interaction btw. gender, field of study (BEL) and work location
	Male*SMC*Academia[2]	Interaction btw. gender, field of study (SMC) and work location
	Male*EMC*Academia[2]	Interaction btw. gender, field of study (EMC) and work location
	Years	Years since graduation
	Male*Years[2]	Interaction btw. gender and years since graduation
	Male*Years*Academia[2]	Interaction btw. gender, years since graduation and work location

[1] Control: Education, humanities, and social sciences (EHS)
[2] Or Female

The dependent variable is the measure of total earnings in US dollars (USD; converted from Icelandic crowns [ISK]). US dollars were chosen to make the results more accessible to international readers. The outcome variables was derived by first taking the average annual amount of each year in ISK and adjusting it to May 2020 using the Wage index (Statistics Iceland, 2020a). Finally, the index-adjusted amount was converted into USD by applying the USD/ISK exchange rate from that same month. The state of Iceland imposes a progressive income tax which includes three steps ranging from 35-46% depending on income. This means that the gender gap presented below could be greater than it would be for post-tax earnings.

Results

The total number of Icelandic doctorate holders who held a five- to 20-year-old PhD degree in 2017 and who had been active on the Icelandic labor market at some point between 1997 and 2017 is 814 (463 men and 351 women: 395 within SSH and 419 within STEM). Table 2 shows that, inside the SSH disciplines, the distribution of men and women through all graduation cohorts is quite even, although from 2002 onwards, the number of women surpasses the men. However, within the STEM disciplines, the changes between graduation cohorts are more detectable. A gradual increase in women's graduations can be seen over time, turning a very male-dominated field into a more evenly distributed one. However, men are always in the majority.

Table 2 *Total number of doctoral graduates in Iceland by year of graduation, gender, and field of study (N = 814)*

Year of graduation	**1997-2001**		**2002-2005**		**2006-2009**		**2010-2013**	
Field of study	SSH	STEM	SSH	STEM	SSH	STEM	SSH	STEM
Female (N)	**51**	**28**	**50**	**34**	**47**	**40**	**57**	**44**
Percentage	(44.7%)	(27.5%)	(54.3%)	(29.1%)	(56.0%)	(40.0%)	(54.8%)	(44.0%)
Male (N)	**63**	**74**	**42**	**83**	**37**	**60**	**48**	**56**
Percentage	(55.3%)	(72.5%)	(45.7%)	(70.9%)	(44.0%)	(60.0%)	(45.2%)	(56.0%)

Table 3 shows how the number of doctoral graduates is distributed between field of study and employment inside or outside academia in 2017. The reason for the *N* being smaller here than is shown in Table 2 is mostly due to international mobility. People drop out of the register when they move out of the country, even though the move may be temporary.

Table 3 *Number of doctoral graduates by gender, field of study, and employment inside or outside academia (N = 652) in 2017*

	Men		**Women**	
	STEM	**SSH**	**STEM**	**SSH**
Inside academia	68 (33%)	91 (57%)	34 (23%)	101 (58%)
Outside academia	139 (67%)	70 (43%)	77 (69%)	72 (42%)

The percentage presented in the table shows how men and women in each field are distributed between employment inside and outside academia. The majority of people, both men and women, who graduated in STEM fields work outside academia. The opposite is true for the people who graduated in SSH fields. The table also shows that, despite the growing number of women graduating from STEM fields (as shown in Table 2), the field is still quite male-dominated both inside and outside academia. The SSH fields, on the other hand, are much more evenly distributed both inside and outside academia.

Table 4 represents the median value of the population's total earnings five and 10 years after graduation, divided into groups based on their field of study and employment inside or outside academia.

Table 4 *Comparing median values of total earnings 5 and 10 years after graduation by gender, field of study and employment either inside or outside academia.*

	EHS	**BEL**	**SMC**	**EMC**
Year 5 (*N* = 659)				
Men inside academia (n)	86,384 (68)	117,253 (20)	85,876 (52)	94,311 (15)
Women inside academia (n)	82,172 (78)	113,033 (21)	71,081 (31)	72,439 (4)
Difference (%)	95%	96%	83%	77%
Men outside academia (n)	69,865 (47)	136,116 (27)	100,080 (90)	110,053 (50)
Women outside academia (n)	64,202 (64)	92,370 (12)	69,032 (60)	87,283 (20)
Difference (%)	92%	68%	69%	79%
Year 10 (*N* = 434)				
Men inside academia (n)	97,720 (46)	117,124 (14)	87,783 (35)	109,318 (16)
Women inside academia (n)	90,220 (53)	94,406 (13)	79,039 (19)	83,887 (4)
Difference (%)	92%	81%	90%	77%
Men outside academia (n)	67,109 (28)	173,900 (16)	102,942 (68)	142,294 (39)
Women outside academia (n)	64,373 (34)	154,631 (4)	82,502 (33)	120,646 (12)
Difference (%)	96%	89%	80%	85%

The table shows that men, regardless of which field of study they graduate from, consistently earn more than their female counterparts within the same group. The smallest overall gender difference is among men and women within the fields of education, humanities and social sciences (EHS), with little difference in regard to their employment being inside or outside academia. However, they are better off financially working inside academia.

Moving to the fields of business, economics and law (BEL), we find quite a different pattern. Both the smallest gender difference (inside academia five years after graduation) and the largest one can be found here. Compared to the other groups, the BEL graduates are the highest earning individuals on average, regardless of working inside or outside academia. The men within that group are, however, much better off financially outside academia both five and 10 years after graduation. The women, on the other hand, start off by being better off financially inside academia (five years after graduation), but five years down the line, they also become better off working outside academia.

Comparing the two STEM groups, we find that the engineering, manufacturing and construction graduates (EMC) are generally better off financially than the science, mathematics and computing graduates (SMC). The difference between those groups as compared to the difference between the two SSH groups is smaller. The men in both STEM groups are better off working outside academia, whether five or 10 years after graduation. The same is true for the women, with one exception. Female graduates from the fields of SMC start by being better off inside academia. That changes as their careers progress. Also, the gender gap inside the STEM group is generally greater than that inside the SSH group. This is true for both five and 10 years after graduation.

Finally, the gender pay gap is smaller within academia than in other businesses five years after graduation but changes as people's careers progress. Although, the salaries of both men and women generally increase between career stages, it seems like male academics—although only within SSH fields—increase their salaries proportionally more compared to women between career stages, resulting in the gender pay gap widening. However, outside academia, the gender gap narrows between years, and within all fields but one (SMC graduates) the gap becomes smaller outside academia than inside. Although initially women are better off

within academia, the women outside academia increase their salaries proportionally more between years than men, resulting in the gender gap decreasing outside academia.

Table 5 and 6 show hierarchical log-linear regression results for the association of field of study and work location with the total annual earnings five years after graduation. Table 5 shows men as the reference group, whereas in table 6 shows women as the reference group. As the first two models are identical in both tables, only models 3 and 4 are shown for the women.

Tables 5 and 6 *Hierarchical log-linear regression analyses: The association of field of study, work location (inside or outside academia) with the total earnings 5 years after graduation.*

	Model 1	Model 2	Model 3	Model 4
Constant	11.049(.000)	10.783(.000)	10.857(.000)	10.857(.000)
Male	0.242(.001)	0.182(.008)	-0.013(.921)	-0.292(.156)
Academia		0.211(.003)	0.322(.002)	0.322(.002)
BEL		0.562(.001)	0.339(.040)	0.339(.038)
SMC		0.204(.011)	-0.084(.469)	-0.084(.465)
EMC		0.495(.001)	0.377(.050)	0.377(.048)
Male*Academia			-0.188(.178)	0.289(.129)
Male*BEL			0.432(.052)	0.877(.001)
Male*SMC			0.551(.001)	0.904(.001)
Male*EMC			0.265(.260)	0.599(.020)
Male*BEL*Academia				-0.861(.004)
Male*SMC*Academia				-0.669(.002)
Male*EMC*Academia				-0.701(.018)
n	658	658	658	658
DF	1	5	9	12
R^2	0.018	0.077	0.100	0.119

	Model 3	Model 4
Constant	10.844(.000)	10.844(.000)
Female	0.013(.921)	-0.074(.605)
Academia	0.134(.151)	0.134(.150)
BEL	0.771(.001)	0.771(.001)
SMC	0.467(.001)	0.467(.001)
EMC	0.643(.001)	0.643(.001)
Female*Academia	0.188(.178)	0.347(.042)
Female*BEL	-0.432(.052)	-0.579(.058)
Female*SMC	-0.551(.001)	-0.357(.057)
Female*EMC	-0.265(.260)	-0.080(.754)
Female*BEL*Academia		0.209(.537)
Female*SMC*Academia		-0.473(.045)
Female*EMC*Academia		-0.747(.125)
N	658	658
DF	9	12
R^2	0.100	0.110

Model 1 shows that men earn on average 24% more than their female counterparts five years after graduation. Four additional variables were introduced to the analysis through model 2. Introducing these variables to the model increases the R^2 from .018 to .077 and reduces the gender pay gap by 5.8% (*b*(.240) - *b*(.182) = .058). Model 2 reveals that it is beneficial to work within academia (b_{academia}(.211); $p < .01$) when gender and field of study is held constant. Also, using EHS as control group, model 2 reveals that having graduated from BEL, SMC and EMC is more beneficial compared to having graduated from EHS. To see if there are any gender specific differences in the benefits of different fields of study or the work location being either within or outside academia, four 2-way interaction terms were added to model 3 (men as a reference group in Table 5 and women as a reference group in Table 6). By including these interaction terms, model 3 reveals that while the effect for men of working within academia is non-significant ($b_{\text{male}*\text{academia}}$(-.188); $p > .05$), it is significantly beneficial for women to work within academia (b_{academia}(.322); $p < .01$). Observing table 6, model 3, this benefit for women, (i.e., to work within academia) falls out of significance but reappears as significant in model 4 ($b_{\text{female}*\text{academia}}$(.347); $p < .05$), which indicates that it is only beneficial for women in EHS to work within academia compared to outside. Furthermore, the effect of graduating from BEL and EMC is non-significant for men when work location is held constant. However, for men it is beneficial to have graduated from SMC compared to EHS ($b_{\text{male}*\text{SMC}}$(.551); $p < .01$) (see Table 5), whereas it is disadvantageous for women ($b_{\text{female}*\text{SMC}}$(-.551); $p < .01$) (see Table 6). Finally, through model 4, three 3-way interaction terms were introduced to the analysis to see if different fields of study had different effects on men and women depending on the work location. Model 4 reveals that it is specifically beneficial for men in the fields of BEL, SMC and EMC to work outside academia. However, by observing table 6, the effect for women is in most cases non-significant. The only significant effect is that for the women who graduated within the fields of SMC, working inside academia. For them it seems to be disadvantageous

to work within academia compared to female EMS academics ($b_{\text{female}*\text{SMC}*\text{academia}}$(-.473); $p < .05$).

Table 7 and 8 show hierarchical log-linear regression results, analogous to that of Table 5 and 6, but this time the dependent variable is the total annual earnings 10 years after graduation.

Tables 7 and 8 *Hierarchical log-linear regression analyses: The association of field of study, work location (inside or outside academia) with the total earnings 10 years after graduation.*

	Model 1	Model 2	Model 3	Model 4
Constant	11.183(.000)	11.021(.000)	11.037(.001)	11.037(.001)
Male	0.222(.011)	0.143(.108)	0.041(.818)	-0.324(.116)
Academia		0.041(.646)	0.224(.111)	0.224(.107)
BEL		0.305(.038)	-0.009(.969)	-0.009(.966)
SMC		0.210(.042)	-0.022(.888)	-0.022(.887)
EMC		0.505(.001)	0.405(.096)	0.405(.092)
Male*Academia			-0.285(.115)	0.302(.226)
Male*BEL			0.538(.074)	1.061(.003)
Male*SMC			0.429(.040)	0.892(.001)
Male*EMC			0.227(.436)	0.617(.050)
Male*BEL*Academia				-0.926(.015)
Male*SMC*Academia				-0.877(.001)
Male*EMC*Academia				-0.673(.040)
n	433	433	433	433
DF	1	5	9	12
R^2	0.015	0.050	0.072	0.097

	Model 3	Model 4
Constant	11.077(.001)	11.077(.001)
Female	-0.041(.818)	-0.170(.382)
Academia	-0.061(.593)	-0.061(.593)
BEL	0.529(.006)	0.529(.006)
SMC	0.407(.003)	0.407(.003)
EMC	0.632(.001)	0.632(.001)
Female*Academia	0.285(.115)	0.497(.026)
Female*BEL	-0.538(.074)	-0.178(.721)
Female*SMC	-0.429(.040)	-0.236(.353)
Female*EMC	-0.227(.436)	0.015(.965)
Female*BEL*Academia		-0.514(.337)
Female*SMC*Academia		-0.387(.221)
Female*EMC*Academia		-0.661(.221)
n	433	433
DF	9	12
R^2	0.072	0.078

Model 1 shows that men earn on average 22% more than their female counterparts ten years after graduation, which results in a 2% gender gap decrease between career stages (see Table 5). Four additional variables were introduced to the analysis through model 2. Introducing these variables to the model increases the R^2 from .015 to .050 but also results in the gender pay gap becoming non-significant. Comparing the two career stages (i.e. Table 5 and 7), model 2 reveals that it is no longer significantly beneficial to work within academia ten years after graduation (b_{academia}(.041); $p > .05$), when gender and field of study is held constant. However, having graduated from BEL, SMC and EMC is still more beneficial compared to having graduated from EHS. To see if there are any gender specific differences in the benefits of different fields of study or the work location being either within or outside academia, four 2-way interaction terms were added to model 3. By including these interaction terms, model 3 reveals this time that the effect of working within academia is non-significant for both men ($b_{\text{male}*\text{academia}}$(-.285); $p > .05$) and women (b_{academia}(.244); $p > .05$). Similarly to Table 6, the benefit for women to work within academia 10 years after graduation (see Table 8) reappears as significant in model 4 ($b_{\text{female}*\text{academia}}$(.497); $p < .05$), indicating that it is still beneficial for women in EHS to work within academia compared to outside academia 10 years after graduation. Furthermore, same as five years after graduation, the gendered effect of graduating from BEL and EMC is non-significant ten years after graduation, when work location is held constant. However, for men it is beneficial to have graduated from SMC compared to EHS ($b_{\text{male}*\text{SMC}}$(.429) ; $p < .05$), whereas it is disadvantageous for women ($b_{\text{female}*\text{SMC}}$(-.429) ; $p < .05$). Finally, through model 4, three 3-way interaction terms were introduced to the analysis to see if different fields of study had different effects on men and women depending on the work location. Like five years earlier, model 4 reveals that it is specifically beneficial for men in the fields of BEL, SMC and EMC to work outside academia ten years after graduation. However, by observing table 8, the effect for women is in all cases non-significant.

Table 9 and 10 *Hierarchical log-linear regression analyses: The association of field of study, work location (inside or outside academia) and years since graduating with the total earnings in 2017.*

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	16.069(.000)	15.612(.000)	15.595(.000)	15.596(.000)	15.429(.000)
Male (M)	0.207(.007)	0.114(.125)	0.099(.511)	-0.335(.157)	-0.206(.453)
Academia		0.320(.001)	0.486(.001)	0.486(.001)	0.489(.001)
BEL		0.668(.001)	0.336(.065)	0.336(.061)	0.355(.048)
SMC		0.497(.001)	0.422(.001)	0.422(.001)	0.438(.001)
EMC		0.681(.001)	0.668(.001)	0.668(.001)	0.677(.001)
M*Academia			-0.278(.057)	0.413(.051)	0.024(.940)
M*BEL			0.582(.017)	1.250(.001)	1.231(.001)
M*SMC			0.175(.316)	0.721(.001)	0.700(.001)
M*EMC			0.078(.751)	0.556(.043)	0.547(.046)
M*BEL*Academia				-1.191(.001)	-1.227(.001)
M*SMC*Academia				-0.978(.001)	-0.978(.001)
M*EMC*Academia				-0.835(.005)	-0.890(.003)
Years					0.013(.243)
M*Years					0.010(.548)
M*Years*Academia					0.030(.126)
n	625	625	625	625	625
DF	1	5	9	12	15
R^2	0.012	0.105	0.119	0.151	0.159

	Model 3	Model 4	Model 5
Constant	15.695(.000)	15.695(.000)	15.504(.000)
Female (F)	-0.099(.511)	-0.335(.043)	-0.178(.538)
Academia	0.208(.036)	0.208(.035)	0.199(.043)
BEL	0.919(.001)	0.919(.001)	0.911(.001)
SMC	0.596(.001)	0.596(.001)	0.583(.001)
EMC	0.746(.001)	0.746(.001)	0.741(.001)
F*Academia	0.278(.066)	0.662(.001)	0.321(.349)
F*BEL	-0.582(.017)	-0.408(.214)	-0.395(.228)
F*SMC	-0.175(.316)	0.231(.266)	0.249(.234)
F*EMC	-0.078(.751)	0.259(.342)	0.268(.327)
F*BEL*Academia		-0.282(.444)	-0.249(.500)
F*SMC*Academia		-0.883(.001)	-0.872(.001)
F*EMC*Academia		-0.909(.054)	-0.952(.043)
Years			0.016(.107)
F*Years			-0.013(.483)
F*Years*Academia			0.030(.198)
n	625	625	625
DF	9	12	15
R^2	0.119	0.139	0.147

Finally, Table 9 and 10 show hierarchical log-linear regression results for the association of field of study, work location and time since graduating with the doctorate holders' total annual earnings in 2017 (the last year in the dataset). Included in this analysis are all who were active on the Icelandic labor market in 2017 regardless of the stage of their careers at the time. Therefore, an additional model (model 5) was included to the analysis to examine the possible effect of each additional year of work experience on people's earnings. On the whole, the analysis reveals quite a similar pattern to that of the prior two analyses.

Model 1 shows that men earn on average about 21% more than their female counterparts in 2017. Introducing the next four variables to the analysis in model 2, increases the R^2 from .012 to .105 but also results in the gender pay gap becoming non-significant. Model 2 reveals that it is beneficial to work within academia (b_{academia}(.320); $p < .01$) when gender and field of study is held constant. Also, having graduated from BEL, SMC and EMC is more beneficial compared to having graduated from EHS. Like in the prior analyses, with its additional four 2-way interaction terms, model 3 covers the possible gender specific differences in the effects of different fields of study and work location (men as a reference group in Table 9 and women as a reference group in Table 10). Model 3 reveals that while the effect for men of working within academia is non-significant ($b_{\text{male}*\text{academia}}$(-.278); $p > .05$), it is significantly beneficial for women to work within academia (b_{academia}(.486); $p < .01$). However, observing model 3 in Table 10, this benefit for women, (i.e., to work within academia) falls out of significance but reappears as significant in model 4 ($b_{\text{female}*\text{academia}}$(.662); $p < .01$), indicating again that it is only beneficial for women in EHS to work within academia compared to outside. Furthermore, this time, the effect of graduating from SMC and EMC is non-significant for men when work location is held constant, but it is beneficial to have graduated from BEL compared to EHS ($b_{\text{male}*\text{BEL}}$(.582); $p < .05$) (see Table 9). On the contrary, it is disadvantageous for women ($b_{\text{female}*\text{BEL}}$(-.582); $p < .01$) (see Table 10). Like in the prior analyses, three 3-way interaction

terms were introduced to the analysis in model 4 to see if different fields of study had different effects on men and women depending on the work location. Model 4 reveals that it is specifically beneficial for men in the fields of BEL, SMC and EMC to work outside academia. However, by observing table 10, the effect of working outside academia for women is in all cases non-significant. Here also, the only significant effect is that for the women who have graduated within the fields of SMC and work inside academia. For them it seems to be disadvantageous to work within academia compared to female EMS academics ($b_{\text{female}*\text{SMC}*\text{academia}}$(-.883); $p < .01$). Finally, three additional variable were introduced to the analysis through model 5, to find the possible effect of each additional year of work experience on people's earnings. For neither men nor women, these variables yielded significant effects. However, by adding the time variable to the analysis, yielded an additional significant effect for women who graduated from EMC fields and work within academia. For them it is now also disadvantageous to work within academia compared to female EMS academics ($b_{\text{female}*\text{EMC}*\text{academia}}$(-.952); $p < .05$).

Discussion

This article's aim was to analyze the earnings of Icelandic doctorate holders in the fields of STEM and SSH at different career stages inside and outside academia. This is particularly interesting as Iceland is considered to be at the forefront of gender equality partly because of being ranked first in the Gender Gap Index since 2009 (The World Economic Forum, 2021) and in the Economist's glass-ceiling index (The Economist, 2020). We compared total earnings depending on gender, field of study (STEM and SSH) and employment either within or outside academia.

Our findings, based on longitudinal register data from the whole Icelandic population of STEM and SSH graduated individuals, who in 2017 held 5- to 20-year-old doctorate degrees,

reveal a continuous gender pay gap at all time points. This is consistent with the ongoing gender pay gap in the general labor market in Iceland (Statistics Iceland, 2020b). It is, however, disappointing to see that the highest possible educational degree does not, in line with Casey's (2009) reflections, strengthened the situation of women enough to abolish the pay gap.

The gender pay gap applies regardless of from which field of study people graduate, although as the regression analyses show, the gender pay gap is to a great extent explained by the field of study or the field of study in combination with the work location, indicating in line with Barone & Assirelli (2020) and Lörz & Mühleck (2019) the critical factor of gender segregation in higher education in terms of ongoing gender inequalities in the labor market.

Interestingly, the gender pay gap is smaller within academia than in other businesses five years after graduation but changes as people's careers progress, resulting in the gender gap widening within academia but narrowing between years outside academia. Here the findings from Heijstra, Bjarnason, & Rafnsdóttir (2015) could to some extent explain the situation within academia, as they found men to be more likely to be full professors after having controlled for age and other work-and family related predictors, indicating that academic women in Iceland become disadvantaged somewhere in the promotion process. However, outside academia the situation could to some extent be explained by the vertical division of the labor market, since men are considerably more likely than women to hold managerial and higher positions (Einarsdóttir et al., 2019; Júlíusdóttir, Rafnsdóttir, & Einarsdóttir, 2018). It could also be that men are likelier to receive higher paid positions earlier on in their career whereas it takes women longer to work towards better positions.

Our findings are partly in line with Hamermesh's (2018) findings that doctorate holders outside academia are, on average, better paid than those within academia. This indeed applies to the men in our data, whereas women are better off inside academia to begin with, although it changes as their careers move forward.

It is important to point out that our findings have the disadvantage of not having been adjusted in terms of different working hours for men and women (e.g., part-time vs. full-time), occupational status/responsibility and public versus private sector. Our data, regardless it being longitudinal and register-based counting back 20-year earning development of a population of Icelandic doctorate holders in the country, did however not offer this information. Nonetheless, we know that female workforce participation in Iceland is very high (Statistics Iceland, 2021), the highest among the OECD countries (OECD, 2020). Still, statistics on working hours within the general labor market show that women work an average of 7.8 hours less than men per week (Statistics Iceland, 2021). This is general information, so we do not know if it applies to women and men with PhD degrees. However, a study done by Heijstra, O'Connor, and Rafnsdóttir (2013) on academics in Iceland shows that 71.6% of the male academics work 50 hours or more, whereas 61.8% of their female counterparts do the same.

In conclusion, the main contribution of the study is that, despite the relatively high level of gender equality in the country (The Economist, 2020; The World Economic Forum, 2021) we see, in line with Alfano et al. (2019), Gaeta et al. (2018), Levecque et al. (2014), Webber & Canché (2015) and Pedersen (2016), a clear pattern regarding the gender pay gap among doctorate holders in Iceland. In light of the discourse around Iceland's success and nation branding (Einarsdóttir, 2020) as a very progressive country and role model among nations in gender equality, it is interesting and unfortunate to see that the gendered pay gap persists in the favor of men.

Furthermore, our findings underline that gender equality within the macro environment, achieved through equality legislations and public policy, does not necessarily mean full gender inequality within the organizational environment of workplaces or in close relationships between partners. The journey towards equal pay is a persistent struggle that needs more than macro-level policy change to succeed. It also needs a constant discussion of deeply embedded

gendered cultural values and ideas. It will, however, be interesting to see if the Icelandic government's pioneering act implementing the Equal Pay Standard in 2018 (Government of Iceland, 2017) will do the trick and contribute to closing the remaining gap or if it will perhaps work as a macro-level-made plume that rather disguises the micro-level patterns of gender disparities in the workplace. This should receive close attention in future research. We conclude that further research on this topic in countries with relatively high levels of gender equality at the societal level would bring to light the possible barriers that still hinder female doctorate holders' advancement inside or outside academia.

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Article II

Gender, Agency, and Time Use Among Doctorate Holders: The Case of Iceland

Article

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Gender, agency, and time use among doctorate holders: The case of Iceland

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Abstract
This article investigates how doctorate holders in Iceland make sense of time and utilize their own time management as an instrument in their career development and whether gender is a defining factor in this context. The project is based on 32 semi-structured, in-depth interviews with participants holding 5- to 20-year-old doctorate degrees in Iceland. These interviews were then analyzed using a phenomenological approach. The results indicate that the men generally felt a higher level of agency regarding their work–life balance and time management than did the women, who more often expressed difficulties finding a proper balance and expressed being more stressed about the often fragmented time they had to combine their career and family obligations successfully. The study provides a picture of how societal time norms among highly educated people are very gendered and how time is still inevitably linked to power. The contribution of this study to prior studies is that, even when comparing highly educated people among whom it is more likely to find a higher level of egalitarian attitudes, in a country where gender equality is assumed to be at a higher level than in many other countries, women still seem to experience time differently from men in terms of personal autonomy.

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Keywords
Gender, time, career development, agency, meritocracy

Introduction

In the Western context, a growing awareness about the importance and benefits of a gender-equal society, together with a significant amount of equality legislation against gender-based discrimination in the labor market, have effected changes toward a more gender-equal society. In this regard, Iceland is considered to be in the forefront.

Various measures have been taken to effect these changes, such as implementing policies aimed at changing the gender representation on the boards of larger companies (Axelsdóttir and Einarsdóttir, 2017) as well as applying an equal pay standard that aims to help employees and prevent salary discrimination (Government of Iceland, 2017). Furthermore, Iceland defines both mothers and fathers as active caregivers as well as employees and reserves three out of nine months of parental leave exclusively for fathers, while three months are for mothers, and the remaining three are for shared parental leave (Act on parental leave, no. 95/2000). This reflects the fact that the labor market participation of Icelandic women is among the highest in the world and also the highest among the women in the Organization for Economic Co-operation and Development (OECD) countries (83.3% in the year 2017) (OECD.Stat., 2017a), where the average was 62.8% in 2016 (OECD.Stat., 2017b). Also, women comprise 70% of the university graduates in Iceland (Statistic Iceland, 2018a).

The Nordic welfare society is a dual-earner family model where men and women take on "shared societal roles" in "a dual-earner, care-sharing family" (Leira, 2002: 82). "Defamilization, also characterizes the Nordic societies, which is 'the degree to which individual adults can uphold a socially acceptable standard of living, independent of family relationships, either through paid work or through social security provisions'" (Lister, 1997: 173).

Iceland belongs to the Nordic countries, and even though all these countries score highly on the Global Gap Index, Iceland has been ranked first since 2009 (World Economic Forum, 2018). For that reason, the country has been portrayed in mainstream media as a gender equality paradise where equality has more or less been reached (Jakobsdottir, 2018; Lindberg, 2017).

However, when it comes to academia and top management positions, studies show a persisting gender gap (Heijstra et al., 2015; Júlíusdóttir et al., 2018; Olafsdottir and Rögnvaldsdottir, 2015). For instance,

a recent analysis of Icelandic academia has shown that men are not only more likely to hold a full professorship position, but also progress considerably faster than women toward it (Heijstra et al., 2015). Additionally, statistics have shown that men hold above 70% of the top executive positions (Statistic Iceland, 2018b).

Considerably less attention has been given to gender equality in the home and the interplay between home and work. However, a study done by Thorsdottir (2012) indicates that although men are indeed participating in housework to an increasing extent, women still bear the main responsibility of the home, and the traditional gender division in the home is still prevalent. Also, Rafnsdóttir and Heijstra (2013) and Rafnsdóttir and Júlíusdóttir (2018) showed how time is intertwined with material conditions as they analyzed the use of information and communication technologies (ICTs) among academics and business leaders. Even though ICT has partly increased the labor market flexibility, it also reproduces traditional gender relations in families and at work and "accentuates the gender role and reproduces unequal gender power" (Rafnsdóttir and Heijstra, 2013: 294). Rafnsdóttir and Weigt (2019) further show that despite the different affirmative actions in Iceland that aim to increase gender equality at the workplace, we still know too little about how gender operates interactionally at the micro-level or how the traditional masculine working culture can (re) produce gender stereotypes (Rafnsdóttir and Weigt, 2019).

This shows that despite the many progressive public policy changes toward gender equality, the hegemony of masculine domination as well as the deeply embedded gender stereotypes still prevail. Here, older and more well-known theories, such as Gramsci's concept of cultural hegemony that is used to address the relation between culture and power under capitalism, could be applied to explain the situation, that is, how the hegemonic group (here men) has managed to renegotiate the legitimacy for their rule through constant dialectical interaction with the subordinated groups (here women) (Gramsci et al., 1971). Even though hegemonic masculinity has continuingly changed over the years, especially around ideas regarding work participation, sexuality and fatherhood (Hearn, 2004) and time and leadership (Rafnsdóttir and Heijstra, 2013; Rafnsdóttir and Júlíusdóttir, 2018), men remain as the hegemonic group that holds the power.

This renegotiation also exists at a more institutional level, which can be observed in the way gender inequality is no longer accepted in its overt forms. In this regard, national courts across the world as well the European Union (EU) court have worked toward eliminating it at the institutional level, but nevertheless, the covert forms of discrimination continue to prevail (Caprile et al., 2011). Covert forms have, in a way, been "negotiated"

as gender-neutral conceptions rooted in the idea of the power of individual agency as well as the notion that equality has more or less been reached (Aiston, 2011). However, this notion hides the fact that institutional structures are not the only structural elements that must be considered. Individuals also embody gendered social structures and values that are constantly being produced and reproduced within the hegemonic order of society. This, coupled with other social structures such as the structuring of time, can have a major impact on how individual agency is realized (Bryson, 2007; Giddens, 1984; O Grada et al., 2015).

We argue that the overall gender-equal and family-friendly environment in Iceland serves as an ideal research context and provides an opportunity to analyze the structuring of time among doctorate holders in Iceland—a career-oriented group—to see whether gender is a defining factor in their sense of time and their time management as part of their career development. In more concrete terms, we want to investigate how this group perceives their agency regarding their time management in combining and balancing their career and family. To the best of our knowledge, such a study that focuses especially on doctorates in relatively gender-equal societies such as Iceland has not been conducted previously. By doing this, we can conclude whether time is a factor in explaining the remaining gender gap in academia and leadership positions in Iceland.

Continuity and change: The gender context

Drawing on Giddens' structuration theory, we see gender as a structure embodied by individuals through elements such as informal rules, beliefs, values, or patterns that are constantly being produced, reproduced, and transformed within society through time by agents who are engaged in their practice (Giddens, 1978). Although Giddens did not form his theories specifically around gender, his interest in understanding both continuity and change resonates well, as Bryson (2007) notes, with other feminist ideas like Butler's (1990) "doing-gender". Furthermore, Giddens argues that "institutions, identities, ideas and structures of domination do not simply 'exist', but are maintained or modified through time by the repetition of individual acts that accumulate as social practices" (Bryson, 2007: 114).

Giddens views social structures as fluid entities. He also emphasizes the importance of taking their temporal elements into account whereas analyzing and treating social structures by bracketing time is like "taking a snapshot of society" (Giddens, 1980: 62), which inherently means taking the elements in which social structures move out of context.

This lack of context can, for instance, be seen in the measures taken at the institutional level. Despite the evident importance of intervening at the structural or institutional level regarding efficiently pushing for gender equality, such institutional changes have often failed to recognize and address the deep structural processes that result in unequal outcomes, resulting in either limited impact or "tokenistic nods" toward gender equality (O Grada et al., 2015).

Both Giddens and Butler place an emphasis on the capacity of individual agents in making changes to (gendered) social structures. For example, by not repeating certain acts that would reproduce the structure, whether intentionally or not (Giddens, 1984), or in Butler's (1990) terms, by "undoing gender" generated through the "failure" to behave in gender-appropriate ways.

These concepts are indeed important when explaining the changes that have occurred over time. However, changes to the social structures, which often are deeply embedded in people's way of living, do not happen overnight and can cause immense resistance from the majority complying to the norms. In this regard, some feminist scholars have criticized Butler's "vision of [people's] freely chosen, ever subverting gender performance[s]" (Bryson, 2007: 114), or as Lorber (2000: 83) argues, "Gender is a constant performance, but its enactment is hemmed in by the general rules of social life, cultural expectations, workplace norms, and laws. These social restraints are also amenable to change, but not easily, because the social order is structured for stability."

In this context, despite the changes that have occurred, the manner in which "doing gender" usually involves "producing relations of dominance and submission" (Bryson, 2007: 61) often gets downplayed or forgotten in the discussion of the importance of making workplace-related changes. Although women today are legitimately able to compete with men for positions and career progression in the labor market, they generally do so on culturally male-dominated and heteronormative terms that have been preestablished. As many feminist scholars have argued, this is especially evident when examining the difference in the use of time by men and women and how "gendered time norms play a key role in maintaining oppressive gender differences" (Bryson, 2007: 57).

The gendered structure of time

A significant body of feminist thought exists on the gendered nature of time (Adam, 1990, 1995; Bryson, 2007; Davies, 1989; Everingham, 2002; Leccardi, 1996; Odih, 1999). Although not all scholars agree as to what extent it is sensible to talk about and analyze men's and women's different

time use and experiences as separate time cultures, scholars find common ground in the perspective that different time cultures do indeed exist and that time is inevitably linked to power. In line with this, Adam (1995) argues, "Not all time is money. Not all human relations are exclusively governed by the rationalized time of the clock. Not all times are equal. That is to say, all work relations touched by clock time are tied up with hegemony and power." Bryson (2007: 121) goes further stating:

> [T]he dominant model of time in contemporary capitalist societies is the linear, goal-oriented, commodified time of the clock: time that can be individually owned, bought, sold, invested, spent or wasted, [. . .]. However, this hegemonic understanding coexists with other ways of relating to time; in particular, human relationships and caring interactions may have a very different temporal pattern and logic, while our bodies have rhythms that we can never entirely escape.

Like most feminist scholars today, both Adam and Bryson refrain from discussing the differences between women's and men's time use in dichotomous terms as if "all women at all times of their lives" stood in the shadow of the hegemony of universal clock time (Adam, 1995: 94). However, they do emphasize that general differences in physical and social experiences often present women and men with different relationships to time (Bryson, 2007) and that the devaluation of the responsibilities, which have been associated with women within the hierarchical framework through history, has forced the temporal rhythms that are bound up with these activities to adapt to the dominant "time is money" culture.

The increased participation of women in the labor market, combined with a lack of significant changes to the gendered division of the domestic sphere, validates the argument by Davies (1989) that the time discipline of the workplace is increasingly felt in the home, or as Bryson (2007: 132) posits, "Because this discipline requires that time is used efficiently, it can suggest that the principles of 'time-management' should be applied to personal life and that the emotional and physical needs of partners, family and friends can be organized into a tick list of tasks to be performed in preallocated time slots."

From the viewpoint of the commodified clock time of modern capitalist societies, in which time is regarded as a scarce resource that can be spent or saved at will, it is often forgotten that certain needs—whether physical, emotional, or communal—are still commonly bound up with women's work in the home (Davies, 1989). In other words, time is not just an individual resource to be used at will; as Everingham (2002: 340) mentions,

time "must first be made before it can be spent." Hence, with women disproportionally bearing this responsibility, "their time—more than any other family member's—becomes others' time" (Davies, 1989: 38).

Holding a professional or executive career often demands excessive work and long working hours. In this work culture, long working hours are commonly associated with workplace loyalty and commitment and are often considered essential in striving for a successful career progression (Bryson, 2007; Hochschild, 1997). However, recent studies indicate that, although prolonged working hours cause men to face powerful external constraints and normative pressures when allocating their time, women with professional careers still bear the main responsibility for domestic obligations more frequently, such as the overall planning and coordination of activities for other family members when coming home from work (Acker and Armenti, 2004; Etzkowitz and Ranga, 2011; Rafnsdóttir and Heijstra, 2013). This is what Hochschild (1997) famously addressed as the exhausting "second shift" of unpaid work, which despite ever-increasing egalitarian attitudes (especially among younger and more highly educated men) (Dex, 2003; Vohlídalová, 2017), still falls disproportionally on women.

Moreover, as mentioned earlier, the home sphere consists not only of a set of distinct and identifiable activities that need to be managed but also involves a certain demand for interpersonal care that is simply associated with the time needed to just "be there" (Boyd, 2002; Bryson, 2007). Both adults' and children's needs do not always conform to the logic of the commodified clock, so the attempt to squeeze "quality time" into the cost-efficient time table of the labor market can often feel like what Boyd (2002: 466) refers to as the "McDonaldization of love." This lack of family time and the attempt to organize it more efficiently around the demands of the workplace necessitates the often guilt-ridden "third shift," which refers to the emotional labor at home (frequently done by women) attempting to repair the damage caused by time pressures felt from juggling work and family life (Hochschild, 2003).

The cultural hegemony of time efficiency and meritocracy

These above-mentioned examples on how the hegemonic "time is money" norm, though it does not really favor the subordinated groups the way it favors the ones in power, is widely culturally accepted among all groups, resonates well with Gramsci's concept of cultural hegemony. Although, in Gramsci's mind, consent and force nearly always coexist, he argues that

among the Western societies, ruling groups maintain their hegemonic power instead of forcing their rule by "giving their domination an aura of moral authority through the creation and perpetuation of legitimating symbols" (Lears, 1985: 569). Gramsci went on to further argue that people create their own symbolic universes to make better sense of their lives, but of course, not all these symbolic universes become hegemonic. According to Gramsci, the transformation of a symbolic universe into a hegemonic entity depends on how successfully it forms alliances with other groups (Gramsci et al., 1971). "The keys to success are ideological and economic: to achieve cultural hegemony, the leaders of a historical bloc must develop a world view that appeals to a wide range of other groups within the society, and they must be able to claim with at least some plausibility that their particular interests are those of society at large" (Lears, 1985: 571). However, hegemonic symbolic universes never serve the interests of all groups equally, but if they convincingly seem to be the most logical or plausible way to run things, subordinate groups may participate in maintaining that hegemonic symbolic universe, even if it serves to legitimate their domination. In other words, subordinated groups may share a kind of half-conscious complicity in their own subordination (Gramsci et al., 1971).

The use of Gramsci's concepts in terms of the time-management ideas and career path development of highly educated people within academia and the career-driven business sector, can be helpful in shedding light upon how, despite the many progressive public policy changes toward gender equality, the hegemony of masculine domination as well as the deeply embedded gender stereotypes seem, in most national contexts, to be far from being eradicated. However, gender division regarding housework and paid labour certainly moves within different national contexts, and through policies and legislations, states can have a big impact regarding this matter over time. In this regard, the Nordic countries have received recognition for embracing social as well as gender equality as core values of their states (Borchorst and Siim, 2008), and progressive legislations in these countries, like the one that reserves a part of the parental leave exclusively for fathers, have indeed challenged traditional masculinity and workplace practices and have led to more equal societal changes (Bryson, 2007).

In line with this, studies have shown that Scandinavian men participate in housework to an increasing extent (Haavind and Magusson, 2005; Johansson and Klinth, 2008; Wall and Arnold, 2007), but the same studies have also shown that women still take primary responsibility for the children and housework. Moreover, Bekkengen (as cited in Johansson, 2011) argues that, although there is an increasing tendency toward men wanting

to be at home with their children and developing a more caring attitude over the years, these trends do not necessarily correspond with gender equality or the eradication of ideas rooted in traditional, hegemonic masculinity.

Although seemingly plausible and even gender-neutral, the conception of meritocracy (on which both the academic and business sectors rely heavily) puts enormous emphasis on individual qualities while downplaying institutional and social contexts, for instance gendered time use (Aiston, 2011; Beddoes and Pawley, 2014). The fact that meritocracy is based on the idea of fairness and justice as well as the belief that the standards in the labor market are neutral, objective and universal, gives it an enormous power to pass the responsibility of unequal outcomes back to the individual and to stigmatize the unsuccessful candidate as incompetent, which the individual is then likely to internalize (Aiston, 2011; Knights and Richards, 2003).

Studies show that, in the Nordic countries, the idea of success as something that is solely based on merit is prevalent (Powell, 2016), and despite institutional changes and higher state support for working mothers in those countries, women are nevertheless, as Skevik (2006) points out, unable to manage their time the way it is expected of them. Therefore, they become "overwhelmed by guilt for not coping well with the burden of combining their career with motherhood" (Skevik, 2006: 245).

With the Icelandic context in mind, in terms of being a country that is considered to be further along in gender-equality compared to other countries, we analyzed the structuring of time among doctorate holders—a group of highly educated people, presumably holding a higher level of egalitarian attitudes in general—to see if gender is a defining factor in how they make sense of time and their own time-management as a factor in their career development. Specifically, we examined how the participants perceive their own agency regarding their time-management in their career development.

Methods

The study is based on 32 thematically structured, in-depth interviews with people holding 5- to 20-year-old doctorate degrees. The interviewees were evenly distributed across gender, field of study (i.e., science, technology, engineering, and mathematics vs. social sciences and humanities, henceforward referred to as STEM and SSH), and career choice (within academia vs. outside academia). To cover the variety of doctorate holders, we deemed it necessary to interview people from both STEM and SSH. In

order to protect the interviewees' anonymity, the distinction between the fields were not used further in this study.

The participants' ages ranged from 38 to 63 years. All but one interviewee were employed full time. The people within academia either held an assistant, associate, or full professorship. Of the people who worked outside academia, 11 held some sort of management position, although not all of them were in charge of other employees. Regarding work hours, a distinction could be found between the people working outside academia versus those working within. Those working outside academia generally worked 40–50 hours a week, with a very few working up to 60 hours. They commonly enjoyed a flextime of around 2–3 hours, which their workplace offered to promote a family-friendly environment. The academics, however, enjoyed a very high level both of flexibility and autonomy but at the same time, almost all of them worked more than 60 hours a week.

There was a slight difference in the demographics both between men and women as well as between people employed within academia versus people employed outside of academia. Of the women, 3 out of 16 were childfree, whereas one man did not have children. Also, four of the women were single parents, whereas all male interviewees were married or cohabited (if not at the time of the study, then during the time their children were growing up).

The average fertility rate of the people interviewed also varied considerably. The women outside academia had, on average, 2.1 children, whereas the men had 1.8 children on average. The biggest difference was however among the people employed within academia; the women had, on average, 1.25 children whereas the men had, on average, 2.75 children. The children's ages varied from 6 months to a little over 30 years.

The interviews were performed between March and June 2018 and lasted between 40 and 80 minutes. Most of them were conducted at the interviewees' workplaces, although two of them were conducted in an office organized by the interviewers.

Considering that the population of Iceland is only around 350,000 individuals, and those holding a Ph.D. account for about 0.7% of the total population, some challenges were faced in protecting the interviewees' anonymity. In order to protect the anonymity of the interviewees, not only were fictional names used but sometimes other things were also changed in the interviewees' biographies for better protection.

The qualitative interviews' aim was to explore the participants' perceptions of the possibilities and constraints relating to their career path, as well as their experience of their situation before, during, and after achieving their Ph.D. We also wanted to understand their experiences of everyday

life and perceptions regarding things like their working environment, their family life, and their multiple tasks both at work and at home. In this sense, we were particularly interested in understanding better their perception of time and how it is woven into their consciousness as they reflected on their past, present, and future. Therefore, the phenomenological approach seemed to us the most convenient approach; this particular approach enables the researcher to examine in-depth, lived experiences from daily life, and by doing so, move beyond the taken-for-granted way of seeing things and come closer to understanding what meaning people put into their lives (deMarrais and Lapan, 2003; Nelson, 1989; Van Manen, 2016). The phenomenological approach we then further used as a tool to analyze the interviews by utilizing the three analytical steps as explained by Orbe (1998) (i.e., description, reduction, and interpretation).

Findings

Working hours and the balance of family life

As mentioned earlier, the academics enjoyed a higher level of flexibility than did the ones working outside academia. Although the academics referred to flexibility at work as one of the biggest advantages that, in their mind, helps with maintaining a certain work-life balance, they also sensed the pressure that comes with the unregulated work hours. In a way, this high level of flexibility becomes a tool to increase the working hours. This is how Eva, a young mother of two, explained how she often takes her work home:

> I do this, but I'm trying to stop it. [...] Sometimes when I have a lot of teaching, I take the work home with me, just because I've been so long at work, I don't feel like staying [at the office] any longer. [...] But yeah, of course it's not particularly popular when you are at home but still at work.

Here, Eva is referring to her family, who sometimes complains when she has to take work home. Although the male academics in our study also feel the pressure of their workload and struggle with balancing their work and family life, the women generally had a harder time achieving this balance than their male counterparts, garnering more critique, especially from their children, when they have to continue working from home. Indeed, they expressed feelings of guilt more frequently when discussing work–life balance.

Although it is by no mean absolute, it is quite evident that the women, including both the female interviewees and the male interviewees' partners,

were responsible, in most cases, for handling the communication with their children's school and also maintaining the overall planning regarding the children's extracurricular activities, doctor's appointments, and other arrangements concerning family life. Looking at our interviewees' working hours, it is worth noting that, the male participants and the female participants' partners have always been in a full-time job, and many of them work above 60 hours a week. The women in our study however, as well as the men's partners, had often taken a part-time job at some point in their career to accommodate the family's needs. The women's working hours, no matter how long, were rarely met with their partners' accommodation regarding working hours, and never with them taking a part-time job.

When asked about the balancing between work and family life, a distinction between the men's and women's answers could be detected. The women more often expressed difficulties regarding finding a proper balance and seemed generally more stressed about it, whereas the men more often in quite a relaxed way, stated things like, "This somehow just works fine" or "this is somehow no issue really." Or, as Sindri, a father of three children, said:

> Yeah, I mean just fine, I think. I mean, you know, this is just how it is. I think sometimes I work too much, I mean, but I don't think the family suffers because of it, except maybe when I'm away at difficult times. But I mean, I think it just works fine.

With this in mind, it therefore perhaps comes to no surprise that the discourse of working shorter hours but nonetheless efficiently, as an alternative, no worse or less profitable to working long hours, was more frequently used by the women than the men. Many women in our study talked very positively about the "shortening of the work week," an ongoing debate in Iceland and the other Nordic countries.

The division of housework and childcare

Due to the age diversity among our interviewees, certain societal changes over the last decades, especially concerning the division of housework and childcare became clear. Thinking back to the time when Sandra and her husband were both building their careers in the 1990s, Sandra talked about how she always prioritized her family first, whereas her husband was more work-oriented:

> In fact, before I started my doctoral studies, I always did bear the brunt of the family responsibilities. I worked shorter working weeks than him and I felt like I always prioritized the home and the children whereas he did not.

However, Sandra did add that the reason was not as if he felt certain chores were beneath him; "it was never like that." It was more that status-seeking and climbing the career ladder seemed to be more important to him. Thus, Sandra's husband saw it as a choice to prioritize long working hours and to be away from small kids. Sandra felt this was a common attribute for men in general.

Herborg, a woman over 60 and mother of three grown children, had a similar story: "Yes, I reduced my workload, and so, so you know, he blossomed but I did not." Here, she is referring to her ex-husband and how she always worked part time during their marriage and their children's upbringing, whereas he had a full-time job and was able to advance in his career. In light of her experience, Herborg placed high importance on her daughters' independence, not wanting them to sacrifice their education or career for their partners. She sees however, that some changes have occurred over the years. Herborg spoke about how young people today share the responsibility of household work and childcare in a much better manner than she experienced. This statement was in line with those of the younger participants and indicate that certain societal changes toward equality have occurred, especially related to sharing childcare responsibilities and kitchen work.

When asked specifically about household chores, many of our interviewees claimed to share responsibility equally with their partners. The men often talked about how cooking and cleaning the dishes after meals were their main obligations. Despite the fact that sharing the responsibilities at home is more common among the younger generation, the division of labor between partners still seems to be a little gender traditional. As Axel mentioned, "It's pretty much even, maybe I do a little bit more of the typical men's stuff, and yes, she maybe does a little bit more of the washing, but I still iron more frequently whereas I'm the one wearing the shirts. The cooking however, I would say is about 50/50." In the same line, Svavar stated that he perhaps took more care of the garage whereas his partner takes care of the garden and does the washing. However, he added jokingly,

> She sometimes goes away [as part of her job] and so then I do it all, and what I don't understand, I just wash one or two machines a week and it's done. She is somehow always washing something, I have no clue what.

Many of the women in our study also claimed to share the housework as good as equally with their partners. However, when discussing time management, they apparently did not perceive that they had the same power

over their time as the men did, partly because their time was so largely involved in the time of other family members. When the female interviewees expressed that they had an equal share of the household tasks, they usually, in a teasing way, stated something like: "I have been very lucky, he is very well behaved." For instance, Eva said: "It's actually quite remarkable, [. . .] it just works very well, and my husband is actually very diligent you know, well if you can say that, 'diligent,' of course he's supposed to." Eva also mentioned how, at the time of her doctoral studies, her excessive workload resulted in a turning point for her and her partner regarding household chores and childcare:

> This really happens during my studies. I don't know why, you know, but women somehow often want to have the control regarding the children and the home and such, but [. . .] during my last year, I just realized that I couldn't keep track of it all. All the kids' leisure activities, the doctor's appointments and all that [. . .]. At that point I just said, "Listen, you need to take over this and that."

Due to her inability to keep track of everything, Eva was forced to delegate parts of the home responsibilities to her partner. This was also a common theme among the women in our study, who described a certain point in their career at which they were forced to delegate the family responsibilities more evenly to their partners, due to either excessive workload or health problems.

Time management

The interviewees were all, in one way or another, very conscious of time as a resource. Based on how they talked it was clear that time management was an important part of their daily lives. However, the ones most likely to talk about the importance of time-management in their lives were the academics, of whom a majority worked more than 60 hours a week. We also noticed a certain gender difference regarding the way the participants talked about time-management. The men in our study talked about the importance of it to get by, but it did not seem to be problematic to them. They seemed more in charge of their time-management, or as Kári said with quite a conviction, when talking about balancing work and family-life: "It is just the question of organizing yourself." Arthur, an academic and a father of three young children, had also given time management quite a bit of thought:

> Planning is the key to everything, it really is. It can, however, be the kind of planning you have internalized, so you just do it, you know. It's just like mixing a baby's bottle, you just, like, always do the same thing so you don't have to

> think about it [. . .]. It is this kind of planning that works, so it is no good in trying somehow to start planning things differently than you are used to.

Like Kári, Arthur seems to have found a way to be in charge of his daily routine in the simplicity of internalized planning.

The female participants also stated that time-management was essential not only to getting "work done" at work but also to balancing work and family life. Contrary to the men, they did not feel as much as if they were in charge of their time. Moreover, many of them were riddled with guilt for not being able to manage their time the way they felt they were supposed to.

Although many of the women spoke about situations in their daily lives that clearly indicate their excessive workload, as well as challenges regarding frequently juggling the main responsibility for the family, many of them at the same time believe in meritocracy and assume their workplace is based on such a system. Therefore, when they feel as if they are not being able to keep up with their responsibilities, they do not want to complain about the situation. Instead, they internalize the situation by blaming themselves. This often appears as self-doubt in their ability to organize their time, thinking that they must be doing something wrong. Here Eva describes how she sometimes feels about her excessive workload, trying to balance both work and family life the best she can:

> Although the children are getting bigger now, it still has an impact on the family life. You are not spending time with your family while you are here. But how else are you supposed to be able to finish the research work? I don't know, I don't know if I'm so unorganized or something. I don't get it.

Eva feels guilty for not being able to manage all her responsibilities. In a way, she blames herself by wondering if she just lacks time-management skills. Súsanna, a mother of a young child, also spoke about how she needs in the future to be better organized, to be able to foresee the pressure points and work in advance so that she would be able to be present during her vacations.

However, at the same time many of the women were blaming themselves, they also sometimes showed a certain approbation for the system they quite obviously were disadvantaged by. Here, Hildur, a female academic explains why women often advanced more slowly through the system while at the same time admiring her male colleges for their work ethic:

> But then there is also this thing, maybe it is a little bit difficult to explain, but the thing is that we women often take longer to release our work, partly

> because we are insecure and demand more of ourselves, I think. [. . .] What I have learned from watching my male colleagues is that they are way less frightened of not being taken seriously, so they allow themselves to be more reckless when submitting things, regardless of the quality. [. . .] and I'm trying to try to imitate them in that respect. Because, of course, they are the ones who manage to move forward the fastest, the ones who do not take themselves too solemnly.

However, despite their guilty consciences and their reluctance to complain, the women in our study also realize that their supposed lack of management skills was not completely to blame. Súsanna spoke about how she felt she was getting mixed messages from her workplace when she attended a stress management course at work:

> I attended this course once, on how to manage stress, and there was this human resource manager who said exactly this—that we only needed to realize that we had this choice. And I thought to myself, yeah of course, I'm just not making the right choices, but then afterwards I began to think this over and like, wait a minute, what choice is that!?

Súsanna realized after some time reflecting, that the alleged "choice" she had to build her career at her own pace—perhaps more slowly to accommodate the needs of young children—was more of a dream than a reality. Súsanna knows full well, despite what the human resource manager said, that if she wants to build her career as expected, there is no "choice" to go slower. This was only a choice for older employees who already have an established career.

However, the women are certainly not the only ones who feel pressured by time. The men also talked about time pressure and excessive work-loads, and some of them also feel as if their workplace is giving them mixed messages through old, engrained ideas. Örn, a father of three children, also mentioned a time-management course he had to take as a new member of his workplace:

> The first afternoon there was "time-management" where some famous people were brought in from some company to talk about some trivial stuff on how not to waste time on Facebook and things like that, sure. Then this professor came to talk about how he planned his work, you know as this role model [takes a deep breath], and he gave his lecture, which was just him showing his calendar, and it was just like, working all day, of course, as well as evenings and weekends, and he was extremely happy if he could maybe take the Sunday evenings off to watch a TV show or something.

The message they were getting in this "time-management" course upset Örn. Most of all, he wanted to make a public complaint for being given old, engrained ideas of the "excellent researcher" that were presented as proper time-management.

However, the men, even when pressured by their workload and family responsibilities, do not seem to internalize the situations the way the women tend to. Whereas the women do not want to complain too much about the structures of the workplace, the men are less frightened to point out certain flaws that upset them. This corresponds with Elva's notion of her workplace, a business firm. She believed that the men were more likely to be listened to: "I can also see that it's harder for women than it is for men to say, it's too much. If they complain, they are quicker to get back-up to relieve them of the work-load."

Discussion

From the perspective of time as a gendered structure, this article discusses how doctorate holders in Iceland perceive their own time-management as a factor in their career development, or more concretely how they make sense of their own agency regarding their time use and work-life balance. We found that the men in our study generally felt a higher level of agency regarding their work-life balance and time management than did the women, who more often expressed difficulties finding a proper balance and seemed generally more stressed about the often fragmented time they had to combine their career and family obligations successfully.

As mentioned earlier, a significant body of feminist scholars has discussed the gendered nature of time (Adam, 1990, 1995; Bryson, 2007; Davies, 1989; Everingham, 2002). Although, in many ways, different scholars with different ideas, they all find common ground in the idea that time is inevitably linked to power and that gendered time norms indeed play a "key role in maintaining oppressive gender differences" (Bryson, 2007: 57). Our interviews with both male and female doctorate holders support this perspective.

We found that although all our interviewees felt the often enormous pressure that comes from fitting all their needs and obligations into daily life, whether bound to work or family, the men and women still had quite a different relationship to time in general. In many ways, the women's accounts resonates with what Everingham (2002) said about how time needs first to be made before it can be spent. Both the female interviewees and the male interviewees' partners handled the communication with their children's schools to a greater extent and maintained the overall planning regarding the children's extracurricular activities, doctor's appointments,

and other arrangements around the family life. Additionally, it was not uncommon that the women in our study and the men's spouses took a part-time job at some point in their career to accommodate the family's needs. This was never the case for the male interviewees or male partners. As Dex (2003) points out, despite the ever-increasing egalitarian attitudes, especially among younger and more highly educated men, and the increased contribution by men to housework and childcare, the interviewees and Nordic research (Haavind and Magusson, 2005; Johansson and Klinth, 2008; Thorsdottir, 2012) show that Davies's 30-year-old claim that women's "time more than any other family member's—becomes others' time" (1989: 38) still rings true for female doctorate holders in the over-all egalitarian, family-friendly Iceland.

Various measures toward a more gender-equal society have been taken in Iceland over the last few decades. Policy implementations, such as applying quotas to balance the gender representation on boards of larger companies (Axelsdóttir and Einarsdóttir, 2017), together with legislation on parental leave, reserving three months out of nine, exclusively for fathers, has resulted in Iceland being ranked highly on both the Global Gap Index as well as UN assessments of gender equality for years (United Nations Development Programme, 2018; World Economic Forum, 2018). Consequently, Iceland has been portrayed in mainstream media as a gender equality paradise where equality has more or less been reached (Jakobsdottir, 2018; Lindberg, 2017). However, despite the positive changes that have occurred over the years, we argue, drawing on Gramsci et al. (1971), that the hegemony of masculine domination, as well as the deeply embedded gender stereotypes, still prevail, and the covert forms of discrimination, which in a way have been "negotiated" as gender-neutral conceptions have created the perfect environment for ideas like meritocracy to blossom and has created a situation in which women feel they have failed as individuals if they do not master their time well enough.

The women in our study expressed feelings of guilt associated with thinking that they were not able to keep up with their responsibilities to a much greater extent than the men. However, they did not want to complain about their situations or blame it on systematic disadvantages; on the contrary, they tended to blame themselves for lacking time-management skills. This resonates well with what Rafnsdóttir and Heijstra (2013) found in their study on parents working in Icelandic academia. According to their study, some of the interviewed women felt as if it were not appropriate for them to complain about a heavy work–family workload because it was their "choice" to have children. None of the interviewed fathers referred

to their own liability for having children when discussing the combination of work and family life and long work hours.

Moreover, we found similarities between our interviews and the study done by Thorsdottir (2012), which indicated that, although men indeed are participating in housework to an increasing extent, women still bear the main responsibility for the home. The interviews show that, although some of the men and women claim they shared the housework evenly, the women nevertheless, handle the communication and responsibilities regarding the organization of everyday life in most cases.

Despite mainstream media's portrayal of Iceland as an alleged gender equality paradise, the issue of gender equality in the home has been given very little attention. Thus, it is not unlikely that the accepted notion of the overall gender-equal Iceland among the general public has served as a mask behind which the more accepted, traditional gendered functions disappear. In such an environment, deeply embedded structures and cultural habits like the traditional division of labor in the home are easier to portray as individualistic choices or agreements between partners. Consequently, women who bear the main responsibility for the home are possibility not eager to admit to that status, thus simultaneously admitting to their own "failure" in not sharing the responsibility of household tasks evenly in a country where an even distribution of housework must be the norm.

The study provides a picture of how societal time norms among highly educated people are indeed very gendered and how time is still inevitably linked to power when it comes to career development.

Strengths, weaknesses, contribution, and future studies

The strength of the study is its context, namely that it is conducted in a country considered to be in the forefront regarding gender equality. Thus, it could be expected that no gender pattern would be found in time use and time management in career development.

It is important to note, that although we endeavored to reinterpret the interviews in the manner truest to what the interviewees said and meant, it is still a reinterpretation. Additionally, the interviews were conducted by two women, which possibly influenced how the interviewees talked about gender. Furthermore, performing interviews in a small community like Iceland is challenging, and the interviewees' "freedom of speech" was based on our commitment to anonymity. In order to strengthen anonymity, only information on whether the subjects were male or female and on the number of children were presented. To give the reader further information could have risked the anonymity of the interviewees. The contribution of this study to prior studies is that women still experience time differently

from men in terms of personal autonomy. In other words, men are still in a better position to utilize their time for their own interest, even when comparing highly educated people among whom it is more likely to find higher levels of egalitarian attitudes in a country where gender equality is assumed to be at a higher level than in many other countries. We hope that future studies aim to shed light on close relationships between partners that produce and reproduce this gender power of time in organizations and families.

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Article III

"This would never be possible if not for our team play" An Analysis of Icelandic Doctorate Earnings from a Gender Perspective

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ORIGINAL PAPER

"This Would Never be Possible if Not for Our Team Play": An Analysis of Icelandic Doctorate Earnings from a Gender Perspective

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Abstract
At the international level, Iceland is faring well on gender assessments concerning economic status, political position, education, and health. However, these rankings fail to assess what is happening within the private sphere regarding gender equality. We argue that research on the interplay between the domestic and public spheres is important because these overlapping fields affect the lives of women and men differently. By focusing on the earnings of doctorate holders in Iceland, we aim to obtain a better understanding of the gendered meaning and implications of found earnings inequalities. Relying on longitudinal population register data, as well as 32 in-depth interviews with doctorate holders, we find that the men earn significantly more than the women. While the quantitative model only explains a small part of the inequality, the qualitative findings indicate that decisions made within the household, referred to as team play, negotiation, and choices, play a defining role in post-doctorate career development. We conclude that, despite the male breadwinner model being outdated in Icelandic society, some of its pillar thoughts still persist beneath the surface, keeping gender inequality within the household in place.

Keywords Doctorate holders · Gender · Wage gap · Family structure · Mixed method

Introduction

A significant body of research on managerial and academic career-making has drawn attention to the reconciliation between career-making and family life (Caprile et al., 2011; Halrynjo & Lyng, 2009; Heijstra et al., 2013; Nakhaie, 2009; Rafnsdóttir & Heijstra, 2013) and the role of the spouse and the family in career development (Heikkinen et al., 2014; Mäkelä & Suutari, 2011; Ocampo et al., 2018; Schneer & Reitman, 2002).

The issue lends itself to analysis from a gender-equality perspective because managerial and academic careers are often comparable or identical for men and women, but men are historically accustomed to the prospect of success and career-making, while women are still catching up. Traditionally, more men than women have finished a PhD degree, but there are signs that this gender gap is decreasing (Carter et al., 2013), which raises the question of whether this leads to additional gender equality, both at the workplace and within the home (Corsi, 2014). Thus far, research is showing that preexisting conceptualizations of the 'ideal researcher' and 'successful manager' are still alive and thriving. Seemingly gender-neutral concepts, such as 'meritocracy' and 'excellence', produce and reproduce organizational cultures and structures that continuously perpetuate and privilege masculine practices and norms (Aiston & Jung, 2015; Raddon, 2002; Schneer & Reitman, 2002; Van den Brink & Benschop, 2012). One such work-cultural outcome that will receive attention in this paper, derived from the idea of excellence, is the importance of international mobility (Ackers & Gill, 2009; Jöns, 2011; Leemann, 2010; Mogué-rou, 2004) and the willingness to go the extra mile in career development by obtaining a graduate degree from abroad.

Within the home, the traditional breadwinner model is now believed to be outdated in many Western societies. In this model, a clear work division between men and women is apparent, in which the woman/mother stays at home, raises the children, and takes care of the household, while the man/father focuses his undivided attention on his career (Raddon, 2002; Schneer & Reitman, 2002). The dual-earner family model has largely replaced the breadwinner model, with the Nordic countries maintaining frontrunner status in that respect. This is due to their governments' consciously

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facilitating extensive welfare systems and the introduction of "defamilization policies, which increase the degree to which individual adults can uphold a socially acceptable standard of living, independent of family relationships, either through paid work or through social security provisions" (Lister, 1997, p. 173).

In public discourse and the media, Iceland, as one of the Nordic countries, is regularly portrayed as a gender equality paradise (see e.g., Hertz, 2016; Jakobsdottir, 2018; Kilpatrick, 2017; Tuttle, 2017), with Iceland's extensive paid parental leave and childcare facilities being brought up as evidence. However, as Einarsdóttir (2020) points out, although Iceland is consistently ranked first on the World Economic Forum's Global Gender Gap Report (The World Economic Forum, 2020), the ranking is still based on a narrow understanding of gender equality because it is largely unable to assess the situation within the private sphere, which is crucial in terms of assessing levels of equality (Einarsdóttir, 2020).

This article aims to analyze the gendered meaning and implementation of various family structures, as well as the influence of having graduated from abroad, on the career development of male and female doctorate holders in Iceland who either have research careers within academia or careers in the public or private sector. More concretely, by utilizing rich longitudinal register data, we will analyze the earnings of men and women holding doctorate degrees 5 and 10 years after their graduation. Additionally, by means of 32 semi-structured interviews, we investigate how doctorate holders negotiate with their partners on employment and family matters, as well as their share of domestic responsibilities.

By focusing on gender wage (in)equality and by analyzing the data from a feminist perspective, this article contributes to Sustainability Development Goal no. 5 (Sachs et al., 2021), as education is believed to empower women and seen as one of the key drivers of improving gender equality, as well as diminishing the gender pay gap (Casey, 2009). Moreover, the utilization of mixed methods has, until now, been lacking in most prior research regarding family matters and finances (Kelley et al., 2020). Working with multiple datasets and combining research methods contributes to more rigor study outcomes.

Gendered Aspects of International Mobility

Higher education has been on the rise in many parts of the western world (Auriol et al., 2013; Bjarnason & Edvardsson, 2017; Boosten & Vandevelde, 2014; Gokhberg et al., 2016), especially among women. Another visible trend within academia is that internationalization and marketization have gradually become essential to the management and financing of academic institutions (O'Connor, 2015; Välimaa, 2012). There is an increasing emphasis on Global Ranking Systems, such as the Shanghai Jiao Tong University list (SJTU) and the Times Higher Education Supplement rankings (THE), which make academic institutions worldwide compete for status and prestige, with academic excellence being one of the main qualifiers (Butler & Spoelstra, 2014; O'Connor, 2015; Steinþórsdóttir et al., 2017). Through seemingly objective and neutral quantitative criteria, such as publication rates, journal rankings, and funding success rates, the notion of academic excellence becomes entangled with that of meritocracy, with no regard given to micro and/or macro patterns of (gender) disparities within the system (Aiston, 2011). In non-native English-speaking countries, it is common to view advanced degrees obtained from foreign countries with academically competitive university systems as indicators of academic excellence (Shin et al., 2014). However, academic excellence is, in many ways, an ambiguous social construct that is inherently gendered (O'Connor, 2015; Van den Brink & Benschop, 2012), and social conditions such as partnerships, families and dual-career constellations can constrain moving abroad in gender-specific ways (Ackers & Gill, 2009; Jöns, 2011; Leemann, 2010; Moguérou, 2004). In a Swiss study, potential postdocs contemplated whether it would be worthwhile to move abroad or this would mean too much disturbance of family life; relocation would most likely be temporary and not result in a tenured position in that same location. The study, however, found that female doctorate holders faced even greater challenges because of the country's very conservative gender regime, which provides limited career prospects to mothers both within and outside academia (Le Feuvre et al., 2020). A survey by Moguérou (2004) among young French doctoral graduates showed that married women, in comparison with their unmarried counterparts, were less internationally mobile during the postdoc phase. Conversely, this was not the case for men. A study by Ackers and Gill (2009) investigated the impact of being in a relationship and having children on international mobility. They found that, in cases in which partnership and family hindered mobility, this was likely to have a negative effect on career development, constricting the ability to work effectively and productively. Furthermore, they found that women were particularly affected by these barriers because they were, more frequently than their male colleagues, tied up with private and family responsibilities, as well as dual-career partnerships (Ackers & Gill, 2009). Solga and Rusconi (2007) come to a similar conclusion in their study on dual-career-making in Germany. Because female academics are more likely than men to be married to other scientists, they also more frequently face barriers linked to the special situation of having to attune their career plans to their partners' in a country in which the "interest in dual-career arrangements and institutional support for dual-careers are still relatively new in

both scholarly debates and personnel strategies" (Solga & Rusconi, 2007, p. 327).

In this study, we examine whether international mobility is also a gender-specific problem in Iceland. There are some indications that women are taking advantage of the increasing number of domestic PhD programs. For instance, in 2019, women were among 70% of those who graduated with PhD degrees from Icelandic universities (Reykjavik University, 2019; University of Iceland, 2019). Based on this information, we put forward the following research questions (R):

R1) Is there an observable gender difference in the countries that Icelandic doctorate holders earn their degrees from?
R2) Is there a financial benefit to obtaining a PhD degree from abroad, as compared to having a domestic degree?

The Gendered Context of Various Family Structures

Despite sharp increases in women's educational attainment, career aspirations and equality legislation, the gender pay gap remains (Gangl & Ziefle, 2009). Even in Iceland, presumably the world's most gender equal country, the unadjusted gender pay gap still amounted to 15.3% and the adjusted pay gap to 4.5% in 2017 (Statistics Iceland, 2016, 2020b). Numerous studies reveal that family/marital status accounts for a considerable part of the gender pay gap because different family structures affect men and women in diverse ways (Cukrowska-Torzewska & Matysiak, 2020; Gangl & Ziefle, 2009; Gough & Noonan, 2013; Magnusson, 2010; Napari, 2010; Zhang, 2009). Several studies show that mothers earn, on average, less than childless women and men (Cukrowska-Torzewska & Matysiak, 2020; Molina & Montuenga, 2009), whereas being married and having a family usually has a positive impact on men's careers and earnings (Bardasi & Taylor, 2008; Glauber, 2008). This phenomenon is usually referred to as the 'motherhood penalty' or the 'marital/fatherhood bonus.' For their explanatory value, the theoretical frameworks of human capital theory and the theory of compensating wage differential are both useful.

Human capital theory suggests that mothers earn less than childless women because they invest less in market human capital (Becker, 1985). In other words, mothers are still forced to spend more time out of the labor market to successfully accommodate their family's needs (Magnusson, 2010), thus gaining less work experience than childless women (Napari, 2010). The theory of compensating wage differential suggests that the motherhood penalty can be explained by mothers' need to seek out jobs that make it easier to combine familial and household obligations (Gough & Noonan, 2013; Napari, 2010). This theory may then explain why, in countries with extensive family-friendly policies and extensive female labor participation, such as the Nordic countries, the labor markets remain highly gender-segregated, with women being underrepresented in supervisory positions and overrepresented in part-time positions (Barone, 2011; Mandel & Semyonov, 2005; Rafnsdóttir & Weigt, 2019; Ridgeway, 2009).

Obtaining a doctoral degree is likely to provide people occupations in the upper tail of the wage distribution. Highly paid jobs can, however, vary immensely in terms of job characteristics and, therefore, in the way they influence peoples' work-family balance. For instance, Magnusson (2010) mentions that some highly paid jobs are also likelier to provide people with a high degree of autonomy, which could enable better work–family balance, whereas other high-skilled occupations can demand constant availability, working non-agreement overtime, traveling for business, and other time-consuming activities, which are unlikely to provide room for another career within a household. The interplay between the public and private is, thus, of special interest to us.

We argue that the overall gender-equal and family-friendly environment in Iceland, as compared to some other European countries (e.g., Le Feuvre et al., 2020) serves as an ideal research context because it provides an opportunity to analyze the earnings of doctorate holders in terms of their marital/family status in a society that is based on a dual-earner family model. We address the following research questions:

R3) Do family structures impact the wages of male and female doctorate holders?
R4) How beneficial is it for male and female doctorates to be in a relationship, as compared to being single, and does having children play a role in this context?

Time, Family Responsibilities, and Decision-Making Processes

While women have legitimately become able to compete with men for positions and career progression in the labor market, feminist scholars have argued that they often do so on culturally male-dominated terms that have been preestablished. The gendered difference in the use of time makes this especially evident, or as Bryson (2007) argues, "gendered time norms play a key role in maintaining oppressive gender differences."

The process of managerial- and academic career-making provides an interesting angle on the issue of work–family balance and the division of labor within the private sphere, as the work culture surrounding these types of careers not

only associates long working hours with workplace loyalty and commitment but also considers them essential for career progression (Bryson, 2007; Hochschild, 1997; Schneer & Reitman, 2002). Moreover, despite the breadwinner model no longer serving as the dominant family model, a modified bread-winner model in which women temporarily leave the labor market (Le Feuvre et al., 2020) is still common in Europe. In addition, studies show that women, even those with professional careers, still bear the main responsibility for domestic obligations (e.g., Rafnsdóttir & Heijstra, 2013), even though attitudes, especially among younger and highly educated men, are said to have become increasingly egalitarian (Dex, 2003; Vohlídalová, 2017).

According to feminist scholars, it is not uncommon that partners throughout their educational and/or career paths continuously make unequal employment and domestic decisions that favor men over women. This contributes to the reproduction of gendered power within relationships as men work longer hours and, thus, expedite their careers and increase their earnings, whereas their partners invest more time in unpaid household responsibilities (Bryson, 2007; Everingham, 2002; Hochschild, 1997; Hochschild & Machung, 2012). An Icelandic study conducted by Thorsdottir (2012) among the general public makes this pattern visible. Although the men were participating in housework, the women still bore the main responsibility for the home, and thus, the traditional gender division of labor within the home was still prevalent. This is what Pétursdóttir (2012, 5) calls "The aura of gender equality, [which] describes the social process, or phenomena, in which men and women convince themselves that equality reigns despite practical evidence indicating otherwise."

The aura of gender equality and 'emphasized femininity' (Connell, 1987) became clear in Pétursdóttir's study (2012) as she spoke to women and asked them to compare their earnings with those of their partners to determine what explanations and justifications they resorted to and how the differences in their earnings affected their gendered power relations. Out of 48 participants, four women had higher earnings as compared to their partners. For those that earned less than their partners, two themes were especially detectable: the conviction that their earnings were 'about the same' even if they were clearly not and 'factual reasons,' such as a higher educational level or additional responsibility justifying the disparity. For the women who earned more than their partners, 'his choice' was an especially apparent theme, in which they explained how their partners could definitely earn more if they just wanted to (Pétursdóttir, 2012).

How the situation relates to doctorate holders, however, has not been investigated. It could be argued that doctorate holders are career-oriented people regardless of their gender. Because they have invested many years in building up their educational careers, they may be reluctant to compromise. We, therefore, address the following research question:

R5) Are there observable gendered patterns in the way doctorate holders make sense of their time management and negotiate employment and family decisions with their partners?

Data and Methods

The study is a part of a larger on-going Nordic research project called NORDICORE, the objective of which is to examine the mechanisms producing, maintaining and changing gender inequalities within research and innovation in Iceland, Norway and Sweden.

Participants and Procedure

For this article, we focus on Iceland and use longitudinal individual register-based census data from between 1997 and 2017. Through the register data, we were able to identify all individuals who obtained a doctorate degree in the fields of science, technology, engineering, and mathematics as well as social sciences and humanities between 1997 and 2013.

However, to study the effects of career making and earnings, our study set the year 2017 as the baseline, which is the point in time when the identified individuals held 5- to 20-year-old doctorate degrees ($N=814$; 463 men (57%) and 351 women (43%)). At this point in time, 30% of the individuals had held doctorate degrees for 5–9 years, and 70% had held such degrees for 10–20 years. To be included in the study, the doctorate degree holders had to have been active in the Icelandic labor market at some point during this 20-year period, that is, between 1997 and 2017. Around 81% ($N=659$) had registered earnings 5 years after graduation, and a similar percentage (79%) ($N=449$) had registered earnings 10 years after graduation. The main reason for the missing data is international mobility because people are dropped from the national register when they move abroad. The mean age of doctorate holders was 41 years at T5 and 45 at T10, and they had, on average, 1.2 children at T5 and 1.3 children at T10.

The register-based census data not only provide information about the doctorate holders but contain some data on their partners as well. Partners, in this study, are defined as those who are officially registered as either married to or cohabiting with the doctorate holders.[1] Sixty-six percent

[1] The registry data in question did not provide information on people's race/ethnicity, sexual orientation, or partners' gender. Thus, same-sex couples are also included in the analysis.

(n = 540) of the doctorate holders were living with a partner 5 years after graduation, and 70% (n = 395) were doing so 10 years after graduation. Eighty-five percent of partners had registered earnings at both time points. Of those doctorate holders who had reached a ten-year career in 2017, 4% had changed their marital status from being in a relationship to being single between the 5th and 10th career-year, and 8% went from being single to having a partner during that same period. The educational level of the partners was, in 80% of the cases, lower than that of the doctorate holders, with 65% having either a Bachelor's or a Master's degree. Twenty percent of the partners also have a doctorate degree. Table 3 in the findings section, in turn, provides more information on the partners' total earnings.

Additionally, between March and June 2018, 32 individuals from the same pool of doctorate holders, 16 men and 16 women, were interviewed on their perceptions regarding career path possibilities and constraints. We examined how various family elements, such as having children and running a household, influenced their choices and decision-making throughout their careers. The study was reported to the Data Protection Authority before recruiting took place. To our advantage, the National and University Library of Iceland keeps a list on all doctorate holders in Iceland.[2] This list became our sampling frame, and we selected interviewees via a stratified sampling method (Given, 2008). The aim was to select participants evenly in terms of on gender and employment position (within or outside academia) and to match pairs of men and women with similar years of work experience. The selected sample received an interview-invitation via e-mail. In that same e-mail, we informed them about informed consent, confidentiality, and anonymity, as well as their right to withdraw from the study at any given time without explanation.

The semi-structured interviews lasted between 40 and 80 min (mean length: 53 min) and were conducted by two female sociologists with extensive practical interviewing experience. The interviews mainly took place at the interviewees' workplaces, two of them were conducted in neutral office spaces, and one was conducted at the interviewee's home. The interviews were all recorded and transcribed verbatim. From the interviewees, we learned that the participants were between 38 and 63 years old (mean age: 48 years), and all but one were in full-time employment. The interviewees working in academia held assistant, associate, or full professor positions, while the majority of interviewees outside of academia occupied management positions. Most of them had parental responsibilities (12 women and 15 men), with children in the age range of infants to a little over 30 years. Four women were classified as single parents, while all the men were either married or cohabiting.

[2] The National and University Library of Iceland maintains an open access list of all Icelanders who have obtained a doctoral degree. This list contains individuals from as early as 1666 to the present day. The information that can be found on this list is the full name of each individual, the year they were born, what discipline they studied, what year they graduated, and from which university. In 2017, the list contained information on 2276 individuals.

Data Measurements and Analysis

We use a convergent research design with predetermined qualitative and quantitative research phases. This means that the strands were kept separate during the analysis, but that interpretation integration (Creswell & Clark, 2018) takes place in the results chapter.

In the quantitative phase, the outcome variable is the mean of the total earnings measured in US dollars. This value, US dollars, was chosen to make the results more accessible to international readers. The outcome variable was calculated by taking the average annual earnings for each year (1997–2017) in ISK and adjusting them to May 2020 using the Wage index (Statistics Iceland, 2020a). Then, the index-adjusted amount was converted into USD by applying the USD/ISK rate for that same month.

The independent variables measure the influence of family status on the total earnings by means of gender (via split cases), the presence of children in the household [dummy variable: childless (0) vs child/ren (1)], and the partners' annual earnings, measured as an interval variable. Two more independent variables, derived from the scientific literature, are the country/location where the PhD degree was obtained [measured as an ordinal variable, with the categories Iceland, Europe, Scandinavia, and USA/Canada/UK, organized from least to most renowned, based on a list of countries arranged by how many universities they have in the top ranks (see. Ranking Web of Universities, 2020)] and the current work location of the doctorate holder [dummy variable: outside academia (0) vs. within academia (1)]. The population data ($N = 814$) is analyzed by descriptives, multiple regression analysis, and an analysis of variance (ANOVA) (Field, 2013).

For the qualitative phase of the study, the interview guide was pre-determined by the NORDICORE group and thematically structured around recurrent themes based on existing literature. With the help of MAXQDA 2020 (VERBI Software, 2019), we conducted a structural content analysis, as described by Mayring (2015) (see also Schreier, 2013). The building of the coding frame was performed in a concept- and data-driven way. Three main categories revolving around work-life balance were generated: (1) Time as a resource, (2) family responsibility, and (3) decision-making processes. These categories further comprised of the following subcategories: 1.1. Time management; 1.2. Flexibility; 2.1. Childcare; 2.2 Division of housework; 3.1 Negotiation;

Table 1 Doctoral graduates (total N = 750; women n = 320, men n = 430) divided by country/place from which they obtained their degree and relationship status at the year of their PhD completion

	% In relationships		% Singles	
	Female	Male	Female	Male
USA, Canada	26.2% (50)	31.5% (87)	32.6% (42)	42.9% (66)
Scandinavia	27.2% (52)	25.4% (70)	20.9% (27)	20.1% (31)
Europe	13.1% (25)	17.8% (49)	27.1% (35)	20.8% (32)
Iceland	33.5% (64)	25.4% (70)	19.4% (25)	16.2% (25)

3.2 Teamwork; 3.3 Choice. The seven subcategories include 29 codes that were generated through the analysis process. To assess intercoder agreement and in line with Campbell et al. (2013), an independent second rater recoded about 10% of the data material. The intercoder agreement reached 81.7%.

Results

Starting with the country/location from which the doctorate holders obtained their degree, the population is rather equally spread over the US/Canada, Scandinavia, Europe, and Iceland. Men, however, most often obtain their PhD degrees from the US/Canada (31%) and women most often obtain them from Iceland (32%) (Table 1). Furthermore, it seems to be more common for singles to study in the US/Canada, while the Nordic countries, including Iceland, are more attractive to doctorate candidates in relationships.

Regarding family structure (Table 2), the majority of men are in a relationship with children (67%), and this is unrelated to their workplace or the time passed since they finished their doctorate. The pattern is similar among women, although the percentage of women in a relationship with children is lower (around 53%), and women in academia are more often in childfree relationships (22–26%) than women working outside of academia (12–16%). This may indicate that women within academia see fewer opportunities to raise children than women working outside of academia. In fact, women within academia do have fewer children, on average, than their female counterparts outside academia. Women also have fewer children than their male counterparts regardless of being employed within or outside academia. However, the gender gap is smaller among those working outside academia.

Regarding total earnings (Table 3), men consistently earn more than their female counterparts. The largest gender difference is observed between men and women working outside of academia 5 years after obtaining their doctoral degree ($33,357). Additionally, while it is financially beneficial for men to have careers outside of academia, the opposite is true for women. Women in academia start with higher earnings and maintain this advantage over their female counterparts outside academia 10 years later.

When examining the income of the partners of our population, it appears that gender differences play a role there as well. The largest gender difference is between the male PhDs employed outside academia and their (female) partners 5 years after graduation. At that point, the partners earn, on average, 55% of what their doctorate-holding male partners make. This gender difference decreases slightly over the years because, 5 years later, the partners earn, on average, 67% of what their doctorate-holding male partners make. Between the academics and their partners, a similar but stable difference is observable over time. Because this observed gender gap is greater than that in the general population, this indicates that the (female) partners, to a greater extent than usual, are employed part-time. However, when

Table 2 Family status of doctoral graduates 5 and 10 years after graduation by gender and employment either within or outside academia

	Within academia		Outside Academia	
	Men	Women	Men	Women
Family structure 5 years after graduation	*n* = 155	*n* = 134	*n* = 214	*n* = 156
Single, no children	15% (23)	16% (21)	23% (49)	24% (37)
Single, children	1% (2)	7% (10)	2% (5)	13% (21)
Relationship, no children	17% (26)	22% (29)	14% (31)	11% (17)
Relationship, children	67% (104)	55% (74)	61% (129)	52% (81)
Average number of children	1.5	1.1	1.3	1.2
Family structure 10 years after graduation	*N* = 112	*N* = 89	*N* = 160	*N* = 88
Singles, no children	18% (20)	17% (15)	15% (24)	18% (16)
Singles, children	1% (1)	6% (5)	1% (1)	10% (9)
Relationship, no children	12% (14)	26% (23)	17% (28)	16% (14)
Relationship, children	69% (77)	52% (46)	67% (107)	56% (49)
Average number of children	1.6	1.1	1.5	1.3

Presented in total numbers (*n*) and percentage (%)

Table 3 Mean total earnings of doctoral graduates, as well as gender gap between doctorates and their partners (cents for every dollar their PhD holding partners make) 5 and 10 years after graduation by gender and employment within or outside academia

	Within academia		Outside academia	
	5 Years after graduation	10 Years after graduation	5 Years after graduation	10 Years after graduation
Total earnings in $ (median)				
Men	90,791	97,841	102,780	106,102
Women	82,540	88,694	69,423	78,686
Gender gap in earnings between PhD holders and their partners in cents for every dollar				
Male partners' earnings as compared to that of female PhD holders	105	106	122	125
Female partners' earnings as compared to that of male PhD holders	60	60	55	67

Table 4 One-way Anova: differences in total earnings (mean) with regards to family structure

	Singles, no children	Singles, children	Relationship, no children	Relationship, children	Anova F
Earnings 5 years after graduation					
Men	83,008	~	109,658	104,318	3.270*
Women	64,566	77,378	86,352	82,202	3.151*
Earnings 10 years after graduation					
Men	89,320	~	104,324	123,671	2.909^{+}
Women	70,106	~	93,173	97,134	1.405

$^{+}p < 0.10$

$^{*}p < 0.05$

~Not reported due to small N

comparing the doctorate-holding women and their (male) partners, the tables turn. The partners of the female academics earn, on average, 5% more than the female academics, which increases to 6% as their careers move forward. The difference is even larger between the female PhDs outside academia and their partners, with the male partners earning, on average, 22% more than the female doctorate holders earn, which increases to 25% as their careers progress.

As seen in Table 4, 5 years in, family structure has a significant influence on the incomes of both the men and the women. However, 10 years in, the effect is only marginally significant for men and has disappeared for women.

Table 5 shows multiple regression analyses for men and women 5 and 10 years after graduation. In the first model, we include all participants; in the second model, we focus on participants who are in relationships. Starting with the situation for men, 5 years after having obtained a PhD degree (model 1), the intercept reveals an income of $69,512. Being in a relationship and having a PhD from a more renowned country/location than Iceland increases earnings, on average, by $27,145 and $7,618, respectively, for each more highly acclaimed country/location. Having children (− $3,888) and working within academia (− $20,564) decrease earnings, even though only the latter is significant. Ten years after having obtained the PhD (model 1), the negative effect of working within academia has become larger (− $37,415) among male doctorate holders, and the country in which the PhD was obtained still has a significant positive effect on men's earnings ($11,226 for each more highly acclaimed country/location). The family-related variables (being in a relationship and having children) are not significantly associated with the earnings of men in either the 5- or 10-year period.

Looking at the situation for women (both single and in a relationship), we see that women start with lower earnings (intercept = $45,657) as compared to men but, in contrast to men, working in academia has a positive effect on their earnings ($16,573). Similar to men, the country in which the PhD was obtained has a positive effect on the earnings of women, but women gain less from it than men ($5,924). Ten years after completing the PhD, the significant effect of working in academia and having studied abroad disappears regarding women's earnings, while the family-related variables continue to be positive but nonsignificant.

Turning to doctorate holders in a relationship (models 2), we see that the intercept for men in a relationship is higher than that for men in general ($80,057). Working in academia is negatively associated with the earnings of men in

Table 5 Regression analysis: The association of Family status, employment (within or outside academia), and the country from which the PhD is obtained with the total earnings 5 and 10 years after graduation

		Men			Women		
Five years after obtaining PhD							
		b	SE	B	b	SE	β
Model 1	Intercept	69,512*	11,257		45,657*	7,301	
N = 659	PhD obtained: Country/location	7,618*	2,812	.139	5,924*	1,913	.181
	Withing academia (1) vs outside	−20,564*	6,887	−.154	16,573*	4,849	.202
	In Relationship (1) vs. single	27,145*	10,902	.168	10,962^{+}	5,673	.124
	Child/ren (1) vs. childless	−3,888	8,791	−.028	4,466	4,849	.052
Model 2	Intercept	80,057*	14,752		57,991*	9,084	
N = 463	PhD obtained: Country/location	9,827*	3,359	.177	6,597*	2,211	.214
	Withing academia (1) vs outside	−24,079*	8,108	−.179	18,563*	5,616	.237
	Child/ren (1) vs. childless	−2,596	10,299	−.015	−5,198	6,653	−.057
	Partner's earnings in 1000 $	207^{+}	111	.110	33	23	.102
Ten years after obtaining PhD							
		b	SE	B	*b*	SE	β
Model 1	Intercept	73,699*	22,883		76,130*	12,818	
N = 449	PhD obtained: Country/location	11,226*	5,409	.126	−4,914	5,738	−.069
	Withing academia (1) vs outside	−37,415*	11,131	−.205	11,066	12,106	.072
	In Relationship (1) vs. single	9,129	18,554	.037	20,320	15,220	.113
	Child/ren (1) vs. childless	24,209	14,701	.123	5,793	13,369	.037
Model 2	Intercept	95,086*	17,614		78,083*	15,465	
N = 334	PhD obtained: Country/location	3,956	4,329	.065	-7,676	7,929	−.095
	Withing academia (1) vs outside	−28,114*	8,594	−.231	12,359	12,103	.073
	Child/ren (1) vs. childless	11,864	11,144	.085	1,421	10,214	.008
	Partner's earnings in 1000 $	151^{+}	86	.121	56	47	.093

Five years: Men Model 1: $R^2 = .06$, Model 2 $R^2 = .09$

Women Model 1: $R^2 = .10$, Model 2: $R^2 = .10$

Ten years: Men Model 1: $R^2 = .08$. Model 2 $R^2 = .09$

Women Model 1: $R^2 = .03$, Model 2: $R^2 = .03$

$^{+}p < 0.10$

$^{*}p < 0.05$

a relationship (−$24,079), but having obtained a PhD from a more renowned country than Iceland increases average earnings by $9827 for each more highly acclaimed country/location. Partners' earnings have a marginally significant influence on the earnings of the male doctorate holders, i.e., with every additional $1000 the partners earn, the male doctorate holders' earnings increase by $207. Ten years after graduation, the only significant effect that remains in the model is the negative effect of working within academia (−$28,114). Men outside of academia earn significantly more than men within academia. The effect of having children is nonsignificant in all the models for men, although it does appear as if, over time, children have a positive effect on the earnings of men. In other words, 10 years after graduation, children have a positive influence on the earnings of men, while they had a negative effect earlier on; the findings are, however, nonsignificant.

For women in a relationship, the models show that, after 5 years, working within academia has a positive effect on the earnings of women in a relationship ($18,563). The country from which the PhD was obtained has a positive effect on the earnings of women in a relationship 5 years after having obtained the PhD ($6597), but the significance disappears after 10 years. Having children is negatively associated with the earnings of women in a relationship 5 years after the PhD is obtained. This may indicate that women with small children who are in a relationship may simply be assumed to hold the main responsibility for caring tasks within the home. When the children grow-up (10 years after PhD completion), the effect of having children turns into a positive but nonsignificant influence on the earnings of women.

Table 6 Representation of the main category: Work-life balance: Time as a resource, with its subcategories and illustration of quotes, together with the frequency of women (F) and men (M) mentioning these themes

Subcategories (Codes)	Illustration of quotes	Frequency	
Main category: Time as a resource		F	M
Subcategory: Flexibility			
Flexibility to work even more	Fortunately, there is no clocking-in machine because, then, you would get depressed; then, you'll see how much you are at work. (F-IA)	6	7
Subcategory: Time management			
Work overload/Burnout	People can burn out really fast, and I have experienced burnout myself. Two years ago, I went on sabbatical, and I was going to do a lot, but I started with being almost bedridden for two or three months. (M-IA)	5	6
Work-family puzzle is a struggle	It is not easy (F-OA)	6	1
Work-family puzzle works just fine	This somehow just rolls (M-OA)	3	7
Children do not slow down pace	It was no problem […]. You know, they were just dumped at [the kindergarten] at 9 a.m. and then picked up at 6 p.m. (M-OA)	0	4
Children slow down pace	Yes, it slowed me down. It slowed me down alright. (F-OA)	5	1
Work intensively during day to go home earlier	My workday is 7 h; it is not longer. Then, I'm just done, but I also work non-stop throughout the day. I eat in front of the computer and do not take coffee breaks. […] I finish early because we have had this [family] time between 4 and 8, which we think is important. (F-IA)	5	0
"Prioritizing is the key"	It is just the question of organizing yourself. (M-OA)	0	4
Guilt and/or doubt about management skills	Although the children are getting bigger now, it still has an impact on family life. You are not spending time with your family while you are here, but how else are you supposed to be able to finish the research work? I don't know. I don't know if I'm so unorganized or something. I don't get it. (F-IA)	7	1
Feeling that workplace embraces old-fashioned ideas	It becomes quite clear, you know, the culture of academia, this male culture. […] There were these colleagues of mine. They were hired at the same time as I […], and one of them immediately starts with this: "I was writing an article this weekend and just pulled an all-nighter." You know, that one! And you're just, "Wait a minute, are we 18? What kind of bullshit is this?" as if this was something positive. I knew he had just had a baby. I mean, what kind of family life is this? You know, bragging about it, but this is part of the culture. (F-IA)	8	2

Partners' earnings do not significantly influence the earnings of women. Because the explanatory value of the models is limited (R^2s between 0.03 and 0.10), we will bring more clarity to the matter by turning to the qualitative findings and examining the situation within the homes.

Qualitative Results

Tables 6, 7, and 8 contain a comprehensive representation of the central themes that emerged from the interviews with men (M) and women (F) working inside academia (IA) and outside academia (OA). These themes are summarized in more detail in the text.

The interviewees were all very conscious of time as a resource (Table 6). In terms of work hours, those who worked outside academia typically worked 40–50 hr a week. They commonly enjoyed a flextime of around 2–3 hr per day, which their workplace offered to promote a family-friendly environment. On the other hand, the academics enjoyed a very high level both of flexibility and autonomy, but at the same time, for most of them, their work hours exceeded 60 hr a week. Most of our interviewees, both inside and outside academia, mentioned flexibility and saw it as a convenient or even important factor in maintaining a certain work-family balance. The academics, however, spoke in more depth about it, referring to flexibility as one of the greatest advantages of their work because it gave them the liberty to have complete control of their own work situations. Nevertheless, despite the perks of flexibility, many of them also sensed the pressure of unregulated work hours and mentioned how flexibility can become a tool with which to increase working hours. The academics were also the ones who spoke mostly of work-overload and having experienced burnout.

When asked about their work-family balance, gender differences could be detected in the answers. The women more

Table 7 Representation of the main category: family responsibility, with its subcategories and illustration of quotes, together with the frequency of women (F) and men (M) mentioning these themes

Main category: Family responsibility		F	M
Subcategory: Childcare			
Interviewee main caregiver	In the beginning, with little kids, I always arranged my working hours so that I could be home relatively early. When my girl started kindergarten, she was never longer than until 3 p.m. [At one point], my kid did not get into the after-school care, and then, I quit at 1.30 p.m., but it also meant that I had little income. (F-OA)	5	0
Partner main caregiver	I admit, she carries a heavier load at home than I, although it is not a good story to tell. (M-IA)	0	6
Equal share in childcare	We just do it all together. I cook more, she takes care of the laundry; as for the kids, that we share equally (M-IA)	2	6
Society's expectations as a hindrance	You know, he was at this traditional male-dominated workplace […]. Even though he had small children, you know, they would just shake their heads over the fact that he was at home with a sick child. It was just like "what's wrong with you? Don't you have a wife?" (F-OA) I am the one who usually stays at home. However, it took the school a few years to get it, you know, to call me first instead of my wife. They always called her like 5 or 6 times before they even thought of calling me. I had to go there finally to tell them to always call me first. (M-IA)	3	1
Providing for the family	I just started to manage my time better. […] I think it just added to the sense of responsibility to have a child because you must provide. So, in truth, I worked a lot. (M-IA)	0	7
Complains from children when working to much	This is, of course, tiresome. Just yesterday, my daughter said, "Why are you going to work now? It's a holiday." You know, although she may be going to meet friends and stuff. And, yes, I hear this from my son too and, of course, from my husband sometimes as well. We have a mutual understanding, but still, sometimes, it's like this. (F-IA)	4	1
Subcategory: division of housework			
Interviewee does more	My ex-husband, I think he hardly ever cooked, maybe put the meat on the grill, […] and when I got divorced and started to barbecue myself, my girlfriends were like, "Wow, you've gotten so good at barbecuing! You just do it all!" Of course, I always did everything before, even though I maybe didn't put the meat on the grill." (F-OA)	5	0
Partner does more	Q: The division of labor, how is it there? A: It is natural (light laughter) (M-IA)	0	5
50/50	Generally, it is very evenly distributed. (F-OA)	4	4
Praising the partner	It's actually quite remarkable, […] it just works very well, and my husband is actually very diligent, you know. Well, if you can say that, 'diligent,' of course, he's supposed to. (F-IA)	3	0
Complains from partner when working to much	Sometimes, it can turn into a bit of a quarrel, you know, or maybe not a quarrel. You know what I mean. (M-IA)	1	4
"Depends on who you ask"	Phew! It probably depends on who you would ask (laughs). (M-IA)	0	3
Interviewee maintains communication with school/ overall planning	There are all sorts of other family issues that rather fall on women, not just the children but also the parents and various other things that you have to take care of […] there are just certain things that I must take care of, you know, take care of medical matters and all sorts of things like that. (F-IA)	7	1
Partner maintains communication with school/ overall planning	My wife takes care of all communication with the school and so on. (M-IA)	0	5

Table 7 (continued)

Main category: Family responsibility		F	M
Delegating tasks to partner	Somehow, it just progressed this way, but I also just had to say, "I cannot do it anymore. I cannot keep track of it all by myself." I was completely beat, had dropped all the balls. No one was arriving at the right time [after-school activities]. It was just all a big chaos (laughter). (F-IA)	3	0

Table 8 Representation of the main category: Decision making processes, with its subcategories and illustration of quotes, together with the frequency of women (F) and men (M) mentioning these themes

Main category: Decision making processes		F	M
Subcategory: Negotiation			
Negotiating time (neutral comments)	A very tiresome puzzle and complicated sometimes. Sometimes, you know, my wife robs time from me, of course, for necessary things, but then, you just have to realize that this is for all of us, you know, and that you just have to negotiate the time. (M-IA)	1	4
Negotiation of time in favor of the man	My wife has actually been with the kids for longer periods, and it was just a decision we made together. Whether it is maternity leave or just something else, we just have less income, but this is the way we wanted it. (M-OA)	5	5
Subcategory: Teamwork			
Team effort	Of course, this would never be possible if not for our teamplay. We have three children who all take time and that sort of thing. […] I am a workaholic, no doubt about that, and this would never be possible if not for my wife backing me up. If she was also working like crazy, this would not be possible. (M-IA)	6	4
Mutual understanding	We don't need to discuss those thing. Certain things are just done. (F-IA)	4	1
Subcategory: Choice			
	But I have seen many people around us who are in a similar position as the one we are in, you know, both highly educated and all that. Still, it is a very common choice that the women take on the bigger part of the domestic and family obligations. It is done consciously. […] I think that women, at least the ones around us, choose to do it this way. They still have their careers and everything. I mean, it is difficult to generalize, but often, people just turn a deaf ear to this so-called invocation of society that women are supposed to be doing more. Their choice to stay more at home is kind of being belittled in my opinion [hesitates], and it is their opinion too. (M-OA)	0	2

often expressed difficulties in terms of reaching a desired balance, and they seemed generally more stressed about puzzling it all together. The men, in contrast, more often stated that "this is somehow no issue really" or "this somehow just works fine," indicating that they were not as stressed about their work-family puzzle. When asked if having children had, at some point during their studies or career, slowed them down, five of the women stated that having children slowed them down, whereas the men were likelier to state the opposite. Also, five of the women mentioned that they worked intensively during the day to be able to go home earlier, whereas none of the men did.

Despite the fact that both men and women stated that time-management was essential to getting work done and balancing work and family life, we noticed a distinct gender difference in how they communicated. The way the men spoke indicated that they had more agency over their own time, with four of the men making statements such as "Prioritizing is the key to everything, it really is" or "It is just the question of organizing yourself." The women, however, did not seem to feel as if they were in charge of their own time to as great an extent. They would more frequently express feelings of guilt for not being able to manage their time in a manner they felt they were supposed to, and they struggled to keep up with their responsibilities at work or in the home.

Workplace culture was also brought up as challenging to the work-family balance, and women also experienced this as a hindrance to career progression. Ten of our interviewees, eight women and two men, mentioned that they felt their workplace embraced old, engrained masculine ideas that did not favor people with families and children. However, in light of how many women spoke negatively about their workplace cultures, it is probably safe to conclude that it is affecting women's careers and work-family balance more than those of men.

Many of our interviewees, particularly the younger ones, claimed to share childcare responsibilities and/or household obligations equally with their partners (Table 7). In situations where this was not the case, it was always the woman who took on the main responsibilities. When asked about their children and share of childcare responsibilities, quite frequently, the men would reflect on their concerns regarding the financial responsibility of having a family rather than elaborating on how they shared the caring responsibility with their partner. When the female interviewees expressed that they shared household and childcare responsibilities equally with their partners, it was often followed by praise or teasing, such as, "I'm very lucky. He is very well behaved." Three women also mentioned a certain point in their careers at which they were forced to delegate the family responsibilities more evenly to their partners due to either excessive workloads or health problems.

When asked about how their workload was received at home, the women mentioned how they received complaints from their children while working too much, whereas the men tended to mention their partners in that regard.

Although the interviewees spoke about sharing childcare and household work, it became quite clear that the women handled communication with their children's schools to a greater extent and maintained the overall planning regarding the children's extracurricular activities, doctor's appointments, and other arrangements around family life. Some of the interviewees also mentioned how society's traditional but often subtle expectations worked as a hindrance to sharing equally. The three women who mention this explicitly all had young children during the 1990s and early 2000s and were quite optimistic that societal expectations had shifted in a more egalitarian direction since then. However, the only man who spoke explicitly about his experiences did refer to a more recent struggle in which he tried to communicate to his children's school that he was to be made first-contact point and not his female partner.

Regardless of how extensively our interviewees believed they were sharing housework and childcare, it was common for them to discuss it in the context of "negotiation," "team effort," "mutual understanding," or "choice" between the partners. While it is clear that our participants do indeed negotiate their time and share of family obligations in harmony with their partners, the outcome still frequently turns out to be in favor of the men and their careers. The negotiations, team efforts, mutual understandings, and choice lead to a situation in which the men are able to work longer hours and, thus, expedite their careers, while the women continue to take on a greater share of the household and childcare responsibilities, leaving them with less time devoted to career making.

Discussion

In this article, we analyzed the career development of men and women doctorate holders in Iceland. The results reveal a gender pay gap among doctorate holders both 5 and 10 years after graduation, but with a considerably smaller wage gap within academia than outside of academia. Because the results are consistent with the gender pay gap that is observable within the general Icelandic labor market (Statistics Iceland, 2020b), the findings suggest that a PhD degree does not improve women's earning power well enough to reduce the gender pay gap. This is a disappointing outcome because much faith has been placed, in the literature, on women's education with regard to minimizing the gender pay gap.

Still, much can be learned from the outcomes of this study. The first set of research questions (R1 and R2) revolved around whether it was beneficial to obtain a PhD degree from a foreign country and if a gender difference could be observed in this context. Receiving a PhD degree from abroad was an asset to the PhD holders' earnings, but the effect diminished over time. An American PhD degree turned out to be the most beneficial for the earnings of doctorate holders, albeit to a larger extent for men than for women. What is more, much in accordance with what other feminist scholars have found (Ackers & Gill, 2009; Jöns, 2011; Le Feuvre 2020; Leemann, 2010; Moguérou, 2004), the married/cohabiting women in our study seemed less mobile than their male counterparts. Approximately one-third of them did not leave Iceland to obtain their PhDs. When they do go abroad, they most often headed for one of the other Nordic countries, with welfare systems and cultures that they were largely familiar with. In contrast, married/cohabiting men, akin to the singles, most often opted for PhD programs in the US. Considering that female PhD-holders in 2019 graduated in greater numbers from Icelandic universities than men (Reykjavik University, 2019; University of Iceland, 2019), it would be valuable for future studies to examine whether this mobility trend is becoming more gender-specific or not.

The second set of research questions (R3 and R4) examined whether family structures were having an impact on the wages of doctorate holders. We found that the variation in annual earnings in this study is mostly explained in terms of gender and only a small part can be explained by the effect of the variables in the model. The findings do suggest, though, that men and women go about family life and having children in different ways in order not to let it affect their earnings. First of all, because women are more likely to take longer child-related career breaks than men, it appears that they 'choose' to minimize these career breaks by having fewer children. The number of children does not seem to

affect men's careers in the same way, which would explain why they, on average, have more of them. Moreover, Iceland is known for its extensive paid parental leave and childcare facilities, which could, in the long run, subdue the financial effect of having children. At this stage, we are unable to confirm that a motherhood penalty exists among doctorate holders in Iceland, perhaps because, as Napari (2010) suggests, a quick return to the labor market (within 2 years) minimizes the effect the leave has on wages. We, therefore, conclude that a study focused on child-related career breaks is an important next step in studying gender-specific impacts on earnings of doctorate holders.

Moreover, the findings reveal that, for male doctorate holders, the annual earnings of their partners are associated with their own earnings, both 5 and 10 years after graduation, while this is not the case for female doctorate holders. What is more, the direction of the effect for men is positive, i.e., with every additional $1000 the partners earn, the male doctorates' earnings increase by ca. $150–$210. This finding stands in contrast to the notion of the breadwinner model and does not align with the results of Schneer and Reitman (2002), who found that male breadwinners have the greatest career successes. The high female workforce participation in Iceland (Statistics Iceland, 2021), being the highest among the OECD countries (OECD, 2020), may explain why the situation in Iceland is somewhat different. We argue that the direction of the effect is also reflected in the findings from the interviews, as well as in the findings from Pétursdóttir (2012). It has become clear from these interviews that, no matter how many hours the female PhDs or the male PhDs' partners work, it was rarely met with their partners' accommodation regarding working hours and never with them taking a part-time job. Thus, the findings indicate that, when women are working long hours, their partners may feel obligated to work even more to maintain the gendered power relation between them and their partners more traditional and in place.

The last research question (R5) revolved around how doctorate holders make sense of their employment and domestic decisions and the way they negotiate employment and family decisions with their partners. Although the participants expressed their experiences in quite gender-neutral terms, using words such as "team play" or "choice" to underline their equal status to that of their partners, it is clear that the women still bear the brunt of the responsibility for the home and handle the communication and responsibilities regarding the organization of everyday life in most cases. As Heijstra et al. (2013) argued, living up to society's gendered expectations may be easier than resisting them.

In conclusion, the study has revealed that, despite a relatively high level of gender equality (The World Economic Forum, 2020) and the rising educational levels among women, a gender pay gap among doctorate holders continues to exist. Considering the discourse around Iceland's success as a very progressive country and role model among nations with regard to gender equality, it is important to point out that the pay gap in this country is, under all circumstances, in favor of men. Women still only gain limited benefits from educating themselves as compared to men. Thus, we conclude that the widely accepted notion of women's education as a tool for closing the gender gap partly serves as a façade, behind which the more accepted, traditional gendered functions disappear. In such an environment, cultural habits, such as the traditional division of labor in the home, are more easily portrayed as individualistic choices or agreements between partners. Subsequently, the gender power divisions within the home stay in place, negatively affecting the careers and finances of women. By settling for this inequality, based on the argument that this is a deliberate choice made between partners, the next generation continues to grow up with inequalities within the home. We therefore encourage future studies to shed more light on how gendered power relations are produced and reproduced in close relationships between partners and within the home.

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Data Availability The data that support the findings of this study are available from Statistic Iceland. Restrictions apply to the availability of these data, which were used under license for this study. Due to the data being register data linked to the personal ID code system in Iceland it is only available after applying for it under strict privacy and ethical regulations of Statistic Iceland.

Code Availability Not applicable.

Declarations

Conflict of interest The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Article IV

The Gendered Context of Family Transitions and Earnings among Icelandic Doctorate Holders

Review of Economics of the Household (under review)

The gendered context of family transitions and earnings among Icelandic doctorate holders

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Availability of data and material
The data that support the findings of this study are available from Statistics Iceland. Restrictions apply to the availability of these data, which were used under license for this study. Due to the data being register data linked to the personal ID code system in Iceland it is only available after applying for it under strict privacy and ethical regulations of Statistics Iceland.

Abstract

Iceland has been ranked highly on different gender equality indices over the years. However, despite the ambitious goal of the Icelandic Government to fully reach gender equality, the gender pay gap prevails. Education is considered a key element in closing the gender pay gap. In Iceland, the percentage of female doctorate holders has been steadily increasing, yet little focus has been given to doctorates in terms of gender and earnings. This paper investigates earnings of doctorate holders in Iceland, focusing on how their earnings are influenced by gender and family transitions, such as childbirth and periods of parental leave. Relying on longitudinal register data as well as 32 in-depth interviews, we found not only that male doctorate holders earn significantly more than female ones but also that children have a positive impact on men's earnings; for women, however, children start to have a negative impact on their earnings 10 years after graduation. Moreover, the female participants in our study frequently mentioned how having children affected their study/career pace, whereas none of the men specifically discussed this issue. These findings underline that equality-promoting legislation, despite its contributing to changing norms and values, is not by itself enough to fully improve gender equality within the organisational environment of workplaces or the gendered power relations between partners.

Keywords: Doctorate holders; gender; (in)equality; gap in total earnings; child-related financial outcomes

1. Introduction

The number of doctorate holders has been increasing worldwide (Auriol et al., 2013; Boosten and Vandevelde, 2014; Gokhberg et al., 2016). For instance, the average rise in doctorate holders almost reached 40% between 2000 and 2010 in OECD countries (Auriol et al., 2013). In the past, more men finished doctorate degrees, but there are signs of this gender gap decreasing (Carter et al., 2013). Although doctorate holders are an important group for knowledge development and innovation, they remain an under researched group (Bloch et al., 2015).

In this article, we focus on gender equality in terms of total earnings among doctorate holders over time as their career move forwards. This topic is important, as higher education is assumed not only to empower women and improve gender equality (Casey, 2009) but also to be an important element in abolishing the gender pay gap (Blau and Kahn, 2017). A known rhetoric explaining why women tend to earn less or hold fewer top management positions than

men is that they are not as career driven as their male counterparts and tend to opt out of their career to take care of their families (Etzkowitz and Ranga, 2011; Hakim, 2011). However, doctorate holders can be assumed to be career-oriented people, regardless of gender, as they have spent many years building up their own educational career.

In this light, the study aims to investigate the total earnings of doctorate holders in Iceland who either have research careers within academia or careers in the public or private sector. The focus is on whether and how people's total earnings are influenced by gender and family transitions, such as childbirth and periods of parental leave, 5 and 10 years after graduation. Additionally, we analyse the gendered meaning and influence of having children and balancing work and family life.

In this context, Iceland is an interesting case, considering how highly the country has been ranked on different gender equality indices. For instance, Iceland has been ranked first on the Gender Gap Index since 2009 (The World Economic Forum, 2020) and the Economist glass-ceiling index also ranks Iceland first in gender equality in the world (the Economist, 2016). In public discourse and the media, Iceland is regularly portrayed as a gender equality paradise (see e.g., Hertz, 2016; Jakobsdottir, 2018; Kilpatrick, 2017; Tuttle, 2017), with Iceland's extensive paid parental leave and childcare facilities being brought up as evidence as well as the government's policy to facilitate extensive welfare systems that enhance the dual-earner family model (Leira, 2002). Iceland defines both mothers and fathers as active caregivers as well as employees, and for the last two decades, the government has provided nine months of parental leave: one-third exclusively for fathers, one-third for mothers and the remaining third for shared parental leave (Act on Parental Leave No. 95/2000). Moreover, the government has implemented an equal pay standard, aiming to abolish the gender pay gap in the country (Government of Iceland, 2017). Nevertheless, an unadjusted general gender pay gap of 14% still exists in Iceland (Statistics Iceland, 2020b), but whether or not a gendered pay gap (or in this case gap in total earnings) exists among doctorate holders has not yet been investigated.

The strength and the uniqueness of the study lies both in its data as well as its method. We utilise a mixed-method approach and take advantage of the rich longitudinal registry–based census data available in Iceland, counting the whole Icelandic population of doctorate holders, holding 5- to 20-year-old degrees in the fields of science, technology, engineering and mathematics (STEM) as well as social sciences and humanities (SSH). Additionally, to identify some of the more subtle mechanisms and systematic barriers when it comes to career advancement, we combine the register data with in-depth interviews, which can provide a more complete picture of this complex phenomena.

2. The gendered pay gap

Since the middle of the twentieth century, governments around the world have implemented a significant amount of legislation against gender-based discrimination (Caprile et al., 2011). However, covert forms of discrimination continue to prevail worldwide (Caprile et al., 2011; Das, 2015). They are often hard to detect, whereas they tend to thrive behind gender-neutral conceptions, which are rooted in the idea of the power of individual agency and the idea that gender equality has mostly been reached (Aiston, 2011).

The earning differences between men and women is, however, one of the most visible manifestation of gender discrimination in the labour market, even though a broad societal consensus seemingly exists concerning the importance of eliminating it. By 1951, the International Labour Organisation had already proposed the idea of 'Equal pay for equal work' at the Equal Remuneration Convention (no. 100) (International Labour Organisation, 1951). In 1957, the idea was included in the EU's Treaty of Rome, followed by the US's and UK's equal pay acts, which were passed in 1963 and 1970, respectively (Bridge, 1982). In 1961, Iceland passed its own law on equal pay for men and women, promising to fully reach gender equality by 1967 (Act on Equal Pay for Men and Women No. 60/1961).

Although the labour market participation of Icelandic women is one of the highest in the world and also the highest among women in OECD countries (81.% in the year 2019 compared to 86.2% for men) (OECD, 2020), they are nevertheless more likely to work part-time, as in 2020, women worked on average 36.7 hours a week, whereas men worked 43.5 (Statistics Iceland, 2021a). This difference reflects how women are still taking greater responsibility for the home sphere (Rafnsdóttir and Júliusdóttir, 2018; Thorsdottir, 2012), not unlike in other western context (Suitor, Mecom & Feld, 2001; Fetterolf & Rudman, 2014). Compared to other northern European countries, Icelandic men and women establish families and have children at a relatively young age, with the age of mothers at the birth of their first child being 28.6 in 2020 and men on average being two year older (Jónsson, 2017; Hognert et al., 2017; Statistics Iceland. 2021b).

3. Gendered outcomes of family status and children

Despite the sharp increase in women's educational attainment worldwide and the amount of legislation promoting equality between men and women, the gender pay gap still remains (Blau and Kahn, 2017; Gangl and Ziefle, 2009). In this context, studies show that family status and its different outcomes for men and women may account for a considerable part of the gender gap, whether in pay, wages, or total earnings and thus is commonly referred to as the

'motherhood penalty' (Cukrowska-Torzewska and Matysiak, 2020; Gangl and Ziefle, 2009; Gough and Noonan, 2013; Magnusson, 2010; Napari, 2010; Zhang, 2009). It is well documented that mothers earn less on average than childless women and men (Cukrowska-Torzewska and Matysiak, 2020). Although the results may vary depending on the sample and analytic techniques utilised in each study, Gough and Nooan (2013) estimated the gross motherhood penalty to be between 5% and 10% per child. In contrast, Bardasi and Taylor (2008) and Glauber (2008) showed that being married and having family as well as children usually has a positive impact on men's careers and earnings.

A Finnish study shows that the motherhood penalty significantly increased in terms of the length of the child-related career break. However, a quick return to the labour market minimises the effect: Mothers who return within two years of giving birth do not differ from non-mothers in terms of wages after the second year from the return to employment (Napari, 2010). Furthermore, Cools and Strøm (2016) found substantial wage penalties to motherhood in Norway. However, paid parental leave did not explain these wage penalties, indicating that the Norwegian institutional context, successfully protects mothers from adverse wage effects due to child-related career breaks.

Nevertheless, some researchers emphasise that the dual-earner family policy model, which is common to the Nordic countries, may actually have unintended paradoxical consequences, which are more likely to maintain the motherhood penalty and thus the gender pay gap in general (Halldén, 2009; Mandel and Semyonov, 2005). Comparing 20 countries, including the Scandinavian countries, Mandel and Semyonov (2005) argue that although the intended purpose of family-friendly policies is to facilitate women's employment and to protect their rights, the unintended influence of long absence from paid employment—as it disproportionately falls on women to use parental leaves—may result in reducing mothers' earning capacity by lowering their employment continuity and work experience. Thus, employers may be discouraged to hire mothers to highly paid, time-consuming managerial positions (Mandel and Semyonov, 2005). Empirical research on how the motherhood penalty is influenced by education has provided mixed results (Gough and Noonan, 2013). Amuedo-Dorantes and Kimmel (2005) found that the motherhood penalty for highly educated women to be smaller compared to more lowly educated women, whereas a study done by Anderson et al. (2003) found that medium-skilled women faced the highest penalty compared to both high school dropouts and college-educated women. In contrast to these findings, other researchers find highly educated women to suffer a larger motherhood penalty compared to others (Cools and Strøm, 2016; Wilde et al., 2010; Zhang, 2009). The reason for such mixed results for highly

educated women could be explained through the variation in job characteristics attributed to different types of jobs. For instance, working within academia, as Anderson et al. (2003) and Heijstra and Rafnsdóttir (2010) have pointed out, is likely to come with more flexibility to decide when and where to perform paid work, contributing to effectively being able to combine work and family while maintaining a high level of work commitment and productivity. On the other hand, managerial or top executive positions are likely to produce quite different outcomes, as they often demand constant availability as well as working non-agreement overtime, attending organisational meetings and assemblies outside regular hours and constant travelling (Magnusson, 2010).

Several theories explain the reasons for gendered financial outcomes of having children. One such approach is based on the human capital theory, suggesting that mothers earn less than childless women because they invest less in market human capital because of family responsibilities (Becker, 1991). Another and more recent theory by Hakim (2006, 2011) goes further in blaming the women, arguing that women choose to invest in the family rather than in a career outside the family, consequently resulting in less earnings. Yet other scholars argue that because women still bear the main responsibility for domestic obligations and childcare they are forced to spend more time out of the labour market to successfully accommodate their family's needs (Magnusson, 2010), which results in them having less accumulated work experience than childless women (Napari, 2010). Finally, with a particular focus on the workplace, Acker (1990, 2006) asserts that women face more constraints in balancing work and family life than men due to gendered cultural assumptions about men and women, which influence organisational structures and rewards in the workplace. Acker argues that organisational structures are based on theoretical assumptions of the 'ideal worker,' which require spending undivided time on work while having a significant other taking care of family obligations. Based on prior research and literature, we aim to extend the current knowledge by addressing following research questions:

1. Does having children and taking parental leave have a different effect on male and female doctorate holders in terms of their total earnings 5 and 10 years after graduation?

2. Are there any gendered patterns in how doctorate holders make sense of their lived experience of having children, taking parental leave and balancing work and family?

4. Data and Methods

The data are a part of a larger ongoing Nordic research project called NORDICORE, which aims to study the mechanisms producing, maintaining and changing gender inequalities within research and innovation in Iceland, Norway and Sweden.

4.1. Participants and Procedure

For this study, longitudinal individual register data from Iceland between 1997 and 2017 were employed. Through the data, we identified all individuals who in 2017 held 5- to 20-year-old doctorate degrees in the fields of science, technology, engineering and mathematics as well as social sciences and humanities and who were at some point during this 20-year period active in the Icelandic labour market (N =814).

Furthermore, from that same pool, 32 individuals were interviewed. The interviewees were evenly distributed across gender and career choice (within/outside academia). The semi-structured qualitative interviews were conducted between March and June 2018 and lasted between 40 and 80 minutes. The interviewees were between 38 and 63 years old. The ones working within academia either held assistant, associate or full professor positions, while 11 of the participants working outside of academia occupied management positions. Only one of the interviewees was employed part-time. Most of the interviewees were parents (12 women and 15 men) with children in the age range of infants to a little over 30 years. Four women were classified as single parents but none of the male interviewees. The women outside academia had, on average, 2.1 children, whereas the men had 1.8 children. Within academia, the women had 1.25, and the men had 2.75 children.

To protect the anonymity of our interviewees, we have used fictional names and have made slight adjustments to their biographies.

4.2 Measurements and analysis

A convergent design was used, in which the qualitative and quantitative methods were predetermined and planned at the start of the research process. The strands were kept independent during the analysis but integrated in the writings, which is commonly referred to as interpretation integration (Creswell and Clark, 2018).

For the qualitative phase, the interview guide was pre-determined by the NORDICORE group and thematically structured around recurrent themes from the existing literature. The aim was to explore the participants' perceptions on career path possibilities and constraints as well as how various family elements, such as having children and running a household, were

influencing or had influenced their choices and decision making throughout their careers. We used a phenomenological approach, as it enables the researcher to examine in-depth lived experiences from everyday life and, by doing so, come closer to understanding what meaning people put into everyday life (Van Manen, 2016). The phenomenological approach was used as a tool to analyse the interviews using three analytical steps: description, reduction and interpretation (Orbe, 1998).

In the quantitative phase, we examine the population data (N=814) by descriptive analysis and OLS regression analysis (Field, 2013). The dependent variable is the measure of total earnings in US dollars (USD; converted from Icelandic krona [ISK]). US dollars were used, as international readers can better associate with US dollars than Icelandic krona. Total earnings include wages and other work-related income such as vehicle subsidy, per diem allowances and other benefits. In addition, remuneration and earnings from abroad, other than capital income are calculated as part of total earnings. However, study and research grants count as capital income and are therefore not part of total earnings. The outcome variable was derived by first taking the average annual amount of each year in ISK and adjusting it to May 2020 amount, using the Wage index (Statistics Iceland, 2020a). Finally, the index-adjusted amount was converted into USD by applying the USD/ISK rate of that same month. For a more detailed look at the variables used in the analysis, see Table 1.

Table 1 *Variable description*

OLS regression analysis		
Dependent variables	Log- Total earnings 5 years after graduation in USD Log- Total earnings 10 years after graduation in USD	
Independent variables	Female	Female (1) vs Male (0)
	Children	Number of children
	Parental leave	Parental leave in days
	Female*children	Interaction btw. gender and number of children
	Female*days	Interaction btw. gender and no. of days in parental leave
	Age	Age
	Partnered	Partnered (1) vs single (0)
	Abroad during that year	Missing from Icelandic labour market that year
	Parental leave that year	Days taken in parental leave that year
	Academia	Withing academia (1) vs outside (0)
	STEM	STEM (1) vs SSH (0)

5. Findings

5.1 Quantitative Results

Table 2 shows how the number of male and female doctoral graduates is distributed between employment within academia versus other businesses 5 and 10 years after graduation. The table shows that five years after completing a doctoral degree 45.8% of the women work within academia, whereas 42.6% of the men do the same. Of those women who in 2017 had reached a career of 10 years, 50% worked within academia, whereas the proportion among men stayed the same between years, with the majority working outside academia.

Table 2 *Descriptive statistics. Doctorate holders at different career points (5th, and 10th year after graduation)*

	Female		Male	
	T5	T10	T5	T10
Academics (%)	45.8%	50.0%	42.6%	42.6%
STEM	41.6%	40.8%	59.0%	60.4%
Average no. of children	1.12	1.18	1.30	1.45
Average age	42.2	45.9	39.8	44.1
Parental leave since completion	20.2%	29.1%	15.6%	29.4%
Total number of days on parental leave	202	256.9	97.3	113.3
Parental leave that year	4.3%	0.0%	6.3%	2.7%

Furthermore, table 2 reveals that the minority of women graduated from a STEM field (41.6% and 40.8%) whereas the opposite is true for the men (59% and 60.4%). Observing the average number of children of doctorate holders, we see that men have more children (1.3 and 1.5) than women (1.1 and 1.2). Furthermore, we also see that not only do men have more children, but the gap between men and women further expands as their career moves forwards. At graduation, women are on average older than their male counterparts, which holds true throughout all career stages (for women 38.2 to 45.9 years old compared to 35.8 to 44.1 for men). Moving to the parental leave, the table shows that five years after graduation, 20.2% of the women had already taken some parental leave, whereas only 15.6% of the men had done the same. However, 10 years after graduation, the proportion of men (29.4%), who at that point had taken some parental leave, surpasses that of the women (29.1%). The men, in contrast, take many fewer days off for parental leave than women.

Finally, a slight gender difference can also be detected regarding the parental leave taken at each career point. The percentage among the women decreases between career points, going from 4.3% of them taking parental leave five years after graduation down to 0% five years later. Although the percentage among the men decreases between the last two career points, 2.7% of them are still taking parental leaves 10 years after graduation.

Table 3 *Descriptive statistics. Total annual earnings of doctorate holders the 5th and 10th year after graduation measured in median value as well as the lower and upper quartile values*

	Median	**Lower**	**Upper**	**n**
Year 5				
Total	86,710 USD	83,420 USD	90,488 USD	659
Female	74,752 USD	70,732 USD	80,525 USD	290
Male	95,822 USD	91,980 USD	100,563 USD	369
Academics	87,517 USD	83,530 USD	90,681 USD	274
Outside academia	90,140 USD	83,951 USD	96,506 USD	344
SSH	83,608 USD	79,920 USD	89,846 USD	337
STEM	89,343 USD	85,363 USD	93,667 USD	322
Year 10				
Total	94,327 USD	90,163 USD	97,671 USD	449
Female	84,302 USD	78,861 USD	88,492 USD	177
Male	101,372 USD	97,635 USD	106,709 USD	272
Academics	97,827 USD	90,754 USD	105,442 USD	203
Outside academia	92,786 USD	89,428 USD	95,943 USD	235
SSH	90,028 USD	85,252 USD	94,272 USD	215
STEM	98,607 USD	95,052 USD	104,145 USD	234

Table 3 presents the median value as well as the lower and upper quartile values of the doctorate holders' annual total earnings 5 and 10 years after graduation. As mentioned earlier, the total population in the dataset is 814 individuals, all of whom were active on the Icelandic labour market at some point between 1997 and 2017. The reason Table 3 presents a smaller *N* than that at both career points is twofold. For the 5th year after graduation, the reason is mostly due to the population's international mobility, as people drop out of the register when they move out of the country. In addition, the doctorate holders who graduated between 2009 and 2013 had not yet reached a 10-year career in 2017 and are thus not included in the 10th year calculation.

Moving to the description, the table shows that men consistently earn more than their female counterparts at both career points under scrutiny ($T5_{Female}$ \$84 compared to $T5_{Male}$ \$101, a 22% difference, and $T10_{Female}$ \$75 compared to $T10_{Male}$ \$96, a 17% difference). Furthermore, wages increase by the time people reach their 10th career year independent of gender, field of study or employment, within or outside academia. Turning to employment both within and outside academia, the table shows that five years after graduation, people working outside academia are better off financially than the ones working within academia. However, 10 years after graduation, the tables have turned: academics become better off financially than the ones working in other businesses. Finally, the table reveals that having graduated from a STEM field is financially more beneficial compared to having graduated from an SSH field, 5 years after

graduation. Not only do STEM-graduates keep on being better off financially 10 years after graduation, but the earning gap between STEM and SSH graduates increases further.

Table 4 *Hierarchical OLS regression analysis. The association of family status and parental leave and employment (within or outside academia) with the total annual earnings five years after graduation. P-value is in brackets.*

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	11.289(.000)	11.142(.000)	11.168(.000)	11.679(.000)	11.761(.000)
Female	-0.240(.001)	-0.193(.007)	-0.252(.015)	-0.194(.049)	-0.235(.006)
Children		0.115(.000)	0.104(.010)	0.001(.978)	-0.108(.620)
Parental leave (days)		-0.001(.151)	-0.001(.235)	-0.002(.053)	-0.001(.320)
Female*children			0.038(.574)	0.023(.714)	0.046(.393)
Female*days			0.001(.644)	0.001(.581)	-0.001(.621)
Age				-0.014(.001)	-0.014(.000)
Partnered				0.399(.000)	0.263(.000)
Abroad during that year				-0.996(.000)	-0.927(.000)
Parental leave that year				-0.144(.279)	-0.126(.254)
Academia					0.085(.141)
STEM					0.042(.503)
n	659	659	659	659	618
DF	1	3	5	9	11
R^2	0.0179	0.0371	0.0383	0.1581	0.1567

Table 4 shows hierarchical OLS regression results for the association of family status and parental leave as well as employment with the total annual earnings five years after graduation. Model 1 shows that women earn on average 21% less than their male counterparts five years after graduation $(1 - Exp\left(b_{female}(-.24)\right) = .21)$. In model 2, both the number of children and the total number of days taken in parental leave since graduation have been included. Introducing these variables to the model increases the R^2 from .018 to .037 and reduces the gender gap in total earnings by 4 percentage points (pp) $(.21 - \left(1 - Exp\left(b_{female}(-.19)\right) = .04\right)$, or 19%. Model 2 reveals that each additional child has a positive impact on people's total earnings when gender and parental leave in days are held constant. Parental leave in days however has a non-significant impact on people's total earnings. To see if the number of children and parental leave in days have different effects on women specifically, two interactions—one between gender and number of children and another between gender and

number of days in parental leave—were included in model 3. Neither of the interactions showed a significant effect. However, by introducing those two variables into the analysis, the gender gap in total earning increases again by 5pp $\left(1 - Exp\left(b_{female}(-.25)\right) = .22\right) - .17 = .05)$, or 23%, and the positive affect of having children decreases slightly. Four additional variables were introduced to the analysis through model 4. Starting with the age, the table reveals that an older age at graduation does not work in people's favour, as a 1.4% reduction to people's total earnings comes with each additional year. Although in this case gender has been held constant, it likely still plays a role in the direction of this relationship, as women on average are older compared to men when they graduate (see Table 2). Being partnered compared to being single comes with a 49% earning increase on average. Parental leave in days, taken during the fifth career year, does not have a significant impact on people's earnings. Introducing these variables to model 4 increases the R^2 from .038 to .158 and reduces the gender gap in total earning again by 4pp or 18%. Moreover, the positive effect of having children now becomes non-significant, whereas the negative effect of parental leave taken in days since graduation becomes marginally significant. Two additional variables were introduced to the analysis through model 5. The additional effect of working within academia compared to other businesses shows no significant effect on people's total earnings, nor does graduating from a STEM field compared to an SSH field.

Table 5 *Hierarchical OLS regression analysis: The association of family status and parental leave and employment (within or outside academia) with the total annual earnings 10 years after graduation. P-value is in brackets.*

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	11.387(.000)	11.191(.000)	11.128(.000)	13.014(.000)	13.196(.000)
Female	-0.282(.003)	-0.215(.033)	-0.054(.703)	0.060(.647)	0.051(.672)
Children		0.135(.003)	0.191(.000)	0.044(.424)	0.025(.615)
Parental leave (days)		-0.000(.505)	-0.001(.322)	-0.002(.052)	-0.001(.062)
Female*children			-0.208(.039)	-0.265(.004)	-0.153(.058)
Female*days			0.001(.215)	0.002(.103)	0.001(.403)
Age				-0.041(.000)	-0.042(.000)
Partnered				0.337(.005)	0.280(.013)
Abroad during that year				-1.402(.000)	-1.232(.000)
Parental leave that year				-0.441(.140)	-0.504(.215)
Academia					0.101(.215)
STEM					0.051(.564)
n	449	449	449	449	438
DF	1	3	5	9	11
R^2	0.0199	0.0357	0.0514	0.2165	0.2093

Table 5 shows the hierarchical OLS regression results, analogous to that of Table 4, but this time the dependent variable is the total annual earnings 10 years after graduation. Starting with model 1, the table shows that women earn on average 24% less than their male counterparts 10 years after graduation $(1 - \mathrm{Exp}(\mathrm{b}_{\mathrm{female}}(-.28)) = .24)$., which results in a 3pp gender gap increase in total earning between career stages (see Table 4). Model 2 adds both the number of children and the total number of days taken in parental leave since graduation, which increases the R^2 from .020 to .036; it also reduces the gender gap in total earning slightly. Like five years earlier, each additional child has a positive impact on people's earnings 10 years after graduation, whereas the total days taken in parental leave since graduating has a non-significant effect. In model 3, the gendered effect of having children and having taken parental leave has been added to the analysis. Although the effect of having children is positive, when gender has been held constant, the opposite becomes true for women specifically. For women, each additional child at this career stage reduces their total earnings by 2pp $(\mathrm{Exp}(\mathrm{b}_{\mathrm{children}}(.191) - 1) + (1 - \mathrm{Exp}(\mathrm{b}_{\mathrm{female*children}}(-.208)) = .02))$, or 9.5%. Total parental leave, in contrast,

shows no significant effect. By introducing these interaction factors to the analysis, the gender gap in total earning becomes non-significant. However, the R^2 increases from .036 to .051. In model 4, the analysis reveals that the older people were at graduation, the lower their total earnings are on average 10 years later. Comparing this to five years earlier (see table 4), one can see that the negative effect of age becomes even greater 10 years after graduation, with a 3pp, or 66% reduction to people's total earnings. Being partnered compared to being single now comes with a 40% earning-increase on average ($\mathrm{Exp}(b_{\mathrm{partnered}}(.337) - 1) = .40$). Parental leave in days taken during the tenth career year does however not have a significant impact on people's earnings. Introducing these variables to the analysis increases the R^2 from .051 to .217. However, by adding the variables, the positive effect of having children becomes non-significant, whereas the negative effect of parental leave taken in days since graduation becomes marginally significant. Moreover, the gender pay gap remains non-significant. Two additional variables were introduced to the analysis through model 5. The additional effect of working within academia compared to other businesses shows no significant effect on people's earnings, nor does graduating from a STEM field compared to an SSH field.

5.2 The impact of having children on the career pace

The impact of having children often came up during the interviews, and through our conversations, we also noticed a certain gender difference regarding the way they talked about this impact, especially in terms of their study and career pace.

The women in our study frequently mentioned how having children and establishing a family affected their study or career pace. "Of course, it slows down your career. I see it for example here you know, it's hard when women leave for a long period of time from work." said Esther, a manager in a firm when asked about the matter. Esther also mentioned how having her own children slowed down her study pace, as she had her two children during her doctoral studies. Similarly, Anna, an academic and mother of two children, reflected on her prolonged study period, during which time she was having children and establishing a family:

> Right before I finish my master's degree, I had my oldest child. And suddenly, of course, you find yourself in this whole family thing. So as I'm starting my doctoral studies, I'm also running a family, and it took me quite a while to finish because I was just also having children in the meantime. I also had to teach a lot just to be able to, you know, have enough for me and the family. That is why this took so long.

As with the female interviewees, the males in our study also sometimes struggled to balance their work and family life, and in some cases, they expressed frustration toward their workplace's lack of consideration regarding its employees need for proper work-family balance and that having children also demands time. Elvar, an academic and a father of three children, mentioned his disappointment with his workplace:

> I feel having a family is never considered. I had small children at the time, […] I always delivered, but I never got any plus for it. I mean I was not working during evenings with my child so small, but that is not taken into account.

However, none of our male interviewees articulated specifically that having children had at any point slowed down their study or career pace, and when asked specifically about it, they more often than not explained how they had to start working even more than before in order to be able to provide for their family. Ólafur, an academic and a father of two children, explained how he felt he became more focused in his studies and started to manage his time in a more responsible manner without working any less:

> Surprisingly, you kind of just become more focused and more effective in your work—that is, I became more effective in research and my writing. You know, I just started to manage my time better. I reduced the time I hung out and chatted with colleagues without, of course, completely isolating myself or anything. I think it just added to the sense of responsibility to have a child because you must provide. So, in truth, I worked a lot. I had received a full scholarship, but I still needed money because the childcare services, for instance, were so expensive. I mean, I worked a lot.

Many of our male interviewees spoke in the same manner. In fact, as compared to the female interviewees, the men reflected much more on the concerns they have regarding their financial responsibility of having a family rather than elaborating on how they shared the caring responsibility with their partners.

5.3 Changes in norms and attitudes following the new law

A little less than half of our interviewees had their first child before fathers received their own paternal leave. They especially mentioned how they felt these changes had a comprehensive impact on the societal norms and attitudes towards the role of both mothers and fathers in the home as well as in the workplace. Many of the older interviewees mentioned how they themselves or their partners met with a lack of understanding when they tried to go home sooner or take days off to care for their children. Thanks to the paternal quota, this kind of attitude

changed. Ásta, an academic and mother, spoke about how she felt the changes affected societal norms and attitudes:

> The paternity leave itself is just one thing. The other thing is how the cultural norm regarding all this changed by making the fathers responsible from the very beginning. […] I remember one time when my husband came home from work, and this colleague of his had said to him: '*Wait do you have to go sooner? Don't you have a wife?*' This is 1995 you see. I don't know if you still find attitudes like that, but I think that along with the paternity leave also came changes in norms and beliefs.

In line with this, another interviewee reflected on how the paternal quota gradually changed his own personal view on the matter. Svanur, an academic, spoke about how he became uneasy by the mere idea that his PhD students would possibly have to take parental leave but added that he long since realised that having children was 'just part of life' and that the students do return afterwards. He also mentioned his own regret over not having used his own paternity leave, which led him to urge his PhD students, especially his male ones, to take advantage of their right for paternal leave:

> I mean the first baby we had, I didn't take a paternity leave, but then with the second baby, I took two months, but then I had to get back to work because, of course, I'm so important [laughs sarcastically]. But now I really regret not having taken the whole three months. Now I tell all my male [PhD] students, 'Just take your whole parental leave!' It is important because the time you get will never come back.

It is quite clear that most of our male interviewees who had babies after the changes did take advantage of their new rights. However, most of them only used exactly as many–or fewer–days than their basic rights provided. One of the male interviewees, however, did mention that he took six months with his first child, whereas two female interviewees mentioned that they either shared the time equally with their partner or that their partner took a greater share of the parental leave.

6. Discussion and conclusion

This article aimed to investigate the earnings of doctorate holders in Iceland, both working within and outside academia. A particular focus was put on the gendered influence of family transitions, such as childbirth and periods of parental leave both 5 and 10 years after graduation,

as well as the gendered lived experience of having children and having to balance work and family.

The findings reveal a gender gap in total earnings among doctorate holders both 5 and 10 years after graduation, ranging from 17 to 24%. The findings suggest that a doctorate degree does not strengthen the situation of women enough to diminish the pay gap or in this case the gap in total earnings.

The first research question revolved around whether having children and taking parental leave have different effects on men and women, comparing their total earnings 5 and 10 years after graduation. Our data show a clear gender pattern both in terms of earnings and demographics. Not only do women have fewer children on average compared to men, but men are also having children further into their career, resulting in the gendered difference in the number of children becoming greater as people's career moves forwards. It should be noted that the men in our data are on average two years younger at graduation than the women, which might partly explain why they are having children further into their careers.

However, women are also the ones who take considerably more days off for parental leave (144 more days). This could indicate that women 'choose' to minimise these career breaks by having fewer children. Despite this, each additional child has a positive impact on men's earnings, both 5 and 10 years after graduation, whereas for women, each additional child starts to have a negative impact on their total earnings 10 years after graduation. Based on our quantitative data, we do not know why this is the case 10 but not 5 years after graduation, but we believe the explanation might be the accumulated effects of having to bear the main responsibility for domestic obligations and childcare. There are several things which support that interpretation. First of all, we argue that the reality of unequal share regarding domestic obligations and childcare is well reflected in the findings from the interviews. Moreover, as shown in Table 4 and 5, the parental leave itself does not seem to be, on its own, at fault here, as days taken for parental leave did not show a significant effect on total earnings for men or women. The reason could perhaps be, in line with Cools and Strøm's (2016) argument, that the Icelandic institutional context, like the Norwegian one, successfully protects mothers from adverse wage effects due to child-related career breaks. Also, as Icelandic mothers still return relatively quickly to the labour market, which in line with Napari's (2010) findings minimises the negative effect on women's earnings. A potential reason for this negative impact for each child could be that mothers are paying the price for not fitting into the theoretical assumption of the 'ideal worker' (Acker, 1990, 2006).

We argue that it would have been very interesting to look into whether employment within versus outside academia would have a moderating gendered effect in terms of total earning due to having children or taking parental leave. Because working within academia is characterised by flexibility and autonomy, which could possibly contribute to better enable a balance between work and family (Anderson et al. 2003; Heijstra and Rafnsdóttir, 2010). However, due to the issue of a small-N (a complication that unfortunately is part of researching small nations), we judged such an addition to our analysis to be an overfit. Thus, we encourage future studies to look further into this distinction.

Finally, the second research question revolved around how male and female doctorate holders make sense of their lived experience of having children, taking parental leave and balancing work and family, and if any gendered differences could be found in that context. Indeed, we found gendered differences regarding how people discussed these matters. This became especially clear when asked about the impact of having children on the study and career pace. The women frequently mentioned how having children and establishing a family affected their study or career pace, whereas none of the men articulated specifically that having children had at any point slowed down their study or career pace. In fact, the men were more focused on concerns regarding their financial responsibility of having a family and more often talked about how they started working even more than before to be able to provide for their family rather than elaborating on how they shared the caring responsibility with their partners. This suggests that although the Icelandic state has for years consciously facilitated the dual-earner family model (Leira, 2002) and gender equality in the labour market, some aspects of the breadwinner model still prevail beneath the surface.

7. Strengths, weaknesses and contribution

The strength of the study lies both in its data as well as its method. The study is based on rich longitudinal registry-based census data counting the whole Icelandic population doctorate holders with 5- to 20-year-old degrees in the fields of science, technology, engineering and mathematics as well as social sciences and humanities, combined with in-depth interviews with individuals from the same pool. We believe that combining both quantitative and qualitative methods compensates for their overlapping weaknesses.

However, it should be mentioned that our findings on the gendered gap in total earnings among doctorate holders have the disadvantage of not having been adjusted in terms of different working hours of men and women (e.g., part-time vs. full-time), occupational

status/responsibility or public vs. private sector. Regardless of their strengths, our data did not offer this information. If we had been able to adjust for this information, we would have pointed out, as did Rubery, Grimshaw and Figueiredo (2005), that the measured differences in characteristics between men and women reflect the widespread processes of discrimination within the labour market and cannot be entirely attributed to free choice, independent of social norms or the organisation of employment structures around male norms. Thus, we take stand in the theories of Magnusson (2010) and Acker (1990, 2006) on the importance of cultural assumptions about women and men in organisations and families rather than Hakims' (2006, 2011) preference theory.

Furthermore, it is important to point out that although we aspire to reinterpret the interviews in the manner truest to what the interviewees said and meant, it is still a reinterpretation. Moreover, the interviews were conducted by two women, which possibly influenced how the interviewees talked about gender.

The main contribution of the study is that despite the relatively high level of gender equality (The World Economic Forum, 2020) and the rising educational level of women in Iceland, a gender gap in total earnings among doctorate holders continues to exist. In addition to the gendered discourse in our interviews regarding the impact becoming parents can have on a career, this finding shows that claims about the power of women's higher education to abolish the gender pay gap is unfortunately not true. It further underlines that equality-promoting legislation and policy changes—despite some of them indeed contributing to changing norms and values, such as paternal quota and joint parental leave—do not automatically, or in their own power, abolish gender inequality within the organisational environment of workplaces or the gendered power relations in close relationships between partners, which might affect women's possibilities for promotion. Thus, we argue that the struggle towards equal pay needs more than macro-level policy changes to succeed. The gendered theoretical assumptions rooted in traditional beliefs about the male 'ideal worker' and the 'breadwinner' must be thoroughly critiqued and challenged (Acker, 1990, 2006), as these assumptions still seem to prevail beneath the surface.

We hope that future studies in countries with relatively high levels of gender equality on the macro level will be able to shed further light on possible barriers within institutions and families that still hinder female doctorate holders' advancement whether within academia or outside.

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7 Discussion of Findings and Conclusions

As mentioned in the introduction to this study, I was briefly introduced to the life of an academic through my participation in research projects at the Department of Sport- and Health Sociology at the University of Potsdam, Germany. When one moves to another country, one often experiences new things that are perhaps different from what they are used to from the home country. I found myself often comparing my experiences in Germany to what I knew from Iceland. Therefore, when I started working at the Department of Sport- and Health Sociology and saw how precarious the work situation within the academia was, I could not help but sometimes wonder whether Icelandic academia would somehow possibly differ from the German one. At the time, I had no experience of working within Icelandic academia.

Having been part of Icelandic academia for four years now as well as through my readings, I think I can safely state that the two academic systems do differ. Especially, reading the study by Le Feuvre et al. (2018) helped me put a finger on the differences I had experienced. Le Feuvre et al. (2018) put Germany and Iceland in separate groups in terms of national academic career models. According to the study, Iceland has increasingly adopted the *tenure-track model*, a model which is based on an early competitive selection of young doctorate holders, among whom a few are offered a temporary tenure-track position. At the end of the period, a decision will be made regarding whether they have met the requirements for a tenured position. “This model is characterized by an “up or out” selection procedure, whereby those who fail to meet the requirements for tenure within the allocated duration are expected to leave the institution and to seek employment elsewhere” (Le Feuvre et al., 2018, p. 60). In Germany, however, the *survivor model* is especially prevalent. In this model, after people receive their doctorate degrees, if they desire an academic career, they must wait many years to obtain a permanent position. Only one or a

few candidates have the chance to "survive"; they have to overcome a lengthy period of selection and hard competition.

> In the survivor career model countries, one would expect precariousness to appear under rather different guises than under the tenure-track model. Aspiring academics are likely to accept extremely short-term, part-time, low paid forms of academic employment, sometimes in combination with equally unstable or unpredictable jobs outside of academia. The ultimate aim of these so-called 'crumb jobs' is simply to enable prospective academics to 'keep a foot' (or toe) in the academic labour market long enough to build up (essentially, in their own time and with their own funds) a research and teaching portfolio that could one day qualify them for a permanent academic position (Le Feuvre, 2018, p. 63).

The description of the survivor model is very much in line with what I experienced. Although the Icelandic academic career system can also be a precarious work environment, especially during PhD studies and early career-making (Steinþórsdóttir, 2019), there is still evidence that the opportunity to become a full professor for both men and women is greater in Iceland than in Germany. This can be seen in the numbers from 2013, showing that of all academic staff in Iceland, 45.6% of men and 27.5% of women were full professors, whereas the proportion was 8.3% of men and 2.9% of women in Germany (Feuvre et al., 2018). Based on studies and my personal experience, I am now more convinced that the dual-earner family model does facilitate better opportunities than the modified breadwinner model for women who both have families and a career. I also think it is pivotal that fathers in Iceland now get their own six months of parental leave and that women have the opportunity to return to the labor market relatively quickly as children in Iceland get to go to kindergarten between the age of 12 and 18 months instead of three years old, as it is in Germany. However, I do realize that this is not necessarily how many women in Germany would see it. I can remember how some female friends/colleagues of mine almost gasped for breath when they heard that the 'poor children' in Iceland were sent off to kindergarten this early, and some of

them immediately made a negative mental connection to how it was in the former DDR (East-Germany). In such instances, I sometimes thought of the Icelandic saying: *Sínum augum lítur hver á silfrið*, which roughly translates as *each evaluates/appreciates things their own way*.

In this last chapter of the dissertation, I will discuss the overall study by reflecting on the primary research findings against the background of the existing literature and theoretical framework. First, the discussion will revolve around the wage inequality among doctorate holders. This will be followed by the discussion on the interplay between the home sphere and career-making with a special focus on feminist time theories. Subsequently, I will turn my focus toward the organizational culture of workplaces by reflecting on the ideology of meritocracy and how it, in Gramsci's terms, has been "negotiated" as gender neutral. Finally, I will end this section by summarizing the overall conclusions and the contribution of the dissertation.

7.1 Wage Inequality Among Doctorate Holders

The aim of this dissertation was to investigate the possible gender inequalities in career-making and earnings among doctorate holders in Iceland. A special focus was placed on the manner in which factors such as gender, family status, and societal gendered norms (for instance regarding time use) play a role concerning the doctorate holders' work–family balance and consequently their career development and earnings over a period spanning up to 20 years.

One of the main outcomes of the quantitative data analysis is the continuous gender earning gap among doctorate holders at all timepoints under scrutiny. The gender gap in total earnings was shown to range from 17 to 28%. This suggests that a doctorate degree does not strengthen the situation of women enough to mitigate the pay gap (or in this case, gap in total earnings), which is a very disappointing outcome, especially considering the faith that has been placed, in the literature, on women's education with regard to minimizing the gender pay gap. Findings indicating a gender pay gap among doctorate holders are not new. Research on the gender pay gap have, for instance, been

conducted in Italy, Belgium, Denmark, US, and Canada (Alfano, Cicatiello, Gaeta, & Pinto, 2019; Gaeta, Lubrano Lavadera, & Pastore, 2018; Levecque, Baute, Van Rossem, & Anseel, 2014; Pedersen, 2016; Waite, 2017; Webber & Canché, 2015). None of these studies, however, apply population data as this research does. The utilization of population data that includes all doctorate holders highlights how widespread the problem of the gender pay gap is, and points to the fact it is not confined to only academia or a few institutions/work organizations. Furthermore, the Icelandic context provides a unique setting, as the country is considered to be further along than other countries when it comes to gender equality.

The assumption that education is one of the key drivers in bridging the gender pay gap is widely accepted (Blau & Kahn, 2017; Casey, 2009; Bobbitt-Zeher, 2007). However, it has been pointed out by scholars that the gender wage gap among doctorate holders varies significantly by field of study and occupation (Bobbitt-Zeher, 2007; Casey, 2009; Ochsenfeld, 2014; Waite, 2017) and that the interacting effect of gender-essentialist ideologies and self-expressive value systems, which create opportunities and incentives for the expression of "gendered selves," can be vital in highlighting why gender segregation of academic fields and occupations persist, even in the most liberal-egalitarian of contexts (Charles & Bradley, 2009). The expression of gendered selves could to some extent explain why legislative solutions have not been entirely effective, as it is more difficult to legislate equitable selection into fields of study than it is to legislate equal pay for equal work. However, in this context, Iceland provides another unique setting because as the quantitative data of this dissertation suggest, that although the STEM fields are quite male dominated, the number of women graduating from STEM fields has increased over the years. The youngest graduation cohort (i.e., people who graduated between 2010 and 2013) was much more gender balanced than the older ones; 44% of the STEM graduates were women. This trend has been growing over the last few years so that unlike in many other countries, the number of women

graduating from universities in Iceland has exceeded that of men at every level, PhD included not only in SSH fields but also many STEM fields (Reykjavik University, 2019; University of Iceland, 2019). Observing this trend with Risman's (1998, 2004, 2013) lens of gender as a structure, one could question if perhaps women and girls in Iceland have progressively had different and perhaps more egalitarian schemas and resources to draw from, than in other liberal-egalitarian context, in order to realize their agency. However, greater number of women in traditionally male-dominated fields does not necessarily have to translate immediately and by itself to gender-essentialist ideas—that for a long time have shaped different fields of study—being eradicated. This trend should, however, receive close attention to check whether this increase in the number of women graduating from STEM fields is the possible influence of gender-essentialist ideologies having become less dominant within the Icelandic context, and whether it will translate to a decrease in the gender pay gap. Because, as both the quantitative and the qualitative part of this research clearly underlines that increased overall educational attainment and public policy aiming for gender equality is not sufficient if the deeply embedded gendered cultural values and ideas in society are not tackled as well.

Another interesting factor associated with the fact that female doctorate holders are now graduating in greater numbers from Icelandic universities than men is the aspect of international mobility. In accordance with what other feminist scholars have found (Ackers & Gill 2009; Jöns 2011; Le Feuvre 2020; Leemann 2010; Moguérou 2004), the married/cohabiting women in this study seem less mobile than their male counterparts. Approximately one-third of them did not leave Iceland to obtain their PhDs, and when they went abroad, they most often headed for one of the other Nordic countries that had welfare systems and cultures with which they were largely familiar. In contrast, married/cohabiting men, akin to the singles, most often opted for PhD programs in the US. International mobility is an important issue to study further because as the findings from this dissertation indicate, when it comes to earnings, the

place from where people earn their degrees does matter. Receiving a doctorate degree abroad was an asset to the doctorate holders' earnings, although the effect diminished over time. An American PhD degree turned out to be the most beneficial for the earnings of doctorate holders, albeit to a larger extent for men than for women. As an increasing number of women are earning their doctorate degrees from Icelandic universities, it would be valuable for future studies to examine whether this mobility trend is becoming more gender specific or not.

Another unique addition to previous studies is that this research also includes information on the partners of the doctorate holders, which makes it possible to follow the annual earnings as well as the educational level of the partners and investigate the possible impact of the partners' earnings on the earnings of the doctorate holders. The educational level of the partners was, in 80% of the cases, lower than that of the doctorate holders (partners of male PhDs in 87% of the cases and partners of female PhD in 71% of the cases). Nevertheless, the average within-couple pay gap was, in the case of the female doctorate holders, in favor of their partners. On the other hand, the partners of the male doctorate holders only earned about half of what they earned. The findings also reveal that for male doctorate holders, the annual earnings of their partners were associated with their own earnings, while this was not the case for the female doctorate holders. However, the direction of the effect for men is positive, which stands in contrast to the notion of the breadwinner model and does not align with the results of Schneer and Reitman (2002) who found that male breadwinners have the greatest career successes. The high female workforce participation in Iceland, being the highest among the OECD countries (OECD, 2020), may explain why the situation in this country is somewhat different. This direction of the effect is both reflected in the findings from the interviews as well as in the findings from Pétursdóttir (2012). It is evident from the interviews that regardless of the number of hours the female PhDs or the male PhDs' partners work, it was rarely met with their partners' accommodation regarding working hours and never with them taking a part-

time job. Thus, a possible explanation for the findings could be that when women are working long hours, their partners may feel obligated to work even more to maintain the more traditional gendered power relation between them. There are however other possible explanations for the within-couple earning gap. One could, for instance, be the tendency for women to marry or cohabit with older men, and since wages tend to increase with age, male partners could be likelier to have established a career before the female partner and thus be likelier to contribute more to the household's economic resources (Oksuzyan et al., 2017). This, according to Thoresson (2020), could give the male partners more bargaining power in terms of how the household and childcare responsibilities are shared, resulting in the women taking on more responsibility within the home and the men taking the opportunity to advance their career even further. Moreover, perhaps having established a career—before the female partner—which requires excessive work and long working hours would not "allow" the other partner to hold a position of power which also would require long hours. Men are, on average, more likely to marry or be cohabiting with women of lower socio-economic status than themselves (Almås, Kotsadam, Moen & Røed, 2020). To some extent, this is reflected in the quantitative data because although hypergamy in terms of education has been declining over the last few decades (Erát, 2021), we see that the male doctorate holders in Iceland are more likely to marry or be cohabiting with partners with lower educational levels than the female doctorate holders. In other words, I argue that in this context, traditional gendered identities or gender roles are very often in the background, in some shape or form, exerting their own influence.

7.2 The Negotiation of Work–Family Balance and Time

A significant body of feminist scholars has discussed the gendered nature of time (Adam, 1990, 1995; Bryson, 2007; Davies, 1989; Everingham, 2002). Although, in many ways, different scholars with different ideas, they all find common ground in the idea that time is inevitably linked to power and that gendered time norms indeed play a "key role in maintaining oppressive gender

differences" (Bryson, 2007, p. 57). Findings from this dissertation's quantitative data analysis as well as the qualitative interviews support this perspective. The quantitative findings reveal a clear gender pattern both in terms of earnings and demographics. However, in terms of time, I argue that the accumulated temporal effects of having to bear the main responsibility for domestic obligations and childcare as well as the unequal share of domestic obligations is not only reflected in the findings from the interviews but also stand out in the quantitative data. For instance, when it comes to the matter of children, not only do women have fewer children on average compared to men but men also have children further into their career, resulting in the gendered difference in the number of children becoming greater as people's career moves forward. However, women are also the ones who take considerably more days off for parental leave. Despite this, each additional child has a positive impact on men's earnings, whereas for women, each additional child starts to have a negative impact on their earnings as their career moves forward. These findings from the quantitative data analysis are in line with findings from other studies such as Cukrowska-Torzewska and Matysiak (2020), Klesment and Van Bavel (2017), Molina and Montuenga (2009), Bardasi and Taylor (2008), and Glauber (2008).

Furthermore, the interviews illustrate how the men generally felt a higher level of agency regarding their work–family balance and time management than the women, who more often expressed difficulties finding a proper balance and seemed generally more stressed about the often-fragmented time they had to combine their career and family obligations successfully. The women also expressed feelings of guilt to a much greater extent than the men, which was associated with them thinking that they were unable to keep up with their responsibilities. This significantly aligns with Hochschild's (2003) description of the "third shift", a term she coined to explain the often guilt-ridden emotional labor at home (frequently done by women) attempting to repair the damage caused by time pressures felt from juggling work and family life (Hochschild, 2003).

The findings also revealed how both the female doctorate holders as well as the male interviewees' partners, which in all cases were women, handled the communication with their children's schools to a greater extent and did the overall planning regarding the children's extra-curricular activities, doctor's appointments, and other arrangements around the family life. Additionally, it was not uncommon that the women and the men's partners took a part-time job at some point in their career to accommodate for the family's needs. This was, however, never the case for the male interviewees or male partners.

Although all our interviewees felt the often-enormous pressure that comes from fitting all their needs and obligations into daily life, whether bound to work or family, the men and women still had quite a different relationship with time in general. In many ways, the women's accounts resonates with what Everingham (2002) posited about how time needs first to be made before it can be spent.

According to some scholars, it is not uncommon that partners, throughout their educational and/or career paths, continuously make unequal employment and domestic decisions that usually favor men over women, contributing to the reproduction of gendered power within relationships; men work longer hours and, thus, advance their careers and increase their earnings, whereas their partners invest more time in unpaid household responsibilities (Bryson, 2007; Everingham, 2002; Hochschild & Machung, 2012; Hochschild, 1997). This also became a theme in the interviews. Irrespective of whether the interviewees' belief as to whether their share of housework and childcare was equal or not, it was common for them to discuss it in the context of "negotiation," "team effort," "mutual understanding," or "choice" between the partners. While the interviewees indeed seemed to negotiate their time and share of family obligations in harmony with their partners, the outcome still frequently turned out to be in favor of the men and their careers. The negotiations, team efforts, mutual understanding, and choices led to situations in which the men rather than the women were able to work longer hours and by so

doing, advance their careers, while the women continued to take on a greater share of the household and childcare responsibilities, leaving them with less time to devote to career-making. The women also frequently mentioned how having children and establishing a family affected their study or career pace, whereas none of the men articulated specifically that having children had at any point slowed down their study or career pace. In fact, the men were more focused on concerns regarding their financial responsibility of having a family and more often, similar to what Killewald (2013) found, talked about how they started working even more than before to be able to provide for their family instead of elaborating on how they shared the caring responsibility with their partners. Attitudes, especially among younger and more highly educated men, are becoming increasingly egalitarian (Dex, 2003; Vohlídalová, 2017) and men's contribution to housework and childcare has also been increasing (Haavind & Magusson, 2005; Johansson & Klinth, 2008; Thorsdottir, 2012), not to mention Iceland's success on the Global Gender Gap Report (The World Economic Forum, 2020). Despite this, the three-decades-old claim made by Davies (1989, p. 38) that women's time becomes others' time, due to their disproportionate responsibility within the home, shines through the accounts given by the female doctorate holders in this study. This further suggests that although the Icelandic government, in the spirit of an egalitarian gender ideology, has consciously facilitated the dual-earner family model (Leira, 2002) and gender equality in the labor market for years, other gender ideologies, such as egalitarian essentialism as well as certain aspects of the breadwinner model still prevail beneath the surface. I would thus argue in line with Treas (2010), Sayer (2010), and Kan et al. (2011) that although welfare regimes and social policies aiming for gender equality do indeed matter, competing gender ideologies are perhaps even more important than the influence of the welfare regime in determining the share regarding housework and childcare and time use can possibly be more related to gender roles than to institutional factors.

7.3 Needing More to be Equal: The Myth of Meritocracy

In line with the claims of critical scholars such as Hearn (2004), Knights and Richards (2003), Aiston and Jung (2015) and Van den Brink and Benschop (2011, 2012), it can be concluded from the overall findings that the prospect of a successful career within Icelandic academia, as well within many companies and organizations who employ doctorate holders outside academia, is not merely determined by fair and just meritocratic systems, despite those systems being accepted as such. The findings from the quantitative data analysis reveal a continuous gender gap in the total earnings among doctorate holders at all time points under scrutiny; this gender gap is even higher than that of the general labor market (Statistics Iceland, 2020d). This can hardly be considered an outcome of gender-neutral, fair and just, meritocratic work cultures. Furthermore, the findings from the interviews highlight how covert gender equality biases play an important role as well. For instance, although most of our interviewees believed that their doctoral degree had been instrumental in paving a way toward better career opportunities, opportunities they would not have gotten without the degree, many of the women however, also mentioned how they often needed to be more qualified than their male colleges in order to obtain the same opportunities.

Many of the women also spoke about how they felt they often needed to meet different criteria in order to gain the same access to career opportunities as men. From the interviews, it can however be concluded that ambiguous male normative criteria, especially within the private sector, were likelier to have a more direct effect on women's wages than it does within academia or the public sector. In the public sector, the criteria for each wage category are likelier to be more transparent and not bound up with—as some of our female interviewees within the private sector had experienced—aspects such as getting recognized by showing the right amount of assertiveness during meetings or coming up with ideas at the right moments in front of the right audience. However, when it comes to academia, for instance, where the wages are controlled by more

transparent criteria, certain male-normative ideas are still integral to the work culture; these ideas have the power to simultaneously pave men's but hamper women's career development and so, in a more indirect manner, influence the gender pay gap. A young female academic mentioned, for instance, how she did not receive a grant for the reason that there were too many people collaborating with her on the project:

> *"You know, when men have a large network and a lot of colleagues with whom they collaborate. It looks great on an application, unless you are woman, then it shows you are not independent enough. I've even got this kind of a feedback: 'Yes, you didn't get the grant because you had so many with you on the project.'"*

This in many ways rhymes well with the findings of Van den Brink and Benschop (2011; 2012) on gender discriminatory recruitment practices within academia. The studies showed how women were systematically overlooked in the recruiting process for permanent academic positions and for promotions to higher leadership positions based on vague, male-hegemonic standards of excellence, when in fact (male) candidates were actually being appointed because of their suitability rather than excellence.

The interview findings highlight that although pioneering initiatives have been taken by Icelandic authorities in hopes of reaching equal pay (Act on Equal Pay Standard No. 56/2017), it is important for such public policies to recognize and address the deep structural processes that contribute to unequal outcomes or else they will result, as O Grada et al. (2015) point out, in either limited impact or "tokenistic nods" toward gender equality. It will thus be interesting to see whether the Equal Pay Standard will do the trick and contribute to closing the remaining gap or whether it will work as a macro-level-made plume that disguises the micro-level patterns of gender disparities in the workplace instead.

7.4 On Cultural Hegemony and Consent

When it comes to the ideology of meritocracy and how the concept is used to produce and reproduce organizational cultures and structures, which continuously perpetuates and privileges masculine practices and norms, Gramsci's concept of cultural hegemony can serve as an interesting lens (Gramsci et al., 1971). It can be argued that covert discriminatory ideologies—rooted in the idea of the power of individual agency as well as the notion that equality has more or less been reached—have, in a way, been "negotiated" by the group in power as gender-neutral conceptions. This has created the perfect environment for ideas such as meritocracy and excellence to blossom and has created a situation in which women feel they have failed as individuals if they are not keeping up with the standards and assumptions of their work culture. This became especially clear when analyzing the interviews through the lens of feminist time theories (Adam, 1990, 1995; Bryson, 2007; Davies, 1989; Everingham, 2002). Many women with whom we spoke expressed feelings of guilt associated with thinking that they were unable to keep up with their responsibilities, whether at home or at work, whereas the men generally spoke in a much more relaxed manner. Additionally, the women were very reluctant to complain about their situations or blame it on systematic disadvantages; on the contrary, they tended to blame themselves for lacking time management skills. This resonates well with what Rafnsdóttir and Heijstra (2013) found in their study on parents working in Icelandic academia. According to their study, some of the interviewed women felt as if it were not appropriate for them to complain about a heavy work–family load because it was their "choice" to have children. None of the interviewed fathers referred to their own liability for having children when discussing the combination of work and family life and long work hours.

The qualitative findings also illustrate in line with Gramsci et al. (1971) how women often have to consent to a hegemonic symbolic universe in order to get anywhere and even adopt parts of it as their own symbolic universe even if

it does not really do them any favors. For instance, one of the female academics we spoke with talked about—quite early in the interview—how *"*the promotion system at the university is built the way that as long as you do your job properly, you can continue to climb the ladder." As the interview went on, she nevertheless mentioned that she sometimes felt women generally had to put in more effort than men at work: "I think it's a fact that we need to put in more effort than the guys, truth be told." However, perhaps the most blatant example of how she had to navigate around gender-specific hindrances of the system that she, in a way, believed to be meritocratic was when she mentioned how she sometimes asks her male colleagues before meetings take place to deliberately support her ideas openly at the meeting for the ideas to get more attention. In many ways, this rhymes well with the findings of Seron et al. (2018), which reveal how the female engineering students they studied, although recognizing their marginality and even providing criticism of their experiences, did not bring it into a broader context of organizational or institutional criticism of engineering and the culture surrounding it. They actually believed in the central values of the engineering culture: meritocracy and individualism.

In another interview with a female academic, when the conversation turned toward committee and administrative work, she felt at times that she was drowning in her administrative obligations and that this kind of work was very unevenly distributed at her department where "some manage to avoid this almost entirely whereas others shoulder the burden." However, when asked whether she felt that her being a young woman could possibly have anything to do with how much work she was shouldering, she said reluctantly:

> *"Well, I do not know if it's because I'm a woman or just because I'm young. My department is very old, there are a lot of people who are sixty-four, five plus already […] and there is a lot of fatigue among the older ones."*

However, at another point during the interview, she also mentioned that she had now been cleaning the laboratories in her department for a while. She said the following:

> *"I do not know if it is related to the fact that I am a woman, but it is still - because I just recently heard about "academic housework" – I for instance, since I started here, have been cleaning the laboratories which has not been done for years. An experienced female colleague of mine who is very understanding and supports young women, she told me that no man in this department would ever do this, wouldn't stand for it."*

This, I find, is a good example of how two symbolic universes can collide. Although she knows that the administrative obligations are not evenly distributed and that the men in her department had not cleaned the laboratories for years; however, ascribing the problem to gender would mean that she would also have to admit that the system is not really meritocratic in nature.

7.5 The Contribution of the Study

Through the process of reading and acquiring knowledge on different theories concurrently with analyzing the data and bringing them into a theoretical context, I came across a few theories which I found in combination specifically suitable in terms of highlighting the complex gendered situation of Icelandic doctorate holders regarding their career- and earning development.

The primary theories utilized in this thesis are Giddens's structuration theory on which Sewell (1992) and Risman (1998, 2004) elaborated further in their conceptualization on both agency and gender; feminist time theories inspired by Bryson (2007), Adams (1990, 1995), Davies (1989) and Hochschild (2003) as well as Gramsci's (1971) concept of cultural hegemony. I found the combination of these theories well equipped to highlight the functional aspects of agency, structure, and male privileges, and to emphasize how these aspects are intertwined with cultural hegemony and different competing gender ideologies. Together these theories help underline the hindrances to the career- and earning advancements of female doctorate holders in Iceland, despite the countries high ranking on gender equality assessments and its government's extensive family policies grounded in the idea of 'defamilization' (Lister, 1997).

I find that Sewell (1992) and Risman (2013) conceptualize the aspects of agency in a conclusive manner. Sewell argues that agency is embedded in the

creative combination of schemas and resources. More concretely, agency arises from the actors' knowledge of schemas as well as their control of resources. He also believes that the capacity for acting creatively is inherent in all humans. Similarly to Sewell, Risman (2013) embraces the transformative power of human action by arguing that social structures act on people and vice versa people act on social structures. Also, these structures are not created by mysterious forces, but by human action (Risman, 2013). However, they both argue that agency can vary significantly between individuals because the cultural schemas and resources available to each individual is determined by their particular social milieu. Thus, different social positions including "gender, wealth, social prestige, class, ethnicity, occupation, generation, sexual preference, or education gives people knowledge of different schemas and access to different kinds and amounts of resources and hence different possibilities for transformative action" (Sewell, 1992, p. 21). I think how they emphasize both human agency but also the constraints that come with less privileged positions is vital in explaining the hindrances female doctorate holder face in terms of balancing their work and family life and advancing their career. It is evident that the male doctorate holders in this study are more privileged than their female counterparts specifically concerning the higher level of agency they had regarding their work-family balance and time management. I argue in line with both Sewell and Risman that such privileged positions do shape men's knowledge in a different manner than women's. As an example for this is the manner in which men spoke during the interviews, not only about time but it was also more common among them to form their arguments in a more egalitarian essentialist manner than in fully egalitarian one. With egalitarian essentialism being the belief that both the work sphere and the home sphere are of equal value and importance, relying heavily on the notion of free choice. As Grunow et al. (2018) explain it, this ideology maintains that it is a woman's choice to stay-at-home or work part-time to accommodate the family's needs (see also Hakim, 2006). Thus, although to a degree accepting both joint and

separate spheres of earning and caring, people holding this belief tend to deny any implications of power imbalance between the working sphere and the home sphere. Although, the women in this study also discussed their share of housework and childcare in the context of "negotiations," "team effort," and "mutual understanding," and sometimes undermining the fact that the share was not equal—which in line with Gramsci (1971) could indicate how much power the widely accepted notion has that Iceland is such a gender-equal country. However, overall, they did provide more critical accounts than the men did. Furthermore, only the men spoke about the uneven share of household and childcare responsibilities in the context of "choice".

This gendered pattern in term of different knowledge, I find align well with the findings from Heijstra et al. (2013). In the study they investigated which arguments male and female academics resorted to in terms of explaining the causes of the under-representation of women in full professor positions. The male academics were significantly less convinced than the female academics by the family responsibility explanation, suggesting that men perceive family responsibility to be less of a liability in terms of their career making than women, as they are better able to make use of the autonomy and flexibility of the work to advance their career. Also, the men were much less likely to support the explanation that the male dominated academic environment was causing the under representation, whereas on the other hand, they to a greater extent resorted to the pipeline explanation exerting the belief that that the gender balance in full professor positions will automatically be corrected, as increasing numbers of women graduate from universities. Thus, both the findings from this study as well as the findings from Heijstra et al. (2013) underline clearly Acker's (2006) claim that the privileged do not always see their own privilege.

But all things considered; what do the findings from this dissertation add to the existing knowledge? Having analyzed the situation of male and female doctorate holders both within and outside academia utilizing both rich register-based census data as well as qualitative interviews, the findings underline that

although education to a certain extent empowers women, men are still profiting more from it. Whether we observe the situation in terms of total earnings, in the context of organizational cultures of workplaces or in terms of how gendered power relations are produced and reproduced in close relationships between partners and within the home, it is clear that women consistently are on the losing end compared to men. This is the overall situation for women, and there is no fundamental difference between academia and other workplaces.

It is evident that the female doctorate holders do not exert the same amount of agency compared to the men and they are more hemmed in by the gendered structures of workplaces and the home sphere. Furthermore, the men in this study do profit from their privileged position and since they do not seem to have a personal reason to changes thing, most of them do not reflect on their privilege. Thus, it falls to a great extent on the women to make changes to these gendered structures that hinder their own career advances. Although it is evident that the women in this study do view their position within the gendered structures of their workplaces and within the home in a more critical manner compared to the men, the task to make real changes is an enormously difficult one. In many ways, it is easier to simply conform to the normative expectations while simultaneously make effort to advance your career. I argue that in order to bring about real changes to these gendered structures, the responsibility to change things cannot simply be put on the ones who are being hemmed in by those same structures. It is just as crucial to make visible to the ones in privileged positions the existing unequal power relations both within workplaces as well as within the home as it is to create gender equality through legislations and public policy.

7.6 Overall Conclusion

The findings from this dissertation clearly underline that gender equality within the macro environment, achieved through equality legislations and public policy, does not automatically abolish gender inequality within the organizational environment of workplaces or within the home. Much

improvement is still needed, as the observed gender earnings gap simply cannot be an acceptable outcome in a society that prides itself on the equal status of women and men. This is not to undermine the many initiatives that have been taken toward gender equality—they certainly have moved us in the right direction. However, the fact that these initiatives have contributed to Iceland consistently being ranked first by the global gender gap report (The World Economic Forum, 2020) has resulted in a prominent public and media discourse which portrays Iceland as a paradise for women, implying that gender equality in Iceland has more or less been achieved (see e.g. Hertz, 2016; Jakobsdottir, 2018; Kilpatrick, 2017; Tuttle, 2017). Whereas, in reality, these initiatives have only managed to scratch the surface regarding gender biases in society. Although girls and women in Iceland—compared to women in other liberal-egalitarian context—possibly may to a certain extent have different and perhaps more egalitarian schemas and resources to draw from to realize their agency, the findings from this study are still very much transferable to other national contexts, specifically Western context. Because as the findings reveal, Iceland, despite its government's extensive welfare system and family policies, is in many ways similar to other national contexts, faced with issues such as competing gender ideologies that influence how people negotiate their division of labor in the home.

The contemporary debates, like the one that appears in this dissertation, must continue to aim for a better focus on the deeply embedded gendered cultural values and ideas which have been accepted as norms. We need to pay more attention to the gendered interplay between paid work and family and recognize how gender relations within the home and in the labor market (whether it is academia or other workplaces within the public or private sector) maintain the status quo. Although we are allowed to be proud when progress is made, we must not forget that the discourse around Iceland's success as this very progressive country and role model among nations also has the ability to deceive us, and it is already doing so. I argue that the widely accepted notion of

the overall gender-equal Iceland among the general public is working as a mask, behind which the more accepted, traditional gendered functions hide. In such an environment, cultural habits, such as the traditional division of labor in the home and the uneven power relations between partners—which to some extent is rooted in men holding on to quite traditional gendered identities, characterized by them having to work longer hours, having to have a more established career and having to earn more than their female partners—are more easily portrayed as individual choices or agreements between partners. Subsequently, the gender power divisions within the home stay in place and continue to negatively affect the careers and finances of women. By settling for this inequality, based on the argument that this is a deliberate choice made between partners, the next generation continues to grow up with inequalities within the home. Only by means of shared efforts on national, organizational, and individual level will it be possible to accomplish gender-equal circumstances within Icelandic labor market and Icelandic homes.

7.7 Future Research

Even with the conclusion of this thesis, many prospects to further study doctorate holders remain, for example, in terms of gender disparities as well as regarding the possible differences between academia and other work locations outside academia. From the interviews, it became quite apparent that the academics spoke about work-overload and having experienced burnout during their career more frequently than the doctorate holders working outside academia. Further research could thus be directed toward health-related matters, and it would be interesting to add such variables to the register data to investigate possible gender differences and/or differences in terms of work location. It would, for instance, be possible to run information from Statistics Iceland with records from the Directorate of Health (Directorate of Health, 2021). The Directorate of Health has detailed data on the health and well-being of Icelanders and keeps records on primary health care contacts. The register is used to monitor the scope and use of the service provided by the health care

centers, the frequency of diseases, and solutions provided. By deepening the knowledge on the health and well-being of the ever-increasing number of doctorate holders, would be valuable addition to the literature.

Furthermore, the Covid-19 pandemic would also serve as an interesting setting to explore the possible gendered aspects of work–family balance among doctorate holders. Already, several recent studies have indicated that among the general population, gender lines within the home sphere have become sharper and that women, immediately after the breakout of Covid-19, started spending less time on paid work and more time on household and childcare responsibilities compared to men (Craig & Churchill, 2020; Hennekam & Shymko, 2020; Manzo & Minello, 2020). It would be interesting to explore doctorate holders specifically in this context as well as to investigate whether the crisis will have long-term consequences regarding work–family balance and earnings.

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Appendix I – Interview Guide

Professional identity and career-mindedness

Start with asking: You have a PhD in _____When did you decide to go for a PhD, and why? What were your plans/hopes/ambitions back then?
*Then, introduce the **timeline**.*

Could you plot in points that were important for your career or family life? We are interested in life events, career events, turning points regarding decisions, changes/milestones/important periods, both regarding professional and family life.

- For example: job changes, family changes: partnership, children, divorce, sick parents.
- Start with when you finished your master's / when you were a master's student (what were your plans and ambitions at the time?) *If important events happened before the master's (i.e., childbirth) include that.*
  [From master's and PhD onwards, let them define the milestones]

Probes to ask about the various milestones

- Was it planned or did it just happen?
- Ambitions at this point: Drives, ambitions, plans, hopes, and beliefs about the future
  - What was important for you?
  - Ideals and plans vs reality
- Experienced alternatives and options at each point (inside and outside of academia; possibilities vs hinders/constraints, did they think about applying for something else?)
- Were they encouraged/discouraged by other people – who?
- Strategies used
  - Proactive careers vs reactive careers – why did you apply – why not?
- What "counts" at each milestone to get where they want(ed) to go (internationalization and mobility, time pressure)?
  - Own conditions for meeting such criteria (children, partner's career, mobility, feeling of competence, timing/age/career pace, etc.)
  - Time pressure for careers – both professional careers and family careers?

- Internationalization? Mobility? (requirements, possibilities vs constraints, experiences and/or plans)
- When did they obtain a permanent position? How important was that for them career wise?

After going through the timeline

Work-family adaptions

Working time

- How long is your typical working day/working week? (Please describe potential differences depending on different periods in your working life)
- Can you describe a typical workday to me? (Please describe possible differences depending on different periods in your working life)
- How flexible are your working hours?
- Do you find that having flexible working hours sometimes also affects you negatively?

Working environment

- How would you describe your working environment? Do you work much on your own or is there a lot of teamwork at your workplace?
- Is there a more hierarchical or flat working system at your workplace?
- Do you go for lunch together or meet colleges for non-work-related things?
    - Do you think it is important to participate in such activities?
- Do you feel like you are included in decision-making conversations at work?

Work-family balance

- Can you tell me a bit about the way you combine your work and private lives?
- Has your partner's career path affected your own career in some way?
- Do you feel like your family understands what your job consists of?
- Has your family complained about long working days/weeks?
- How hard is it for you to draw a line between work and family matters?
- How do you and your partner divide/share household and childbearing responsibilities?
- Did your family (childbirth – children) affect your carrier paths? If so, can you describe this for me?

In the rearview mirror

- Looking back, how does the respondent feel about his/her choices, setbacks and achievements?
- Plans, ideas or hopes for future career?