

Natural nurses, skilful sailors
Gender non-traditional choices of education in Norway

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Summary

Norway is ranked as one of the most gender-equal countries in the world. Yet, Norway has, like most countries, a gender divided labour market. How does this division of work affect young men and women's interest in and assessment of different occupations? The labour market is one of the most important social arenas in which expectations are formed about what people are good at and suited for. What men and women do in a given society shape cultural assumptions in that society about the interests and competencies of men and women. This thesis is an exploration of such cultural assumptions among students and teachers in two gender-typed study fields in Norway; nursing studies and nautical science studies. The study qualitatively investigates how assessments of competence intersect with gender and explores what shapes notions of suitability in the education.

Although much research is devoted to educational and occupational gender segregation, the male minority position has been comparatively little studied within this literature. Moreover, most of the research on gender non-traditional choices, or on gender inclusion and exclusion in education, is done within either male-dominated or female-dominated fields of study. The empirical material in this study is produced by the means of individual interviews with and observation among both male and female students in both study programs. The thesis thus brings new insights to what shapes processes of *inclusion* – sustaining diverse views of who belongs, and *exclusion* – a narrowing of who belongs, in gender-typed study fields. The study investigates on the one hand the role of gender in the students' accounts of their educational pathways and how young people in Norway reflect around the making of gender traditional and gender non-traditional choices of education. On the other, the study enquires how institutionally embedded assessments of competence in the two study fields interconnect with conceptions of gender. This double attention allows for analyzing what feeds processes of gender inclusion and exclusion both regarding *the entry to gender-typed study fields* and the shaping of notions of suitability and belonging *in the education context*.

Conceptually, the thesis proposes a theoretical composite of boundary theory, repertoire theory and gender frame theory. Building on the insights generated by the combination of these perspectives, I study gender inclusion and exclusion in gender typed study fields through processes of *categorisation and valuation*. This conceptualisation helps grasp *under what conditions* gender inclusion and exclusion take shape. The findings show that assessments of competence and notions of gender had different intersections in nursing and in nautical science. Based on three empirical articles, the thesis suggests that understandings of how educational

fields or types of competence are gendered require attention to both the conceptions of gender available to people through the society at large, and the institutional frame within which individuals are acting, as well as the dynamic relationship between these contexts. Furthermore, the study displays pluralistic and adaptable notions of gender and competence among the students. Such variability, interpreted as a plurality of cultural resources available to frame gender and competence, is conceptualised as carrying the potential for change in the processes sustaining gender exclusion in gender typed study fields.

Samandrag

Noreg er rekna som verdsmeister i kjønnslikestilling. På same måte som i andre land er likevel arbeidsmarknaden i landet sterkt kjønnsdelt. Korleis påverkar inndelinga i 'mannsjobbar' og 'kvinnejobbar' unge si interesse for og vurdering av ulike yrker? Det blir hevda at arbeidslivet er ein av dei viktigaste sosiale arenaer der forventingar blir forma om kva menn og kvinner passar til. Det menn og kvinner jobbar med påverkar altså oppfatningane om kva menn og kvinner er interesserte i og har evner til. Denne avhandlinga utforskar slike oppfatningar blant studentar og lærarar ved to kjønnsdelte utdanningslinjer i Noreg: sjukepleie og nautikk. Ved hjelp av kvalitative metodar undersøker studien korleis verdsetting og vurderingar av kompetanse heng saman med oppfatningar om kjønn, og søker å forstå kva som skaper tilhøyrsløse og kjensler av å vere skikka til arbeidet i desse utdanningslinjene.

Det har blitt forska mykje på kjønnsdelte utdanningar og yrker, men den mannlege minoritetsposisjonen har blitt relativt lite undersøkt. Ofte er også denne forskinga gjort på enten kvinnedominerte eller mannsdominerte utdanningar, medan det er gjort færre samanlikningar på tvers. Det empiriske materialet i denne avhandlinga er bygd på individuelle intervju og deltakande observasjon blant både menn og kvinner i begge utdanningslinjer. Avhandlinga bringer derfor ny innsikt i kva som skaper *inkludasjon* – det som bygger opp under eit mangfaldig syn på kven som høyrer til og *eksklusjon* – ei innsnevring i synet på kven som høyrer til, i kjønnsdelte utdanningslinjer. Avhandlinga har ein todelt inngang til å undersøke dette. For det første utforskar studien kva rolle kjønn spelar i dei unge sine utgreiingar om utdanningsvalet sitt og korleis dei resonnerer rundt kjønnstradisjonelle og kjønnsutradisjonelle val. For det andre undersøker studien korleis institusjonaliserte kompetanseverdsettingar i dei to utdanningslinjene heng saman med oppfatningar om kjønn. Dette doble fokuset gjer at avhandlinga både kan seie noko om kva som skaper inkludasjon og eksklusjon *ved inngangen til* kjønnsdelte utdanningar og kva som skaper tilhøyrsløse og oppfatningar av kven som dug *i utdanningskonteksten*.

Avhandlinga nyttar seg av eit teoretisk rammeverk set saman av teoriar om symbolske grenser, repertoarteori og gender frame-teori. Basert på desse teoriane, foreslår avhandlinga å studere kjønnsinkludasjon og -eksklusjon gjennom å utforske korleis menneske *kategoriserer* og *verdset*. Dette rammeverket gjer at ein kan gripe *under kva slags tilhøve* inkludasjons- og eksklusjonsprosessar tek form. Avhandlinga syner at vurderingane av kompetanse og oppfatningane av kjønn hadde ulike samankoplingar i sjukepleiestudiet og i nautikkstudiet.

Basert på tre empiriske artiklar foreslår studien at for å forstå korleis typar av kompetanse og utdanningsfelt er kjønna må ein fokusere både på idear om kjønn tilgjengeleg for folk gjennom samfunnet ein lever i, den institusjonelle konteksten som studentane og lærarane er ein del av og den dynamiske samanhengen mellom desse. Vidare syner studien fram mangfaldige og adaptive oppfatningar av kjønn og kompetanse blant studentane. Denne variasjonen, som blir forstått som at studentane har ulike kulturelle ressursar å trekke på for å fortolke kjønn og kompetanse, blir konseptualisert som berar av potensialet for endring i det som driv eksklusjonsprosessar i kjønnsdelte utdanningslinjer.

Contents

1. Introduction	3
Research questions and articles	6
Outline of the thesis.....	8
2. The national and regional context of the study	10
Norway and Norwegian gender policies	10
The education system	12
The region	13
Nursing studies and nautical science studies in Norway.....	14
3. Research on educational gender segregation.....	16
Nursing and gender	17
Nautical science and gender	19
A context-sensitive and pluralistic approach to studying gender and competence.....	22
4. Theoretical framework	24
Perspectives from the sociology of education.....	24
Symbolic boundaries and the sociology of valuation.....	28
Cultural repertoires.....	30
Perspectives on gender and gender segregation	33
Doing and undoing gender	33
Understandings of occupational gender segregation.....	36
The gender frame: cultural beliefs about gender.....	37
Combining boundaries, repertoires, and gendered beliefs	40
5. Methods and analytical approach	42
Choice of and access to the field.....	42
Choice of methods: Interviewing and observing.....	43
In the field	45
Participant observation	46
Unsolicited accounts and in-field interviews	47
Field notes	48
Individual interviews.....	48
Analytical approach.....	51
Comparison	55
The role of the researcher.....	57
Limitations of the research design.....	57

Ethical considerations	58
6. Summary of the articles.....	59
Article 1	59
Article 2.....	60
Article 3.....	62
7. Concluding discussion.....	64
Summary and discussion of the main findings: Between gendered competence and ideas of equality	64
Gender and educational choices	64
Assessments of competence and gender	67
Conceptions of men’s work and women’s work	71
Processes sustaining stability and change	72
Theoretical implications: grasping processes of gender inclusion and exclusion.....	73
Paths for further research	75
8. References	77
List of Appendixes	96

Articles

Article 1

Myklebust, Runa B. (2019) ‘Resistance and persistence. Exploring gender-untypical educational choices’. *British Journal of Sociology of Education*. 40(2), 254-268.

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Article 2

Myklebust, Runa B. (2020) ‘Gendered repertoires in nursing: New conceptualisations of educational gender segregation’. *Gender and Education*.

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Article 3

Myklebust, Runa B. (2020) Skilful sailors and natural nurses. Exploring assessments of competence in female- and male-dominated study fields. *Journal of Education and Work*.

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1. Introduction

While being largely underrepresented in the educational system in the first half of the century, women flocked into colleges and universities in the second half of the 1900s. Today, in Norway as in many other countries, women outnumber men in prestigious educational fields, such as law and medicine, and occupy elite positions in politics and business. These changes have been thought to lead to a desegregation of the gender division of labour. However, men and women continue to make largely different educational choices, thus continuing to occupy different areas of the labour market. Hitherto changes in this segregation involve women moving into study fields and occupations previously dominated by men, whereas little movement occurs in the other direction.

How does this division of work affect young men and women's interest in and assessment of different occupations? The labour market and family are arguably the most important social arenas in which expectations are formed about what men and women are good at and suited for (Solheim, 2002; Solheim & Teigen, 2006). What men and women do in a given society shapes the cultural assumptions in that society about men's and women's interests and competence (Ridgeway, 2011, p. 22; Wood & Eagly, 2002). Such cultural assumptions about gender are a focal point of investigation in this thesis: I explore how conceptions of gender and assessments of competence impact gender inclusion and exclusion in gender-typed study fields. I use female-dominated nursing studies and male-dominated nautical science studies as empirical cases to investigate what shapes notions of suitability in the educational fields under study.

Several factors motivate a focus on cultural conceptions of gender and competence in research on educational and occupational gender segregation. For instance, rapid changes in the perceptions of skills and competence that are typical of women and men suggest cultural, dynamic, and situational understandings of gender. At the end of the 1800s, women were still denied access to the study of medicine in Norway, due to, among other reasons, women's perceived lack of calmness and concentration (Dahle, 2008). A hundred years later, a study of gender differences in modern education argues 'the education system rewards characteristics more typically found in girls, such as obedience, concentration and self-control' (Evers and Mancuso, 2006, as cited in Severiens & ten Dam, 2012, p. 455). Several study fields have changed their gender composition over time, and the distribution of men and women in school subjects, study disciplines, and professions differ across countries (Charles, 2011; Mellström, 2009; Thébaud & Charles, 2018). Furthermore, many studies show that gender gaps vary in size across social class and ethnicity (e.g. Ma & Liu, 2017; Seehuus & Reisel, 2017; Xie,

Shauman, & Shauman, 2003). This research suggests an important role for contextual and sociocultural factors in educational gender segregation.

The decisions that young people make about their lives and the possibilities they see for themselves are connected to where they live in time and space (Cuervo & Wyn, 2012, p. 4). Compared to other European countries, Norway has a strong ideology of gender equality (Aboim, 2010), and ideals of equality are considered an important part of Norwegian culture (Berg, Flemmen, Gullikstad, & Nord, 2010; Graubard, 1986; Vike, Lidén, & Lien, 2001). The country ranks number two in the World Economic Forum's 2020 report on gender gap in the world, based on measures that include labour force participation and educational attainment¹ (World Economic Forum, 2020), and the high number of women in the work force is often attributed to labour and family policies. Nevertheless, Norway has a considerably gender-segregated labour force, which is mostly due to the different educational choices of young women and men (Østbakken, Reisel, Schøne, & Barth, 2017). High gender segregation in progressive welfare state countries has been labelled the 'gender equality paradox' (Birkelund & Petersen, 2003). This context of national egalitarian ideals and gender traditional educational choices encourages studies on what gender means for young Norwegians today.

By studying both the majority and the minority positions in male-dominated nautical science and female-dominated nursing studies, this study explores both gender traditional and gender non-traditional educational pathways. Furthermore, the study combines individual in-depth interviews with participant observation from the students' training. This approach allows for analysing and comparing different perspectives on wanting to be a nurse or a navigator. Furthermore, it enables connecting educational trajectories to what shapes notions of suitability and belonging in the two educational contexts. I argue for a context-sensitive approach, which allows us to understand how being the gender minority and gender majority plays out differently under different conditions and raises attention towards the institutional, regional, and national context.

Much research on youth and education has been conducted in bigger cities where the major universities are located, whereas the experiences, barriers, and strategies of people living in smaller cities have been less explored (Cuervo & Wyn, 2012; Farrugia, 2014; Lødding & Paulgaard, 2019; Paulgaard, 2017). This study's fieldwork was conducted at a college in a small

¹ The Global Gender Gap Index examines the gap between women and men across four categories: economic participation and opportunity, educational attainment, health and survival, and political empowerment. <https://www.weforum.org/reports/gender-gap-2020-report-100-years-pay-equality>

city in the west coast of Norway. The region is characterised by a highly gender-segregated labour market, due in part to the strong influence of the traditionally male-dominated offshore, fishing, and shipping industries. Nursing and navigation represent important local occupations in this region. Furthermore, they are historically and culturally defined as a ‘female profession’ and a ‘male profession’, respectively, with layers of symbolic meaning related to the image of the caring and mother-like nurse and the commanding and adventurous captain. Thus, these fields provide useful cases to explore the intersections between gender and competence.

The thesis aims at understanding what shapes the processes of *inclusion*, sustaining diverse views of who belongs, and *exclusion*, a narrowing of who belongs, in gender-typed study fields. To this end, I use a twofold approach. At the one hand, I analyse the role of gender in students’ accounts of their educational pathways and how they reflect on gender traditional and non-traditional educational choices. On the other, I explore how institutionally embedded assessments of competence are interconnected with conceptions of gender. This double attention contributes to understandings of what feeds the processes of gender inclusion and exclusion both regarding *the entry to gender-typed study fields* and the shaping of the notions of suitability and belonging *in the education context*.

The study draws on the theoretical frameworks of boundary theory (Lamont, 1992) and cultural repertoires (Lamont & Thévenot, 2000; Swidler, 2001), theories that rarely have been used in this field before, in combination with gender perspectives from the gender frame theory (Ridgeway, 2011). In line with the insights generated by these perspectives, I suggest studying gender inclusion and exclusion in gender-typed study fields through the processes of *categorisation and valuation*. These processes are largely habitual, institutionalised, and contextual but also pluralistic, reflexive, and adaptable, as they are formed through people’s use of their available cultural resources.

The thesis suggests that this theoretical framework is suited to grasp under what conditions processes of gender inclusion and exclusion take shape. To this end, the study emphasises the analytical importance of contextual and situational sensitivity. This is needed to grasp how being the gender minority and the gender majority plays out in different contexts. As I will argue, understanding how educational fields or types of competence are gendered involves considering the conceptions of gender available to people through society, the institutional frame within which individuals are acting, and the dynamic relationship between these contexts. Furthermore, I propose that theoretical perspectives that open for pluralistic and dynamic notions of gender are important to understand the complexity of the meaning and significance

of gender. Different notions of gender rely on different cultural resources, which in turn shape the availability and use of concepts and categorisation systems (Lamont, 1992; Swidler, 2001). Thus, apart from displaying the existence of pluralistic and dynamic uses of notions of gender, showing when and how social interactions produce less gendered conceptions may open for identifying nascent paths of change in the processes sustaining gender segregation. To this aim, I suggest softening the perspectives that assess gender as ‘omnirelevant’ (Ridgeway, 2011; West & Zimmerman, 1987), and integrate them with perspectives that ask ‘What causes gender to be relevant, or not relevant, in social situations?’ (Deutsch, 2007; Tuana, 1993)

Research questions and articles

This dissertation explores how and under what conditions processes of gender inclusion and exclusion take place. More precisely, my two research questions are as follows:

- What role does gender play in students’ accounts of their gender traditional and gender non-traditional educational choices?
- What types of competences are assessed as valuable in nursing studies and nautical science studies, respectively, and how do these assessments relate to gender?

These questions are explored in three empirical articles, which are reported below. The articles are based on 35 in-depth interviews with nursing students and nautical science students and 120 hours of observation data from their practical training. As stated above, this study explores various aspects of gender traditional and gender non-traditional educational choices. This means investigating both *what* the students said about their choices and *how* they accounted for these choices. Furthermore, I explore what it takes to be good at the nursing and navigator professions, what sorts of competences were emphasised and valued in practical training, and if and how gender distinctions proved important.

I employ methodological perspectives that allow analysing people’s reasoning around concepts such as gender and competence and their own life choices as neither static nor necessarily coherent but rather contextual, adaptive, and pragmatic. The students’ heterogenous and shifting conceptions of gender in the interviews are used as analytical starting points to understand the implications of the connections between the assessments of competence and gender in nautical science and nursing.

The empirical analyses of this dissertation consist of three single-authored articles.

Article 1

*Resistance and persistence. Exploring gender-untypical educational choices*².

This article analyses data from interviews with students in nautical science to explore the resistance met by female students who make gender non-traditional educational choices and how they respond to this resistance.

Article 2

*Gendered repertoires in nursing: New conceptualisations of educational gender segregation*³.

This article analyses data from interviews with nursing students to explore competence assessments in nursing education, how female and male students legitimate their choices of education and how this relate to gender inclusion and exclusion.

Article 3

*Skilful sailors and natural nurses. Ideal competence in female- and male-dominated fields of study*⁴.

This article uses observation and interview data from both nursing studies and nautical science studies to explore the students' accounts of their educational choices, enquire what is considered the ideal competence in the two educational contexts, and discuss the implications for gender inclusion and exclusion.

Together, the articles show that the assessments of competence and the notions of gender interact differently in nursing and nautical science. The study reports a weaker link between gender and competence assessments in nautical science studies than in nursing studies. In nursing, I display how explicit and implicit interconnections between gender and competence were made and I discuss how this implicates gender inclusion and exclusion. However, unlike male nursing students, female students in nautical science reported negative reactions to their choice of education from family and friends. The interconnections between gender and competence in nursing and nautical science convened in the conceptualisation of women as mothers. This conceptualisation is essential to explain both the negative reactions met by the

² Published in *British Journal of Sociology of Education*. 40(2), 254-268 (2019).

³ Published in *Gender and Education*, online 21 Mai 2020. DOI: 10.1080/09540253.2020.1765993

⁴ Accepted for publication in *Journal of Education and Work*.

female nautical science students and the image of women as caring by nature that feeds the stable association between women and the nursing profession.

Furthermore, the study shows that the process of making gender non-traditional educational choices is framed differently by men and women. I suggest that the female students had a different and more elaborative language to discuss this topic than the male students. This may relate to the conceptualisations of gender equality in Norway, where gender equality is fulfilled encouraging *women to change* and to a lesser degree, *men to change*. As argued in the gender segregation literature (England, 2010), men's incentives to move into traditional women's jobs are small because of the low status and pay compared to male-dominated professions. Adding to this literature, the more elusive processes explored in this study contribute to the discussion of why the changes in segregation are slow and works largely in one direction. Importantly, however, this study displays pluralistic and adaptable notions of gender and competence. It empirically demonstrates the need to focus on changeability and inconsistencies when studying the meaning and significance of gender. Such variability, interpreted as a plurality of cultural resources available to frame the notions of gender and competence, is conceptualised as carrying the potential for change in the processes sustaining gender exclusion in gender typed study fields.

Outline of the thesis

The rest of the introductory section of this dissertation is organised as follows. In chapter 2, I illustrate the context of the study. I describe Norwegian gender equality policy and outline the status of educational gender segregation in the country. I also present the region where the study took place and describe the two study programmes used for my fieldwork. In chapter 3, I introduce the research context of this study and review previous relevant literature on educational gender segregation, nursing studies, and nautical science studies. In chapter 4, I deal with theoretical and conceptual issues. I discuss theories from the sociology of education and gender research, aiming at showing how my research is positioned at the interface of these fields. I then present the frameworks of symbolic boundary theory, repertoire theory, and gender frame theory, which are the theoretical perspectives used in the three articles. I account for the intersections between the theories and show how I have combined them to my research purposes. In chapter 5, I present and discuss the methods of in-depth interviewing and participant observation and outline the analytical procedures of this study. In chapter 6, I summarise the three articles. Finally, in chapter 7, I sum up and discuss the study's main

findings, elaborate the theoretical contribution of this thesis, and suggest paths for further research.

2. The national and regional context of the study

This study addresses the notion of *context* in various ways. I focus on the national context of Norway, the regional context where the college was located, and the institutional context of nursing studies and nautical science studies. This section describes some key features of these contexts. It displays how the young people who participated in this study made gender traditional and gender non-traditional choices of education in a region with a highly gender-segregated labour market; it also describes how they grew up in a national context with strong institutional and cultural support for gender-egalitarian ideas.

Norway and Norwegian gender policies

Ideas of equality are seen as an important part of Norwegian culture (Berg et al., 2010; Graubard, 1986; Gullestad, 2001). The social democratic ideology that has guided post-war Norwegian politics carries values of equalisation, which are embedded in the concept of the welfare state (Eriksen, 1993; Esping-Andersen, 1990). Norwegian social democratic egalitarianism has been oriented towards not only equal *opportunity* or choice but also equality of *outcome* (Ellingsæter, 2013, p. 515), as evident in the various forms of quota policies. Since the 1970s, Norwegian welfare policy has focused on increasing female participation in the labour market. ‘State feminism’, a concept introduced by the Norwegian political scientist Helga Hernes in 1987, aimed at describing how feminist ideas could be introduced from above, by implementing policies to reach a more gender equal society. Today, state subsidised childcare and maternity and paternity leave are an important underpinning for the ‘dual-breadwinner/state-carer model’ found in Norway (Pfau-Effinger, 1999, p. 63), where both parents are expected to work and where caring for children is seen as a task of the welfare state to a considerable extent. In Norway, 97% of children age 3-5 are in childcare (Statistics Norway, 2018 a). Ideas of gender equality are considered institutionalised, embedded in the Norwegian culture, and frequently mobilised in political debates and in the public sphere in general (Skarpenes & Nilsen, 2015, p. 40). Thus, the Norwegian context promotes gender equality both on a political level, for example, through the number of weeks designated for maternity and paternity leave, and on a cultural level, through wide support for norms of gender equality (Nadim, 2014). Although Norwegians in general are regarded as supportive of norms of gender equality, the content of the norms and the strength of support vary geographically and by the education level (Hansen & Slagsvold, 2012; Skarpenes & Nilsen, 2015).

Norway has, similar to most industrialised countries, a considerably gender-segregated labour market. Only 15% of employees in Norway work in occupations that have between 40% and 60% gender composition (Østbakken et al., 2017). Two-thirds of the segregation is due to young women and men making gender traditional choices of education (Østbakken et al., 2017), whereas the rest is explained by the fact that women and men with comparable types of education occupy different parts of the labour market (Reisel & Brekke, 2013). Women choose primarily health and social work, whereas men opt for science, technology, engineering, and mathematic studies (STEM) (Frønes & Kjølørød, 2010; Reisel, 2014). So far, traces of desegregation have been due to women embarking on fields of study traditionally dominated by men, such as law and medicine (Reisel & Teigen, 2014b). However, recent studies showed that men choose female-dominated study fields more than before; the number of men in vocational training such as health and social workers has increased from 12 to 20% from 2010 to 2018 (Statistics Norway, 2019a).

More women than men pursue higher education in Norway. The proportion of women in higher education has been 60% the last two decades, and this gender gap continues to increase (Statistics Norway, 2019b). One explanation is that the vocationally oriented, female-dominated fields, such as nursing studies, are part of the higher education system. Whereas many men choose male-dominated vocational programmes in upper secondary school and find well-paid secure jobs afterwards, women pursue higher education to gain comparably well-paid and stable jobs (Reisel & Teigen, 2014b).

The issue of educational and occupational gender segregation in Norway has been referred to as the 'gender equality paradox' (Birkelund & Petersen, 2003) or 'welfare state paradox' (Mandel & Semyonov, 2006). What has been couched as a paradox, is that although the country adopts women- and family-friendly gender policies, studies have shown that Norway has a more gender-segregated labour market than other OECD-countries (Charles, 1992). The concept of 'the gender paradox' has however received criticism. Firstly, recent studies show that Norway is placed around the middle compared to other European countries and the segregation is declining (Bettio & Verashchagina, 2009). Secondly, the level of segregation in Norway may be explained by the high labour market participation among Norwegian women compared, for example, to Japan and Italy (Reisel & Teigen, 2014a). The employment rate for women with children aged between 0 and 2 is 83% and the rate increases to 89% when the children reach the age of 3–6 (Kitterød & Rønsen, 2012). Increasing women's participation in paid labour was a core gender equality concern in the 1970s. A rapid increase in women's employment in the

70s and 80s occurred in parallel with a strong expansion of the welfare state, such as health care services (Ellingsæter, 1999). Thus, working women were to a large degree employed in the rapidly increasing health care sector, and this pattern has persisted. In many countries, however, such jobs are still largely unpaid and, therefore, not considered as part of the labour force; accordingly, they are not included in the analyses of gender segregation in occupations (Barth, Hardoy, Shøne, & Østbakken, 2014). Some studies have accounted for the high female labour force participation measuring segregation by work tasks rather than occupation; including unpaid housework in their segregation analyses. They have found that Norway and other Scandinavian countries are the least gender-segregated compared to other European countries (Barth et al., 2014).

Irrespective of the method of measuring segregation, the gender gap in educational choices is acknowledged as a core issue in Norwegian equality policy (Ministry of Culture, 2019). Several initiatives in Norway aim at improving the gender balance. One is addressing the issue in the subject “Choice of education” in lower secondary school; another is the use of public awareness campaigns (White Paper No. 7, 2016). A third initiative is to grant additional admission points to the underrepresented gender in various study fields. The Ministry of Education and Research can allow Norwegian colleges and universities to grant additional admission points to applicants of the gender that is clearly underrepresented among students and professionals. These points are added to the upper secondary school grade score used when students apply for higher education. Nautical science is one of 119 study programmes with gender points to female students (Norwegian Universities Admission Service, 2020). Two Norwegian colleges and universities offer additional admission point to male nursing students; the college where I did my fieldwork is not one of them. For studies starting in the fall of 2020, eight study programmes offer gender points to male students.

In addition to government policy, young people are encouraged to make gender non-traditional choices by the trade unions, the industry, and the colleges and universities. Such campaigns and initiatives have mostly been directed towards young women, encouraging them to opt for gender non-traditional educational paths. Comparatively fewer initiatives have targeted young men (Reisel, Skorge, & Uvaag, 2019).

The education system

The Norwegian education system resembles the social democratic welfare state’s ideal of equality. The education system is regarded as one of the cornerstones of the modern Norwegian

state, and was designed as a uniform, free-of-charge education system to promote social cohesion (Arnesen & Lundahl, 2006). Although the belief in the potential of education to contribute to equality and justice has arguably faded (Arnesen & Lundahl, 2006), the Norwegian education system is still considered comparatively inclusive in Europe (Imdorf, Hegn, & Reisel, 2015). Norway has high attendance in upper secondary school and few possibilities for schools to select their pupils (Arnesen & Lundahl, 2006; Imdorf et al., 2015). Furthermore, it is characterised by late tracking, that is, students make their first educational choice at the age of 15-16, which is later than many other European countries (Imdorf et al., 2015). Arguably, early tracking may contribute to higher levels of gender segregation (Buchmann & Charles, 1995). In the 10th grade, students choose between a vocational and an academic track. The students who have finished a vocational track achieve the requirements for higher education by completing one year of general subject supplements. Further, the Norwegian higher education system is decentralised, providing the regions with candidates with locally needed competences. The country has two types of higher education institutions: universities and university colleges, the latter offering more vocationally oriented “professional education”. Most Norwegian colleges and universities are public and do not charge tuition fees. The State Educational Loan Fund offers loans and grants to all students to promote equal access.

The region

The colleges in the region recruit locally and produce labour for the regional labour market. At the college under study, 80% of the nursing students and 68% of the students in nautical science are local⁵. Also, previous research has documented that the majority (77%) of young people studying in the western regions of Norway are employed in the same region two years later (Røberg, 2014).

Previous studies on educational choice in Norway showed that the choice of education among young people is linked closely to dominant industries in their home region (Reisel & Brekke, 2013). The college’s location on the west coast of Norway provides a setting where the labour market has been, and still is, highly gender-segregated, mainly due to the strong influence of the fishing, shipping, and offshore industries. The municipalities in this region are among those with the lowest scores in the gender equality barometer provided by Statistics Norway (2018). Among the indicators in the barometer, there are the number of children in childcare, gender balance in higher education and in public and private labour market, participation in paid labour,

⁵ The reference is not included to preserve anonymity.

and income. The gender gap is especially high in income compared to other regions, which is largely explained by the number of men working in the high-paid offshore industry (Giskeødegård & Grimsrud, 2015). Moreover, the region has a very low percentage of men in health- and social disciplines (Reisel, 2014).

How does this gender segregation affect aspirations and choices for young women and men in the region? What attitudes towards gender and work may this context produce? Previous studies showed that the region suffers from a shortage of women and this deficiency is increasing (Giskeødegård & Grimsrud, 2015). This is partly explained by the prominence and importance of the maritime sector, which is characterised by many positions with little request for formalised competences, thus offering limited possibilities to women with higher education. Regarding the attitudes towards gender in this area less is known, but a study by Hansen and Slagsvold (2012) found that regions in Norway with low scores in the gender equality barometer also had inhabitants with the most negative attitudes towards gender equality.

Nursing studies and nautical science studies in Norway

Nursing studies and nautical science studies are both examples of three-year professional programmes within higher education in Norway, termed in Scandinavia ‘professional education’ (Smeby & Sutphen, 2015). Students within these programmes are not only expected to acquire a cognitive learning base; they also have to learn how to use it to solve practical problems within their occupational field (Smeby & Sutphen, 2015). The knowledge base underpinning professional education has been described as heterogenous and fragmented, consisting of both theoretical, practical, and tacit, knowledge, but brought together by the demands and acts of *practice* (Grimen, 2008). Accordingly, nursing studies and nautical science studies combine theoretical lectures with extensive practical training.

The bachelor’s degree programme in nautical science educates students to become deck officers, and possibly captains, who operate and navigate ships. The study includes practical training in ship simulators and an abstract theoretical knowledge base built up around mathematics and physics. In addition to lectures in class, the study programme consists of practical training – simulation – in advanced copies of ship wheelhouses. Nautical science studies have been among the most gender-divided fields of studies in Norway. However, the number of female students in this bachelor programme has increased from no female students at the beginning of the 2000s to an all-time high of 25% in 2014, when I started my fieldwork.

Similarly, the bachelor's degree programme in nursing consists of a combination of abstract theoretical teaching and extensive practical training. Nursing combines medical, pharmacological, and anatomical theory with relational knowledge of communication and care. In addition to lectures, the students have trainings in which they practice on other students, on dummies, or on live models. In Norway, as in most western countries, women greatly outnumber men in nursing studies. In the nursing bachelor programme considered in this study, around 10% of the students were male. This percentage is slightly lower than the national average, which is 12% male students (Norwegian centre for research data, 2018).

For the last decade, nursing and nautical sciences have been two of the most gender-segregated study programmes at the college and represented important local professions in the region. Moreover, these occupations have been defined historically and culturally as 'men's work' and 'women's work', mirroring the perceptions of the caring woman and the technical and managerial man. In the following chapter, I will review previous research on gender segregation in education, and especially on how the assumptions of gender and competence, such as the typical image of the nurse as female and the deck officer as male, may affect educational choices and notions of suitability for a professional field.

3. Research on educational gender segregation

A question posed in the introduction is how the gendered division of labour may inform peoples' perceptions of men and women's interests and competences (Ridgeway, 2011; Solheim & Teigen, 2006; Wood & Eagly, 2002). A related issue is whether these perceptions change with transformations in the gender segregation, such as women's entry into education fields and occupations previously dominated by men. Indeed, previous studies show that people perceive characteristics of women as more dynamic and likely to change than men (Diekmann & Eagly, 2000). Studies from Norway showed that boys receive more negative attention than girls if they behave in opposition to traditional gender norms (Bakken, Borg, Hegna, & Backe-Hansen, 2008; Hoel, Johansen, & Renolen, 2010; Reisel & Brekke, 2013). A study on how Norwegian 15-year-olds advise their peers on education and career indicates that it is easier for young women to choose gender non-traditional paths than for young men (Reisel & Seehuus, forthcoming). Moreover, whereas gender differences in the interest in STEM subjects are decreasing, gender differences in the interest in female-dominated subjects are stable (Tellhed, Bäckström, & Björklund, 2017), coherently with the regular absence of men in traditional female lines of work. More research is needed on how such patterns of change and stability may implicate young people's notions of gender and competence and their choice of education (Croft, Schmader, & Block, 2015; Shen-Miller & Smiler, 2015).

Much of the literature on gender and educational choice concerns the lack of women in male-dominated fields of study, whereas the absence of men in female-dominated study fields has received less attention (Lupton, 2006; Riegle-Crumb, King, & Moore, 2016; Simpson, 2009; Solheim & Teigen, 2006). Research on women in male-dominated fields has been gathered for decades under the umbrella term 'women in STEM', whereas only recently research on men in female-dominated fields has been labelled 'men in HEED' (health care, elementary education, and the domestic sphere) (Croft et al., 2015). The imbalance partly stems from the 1970's when the gender inequality research took shape. Due to women's underrepresentation in education and in (high-paid and high-status) occupations at that time, the research in the field problematised the traditional understanding of femininity and the notions of what tasks and occupations women are suited to and capable of (Solheim & Teigen, 2006).

Still, male-dominated fields offer better economic opportunities, status, and power than female-dominated fields. Thus, research on the lack of women in these fields has been often accompanied by a normative discussion on how to reduce the gender gap in pay and power and improve women's access to participate in an increasing set of positions in society (e.g. Grusky & Charles, 2004; Shen-Miller & Smiler, 2015). The normative frame and the appeal to autonomy have characterised less often the research on men's entry into female-dominated occupations. In nursing scholarship, the lack of men has often been outlined in terms of utility, for instance with reference to the worldwide shortage of nurses (e.g. Boughn, 2001; McLaughlin, Muldoon, & Moutray, 2010). Some scholars argue that the imbalance in scientific interest between women in male-dominated fields and men in female-dominated fields is a symptom of the lower status of the occupations dominated by women, with a subsequently lack of interest in the skills, traits, and roles related to these occupations (e.g. Croft et al., 2015; Warin & Gannerud, 2014).

Nursing and gender

Previous studies on nursing competence argue that compassion, kindness and caring are at the heart of practicing professional care towards patients and, further, that a nurse's mandate is to care for the sick stranger (Nortvedt, 1996). In Norway, research on the nursing profession has debated the role and place of care and compassion in nursing theory (Heggen, 2000; Hem & Heggen, 2004; Martinsen, 1989). The influential nursing theorist Kari Martinsen (1989) has advocated for placing *care* at the centre of the nursing profession, and understanding nursing as a moral praxis, because caring is a fundamental aspect of the human moral condition. Others have voiced a concern that a professional approach based on compassion might lead to an idealised view of nursing, romanticising and de-professionalising a low-paid profession (Heggen, 2000; Hem & Heggen, 2004). The relation between the caring aspect of nursing and nursing as a feminine profession has been strong since the founding of the first nursing schools (Melby, 2000). Florence Nightingale's vision that every woman is a nurse by nature, because of women's innate competence in practicing care, was vital in establishing the Norwegian Nursing Association in the early 1900s (Melby, 2000). Still today, women greatly outnumber men in nursing worldwide, although the numbers vary across countries.

Research on men in nursing can roughly be divided into two categories (see Lupton, 2006; Solbrække, Solvoll, & Heggen, 2013). First, some studies have pointed out that men find the gender minority position challenging, for example because of gender stereotypes about women being better at caring tasks (e.g. Cottingham, Johnson, & Taylor, 2016; Evans, 2002).

Accordingly, Evans (2004, p. 327) commented that men historically have played an important, but invisible, role as nurses. This invisibility has contributed to the ideological designation of nursing as women's work and played a major role in excluding and limiting men's full participation in the profession. Runar Bakken (2001) argues that although nursing has now cut its strings to the ideal of the 'mothering nurse', these ideas are still vital through the 'care philosophy' as advocated by Martinsen. Thus, nursing is an under-paid and devalued profession, and men are alienated towards nursing, Bakken argues. He contends that male nurses often end up either in the role of 'the joke-maker nurse', or the 'techno-freak' to deal with the minority position and find their place in a professional community dominated by women. Helge Svare (2009) problematises the work position of male nurses at care centres in Norway and use the image of the female nurses' 'raised warning finger' towards the male nurses as an illustration of how the women's hegemonic position reinforces the male nurses' minority position.

The other research category holds that men bring their privileges into the field of nursing and are granted higher positions and better pay than female nurses (e.g. Evans, 1997; Kvande, 2002; Simpson, 2004). This phenomenon has been referred to using the metaphor of the 'glass escalator' – when men rise rapidly to positions of power – (Williams, 1992), a word play on the more famous 'glass ceiling' metaphor used to describe the 'invisible' obstacles women face in male-dominated professions (Cotter, Hermsen, Ovadia, & Vanneman, 2001; Hymowitz & Schellhardt, 1986). Some studies document that male and female nurses work in different areas of the health care system, and men have higher positions and pay. Male nurses work with anaesthesia and psychiatry more often than their female colleagues (R. Bakken, 2001, 2004); also, they get more often managerial positions and a higher pay (Abrahamsen, 2004). Furthermore, studies show that male nurses are shielded from the negative effects of emotional labour in ways that female nurses are not and, thus, that the privilege of men in nursing goes beyond financial and promotion advantages (Cottingham, Erickson, & Diefendorff, 2015).

Studies on nurses under education provide a less gender dichotomous and more ambiguous picture. A qualitative study on Norwegian nursing students' motivation for nursing did not find any differences in men and women's expressed motivation for choosing nursing (Tveit, 2008). Julia Orupabo's (2014) study of competence ideals among nursing students showed that both male and female students similarly valued a technical nursing ideal. In a qualitative study with male nurses in laboratory training, Kari N. Solbrække and colleagues (2013) advocate for challenging the tendency to attribute men's low participation in nursing entirely to the

profession's pervasively feminised culture. They found that the male students were playing with the rules and using humour in practical training possibly as a way of dealing with the gender minority position. They argue that expanding the theoretical definitions of what gender is and how it is understood opens to more heterogeneity and they question if young men in gender equal Norway do, in fact, perceive nursing as a gendered position. James McDonald (2013) found that the nursing students he interviewed both confirmed to and resisted dominant gender norms. He calls for research on gender in nursing to investigate the variety of notions of gender available and look for *gender similarity* in addition to *gender differences*. Based on interview narratives with male nursing students, Kristin Jordal and Kristin Heggen (2015a) claim that the nursing curriculum needs to be updated with a more varied and diverse portrayal of care and care work. They argue that understanding care work as a complex nursing skill will expand the traditional portrayal of nursing care and make nursing more gender inclusive. Moreover, they stress (2015b) that the experience that students have acquired outside the context of their education has not been paid sufficient attention when studying what promotes professional identification and belonging.

Although research from nursing education identifies both potentially gender inclusive and gender exclusive mechanisms, both Norwegian and international studies have found that male students drop out of nursing studies at higher rates than female students (Mulholland, Anionwu, Atkins, Tappern, & Franks, 2008; Nedregård & Abrahamsen, 2018; Pryjmachuk, Easton, & Littlewood, 2009). Michelle Ellis and colleagues (2006) showed that male nursing students' dissatisfaction with their studies related to few male co-students and the lack of male educators. Research from Norway showed that gender traditional choices were made at an earlier age than gender non-traditional choices (Mastekaasa & Smeby, 2008). Male nursing students tend to be older than their fellow female students (Nedregård & Abrahamsen, 2018), and they have more often made an educational 'reorientation', starting nursing studies after working or studying within other fields (Karlsen, 2012; Orupabo, 2014; Svare, 2009). Notably, most studies of gender and nursing focus on the male minority position, whereas research where both female and male nursing students are included is rare (see McDonald, 2013; Orupabo, 2014).

Nautical science and gender

Gender imbalance in the maritime sector has long historical roots, exemplified in the widely documented superstition that it was bad luck to have women onboard ships at sea (MacNeil & Ghosh, 2017). Formally, women were excluded from seagoing careers until the beginning of

the 1900s (MacNeil & Ghosh, 2017). Today, women make up only an estimated 2% of the workforce in the global maritime industry (Mackenzie, 2015; MacNeil & Ghosh, 2017) and even fewer have managerial positions. In Europe, the participation rate of women is 9%, whereas it in Norway is 10%, and the majority of the women work within cleaning and catering, not in engineering, navigation, or deck departments (Belcher, Sampson, Thomas, Zhao, & Veiga, 2003). Previous studies show that women deciding to have a maritime career have to overcome family resistance about their decision (Belcher et al., 2003).

Bev Mackenzie reviewed the literature on female seafarers (2015) and showed that both structural and cultural conditions may be barriers to the recruitment of female workers into maritime careers. Key issues facing women in the maritime sector are the lack of female role models, common long shift arrangements, lack of fitting facilities, such as communal showers and no female toilets. Moreover, sexual harassment is documented in several studies (Kitada, 2010; Stannard et al., 2015; Thomas, 2004, 2006). Studies of women choosing a career at sea show that being the only woman or one of a few women on a ship involves both social and professional difficulties (Johnson, Khan, & Rudigi, 2013). Momoko Kitada (2010) interviewed female seafarers and found that they use different strategies to handle the gender minority position on board, including downplaying what they considered typical feminine traits, for instance not talking about feelings. In Norway, a qualitative study interviewed male and female seafarers with different positions on board to explore gendered practices and attitudes (Bolsø, Langåker, & Mühleisen, 2017). They found a clearly expressed sexualised environment, and that the female employees were regarded as the guardians of morality and the ones responsible for maintaining professional conduct. Olga Ortega and colleagues (2015) measured Norwegian female and male maritime officers' self-evaluated leadership skills and their co-workers' evaluation of the leadership. Compared to the co-worker evaluations, female leaders underrated their leadership skills, whereas male leaders overrated theirs.

Seafaring as an occupation has traditionally been largely depended on experience, but over the past 150 years nautical education has been formalised and incorporated into public education systems (Cars & Österman, 2015; Kennerley, 2002). There are few studies investigating nautical science *education*, the assessment and formation of professional competence, and how this is related to gender. One of them is Maria Cars and Cecilia Östermans's (2015) study, which examined the curricula in nautical science in Norway, Sweden, England, and the Philippines. They found that gender issues were not explicitly mentioned or addressed, which they regarded as crucial to raising awareness of gender issues in the maritime sector.

Although research on women in nautical science are scarce, numerous studies have focused on women in male-dominated fields in general. In her classic ethnography, Rosabeth Moss Kanter (1977) showed how the visibility and performance pressure experienced by the gender minority in male-dominated work organisations activated stereotype-confirming behaviours and interactions, which reproduced existing inequalities between women and men. Studies within gender and technology research have demonstrated the strong material and symbolic relationship between technology and masculinity, and how technical skills are commonly perceived as uniquely ‘manly’ and related to stereotypical ‘male activities’ (Faulkner, 2000; Holth & Mellstrom, 2011). In Scandinavia, Lene Møller Madsen and colleagues (2015) explored how female students in engineering and technology studies and male students in biology applied different gendered strategies to being recognised and fitting in. The female students presented themselves as ‘tomboys’ and applied gender strategies to be recognised and fit in as ‘one of the boys’.

A consistent picture from the voluminous research on women in STEM fields is that these subjects are commonly considered as studies for boys (e.g. Francis et al., 2017; Gonsalves, 2014; Mendick, 2005), affecting women’s aspirations and entrance into STEM study fields, as well as shaping the notions of belonging while under education. For instance, a previous study showed that STEM careers are inscribed with masculine connotations both for parents and students, and imagined careers are incompatible with girls’ performances of popular femininity (Archer et al., 2013). However, in their research on gender constructions among students of science, Becky Francis and colleagues (2016) found that their interviewees were shifting between gender stereotyped accounts of physics as quintessentially masculine and more gender equal interpretations. They argue for the need of research to identify and map the existing variety and heterogeneity in the constructions of gender when studying the meaning and significance of gender in education (Francis et al., 2016; Francis & Paechter, 2015). Also, women are widely documented to have low confidence and assess their skills lower than men in STEM education and occupations (Hackett, 1995), and STEM relevant abilities, such as math (Correll, 2001; X. Ma & Johnson, 2008). Studying how the aspirations for STEM education are formed, Shelley Correll’s (2001, 2004) influential research showed that cultural beliefs about gender and competence have constraining effects on confidence and career aspirations. Her experiment showed, for instance, how men assessed their task ability in mathematics higher than women performing at the same level. Thus, she demonstrated how cultural beliefs bias the

way men and women assess their competence at tasks that are career-relevant – and argued that this has consequences for career choices.

However, Correll's studies on how cultural beliefs affect the assessments of competence focused on how societal-level cultural beliefs influence aspirations, and not how the *particularities of different educational contexts* affect the notions of suitability in the educational context. Addressing what contributes to gender inclusion and exclusion within particular educational and professional contexts, Erin A. Cech and colleagues (2015; 2011; 2015) introduce the term 'professional role confidence'—individuals' confidence in their ability to successfully fulfil the roles, competencies, and identity features of a profession. In engineering, such confidence arguably has to overcome cultural biases that men are 'naturally' fit for and better at engineering, and that socialisation processes and work cultures in engineering are gendered masculine and, therefore, benefit men (Cech et al., 2011). They call for research that examines *how the specific culture of the profession* into which one is being socialised may influence individuals' notions of fitting in and belonging. Orupabo (2014, 2018) interviewed students in male-dominated and female-dominated fields of study in Norway and found that the assessments of ideal competence played out differently for the gender minority and the gender majority in different study programmes. She argues that being the underrepresented gender in an educational context does not automatically lead to marginalisation and exclusion. The study demonstrates the importance of zooming in on the *specific contexts of social inclusion and exclusion* to understand reproduction and change in educational gender segregation. The assumptions of ideal competence that are at work in various educational settings and how this is related to gender need to be empirically investigated within specific educational contexts (Orupabo, 2014).

A context-sensitive and pluralistic approach to studying gender and competence

This review shows that men in female-dominated fields of study share some experiences and challenges of women in male-dominated fields of study. A consistent finding is that cultural assumptions about men's 'natural' fit for and abilities in STEM subjects, and women's skills in caring tasks, may disadvantage the gender minority both in terms of aspirations when making gender educational choices and in evaluating one's suitability while attending the chosen educational programme. This review also shows that the male minority position is understudied compared to the female minority position (Lupton, 2006; Riegle-Crumb et al., 2016; Simpson, 2009). Moreover, most of the research on gender non-traditional choices, or on inclusion and exclusion in education, is done within either male-dominated or female-dominated fields of

study. Comparative research across such fields, which focus on both the minority and the majority within a field, is limited (Madsen et al., 2015; McDonald, 2013; Orupabo, 2014 are among notable exceptions). Finally, most studies rely solely on interview data, while fewer combine interviews with participant observation from the education context.

This thesis assesses whether cultural assumptions about gender and competence are at work, and if so, how they work, in nursing and nautical science at the college under study. Building on the existing literature (e.g. Cech, 2015; Orupabo, 2014), I apply a context-sensitive approach, studying how being the gender minority and the gender majority plays out differently under different contexts. This broad focus is useful to understand what feeds processes of gender inclusion and exclusion both regarding the entrance to gender-typed study fields and the shaping of the notions of suitability and belonging in the education context. Recent studies on the significance of gender in nursing studies and science studies argue that a focus on the plurality of gendered accounts is essential to understand the complexity of the meaning and significance of gender among the student participants (Francis et al., 2016; Francis & Paechter, 2015; McDonald, 2013). Accordingly, I argue for the need of an analytical lens suited to grasp pluralistic and dynamic notions of gender.

4. Theoretical framework

In this chapter, I present the theoretical bases for the thesis. The relationship between gender and choices of education is a subfield of the sociology of education, and I will review relevant theoretical contributions within this research and locate my study in relation to this. Following that, I present the theoretical frameworks of *symbolic boundaries* and *cultural repertoires*. Thereafter, I outline my approach to studying the meaning and significance of gender. I discuss central perspectives on gender, and relevant understandings of what contributes to the processes that drive reproduction and change in educational and occupational gender segregation. I describe *the gender frame theory* and discuss how this resonates with boundary theory and repertoire theory.

Perspectives from the sociology of education

In the sociology of education, perspectives inspired by the human capital theory and rational action theory have been central to scrutinise inequality in the education system. The human capital theory (Becker, 1985) focuses on explaining women and men's movement in the labour market as resulting from differences in their endowments of human capital. Gary Becker explained women's lower participation in the labour force by men's and women's different interests and preferences for work. These differences create dissimilar incentives for specialisation: women in the family, and men in the workforce. Studies on gender and occupational choices inspired by the human capital theory explain women and men's different choices of education based on their unequal preferences for family (Hakim, 2002). Such studies are criticised for 'blaming the victim' by suggesting that gender inequality results from women's 'voluntary' choices, instead of interpreting the choices in relation to the social context (Ridgeway & Correll, 2004, p. 524).

Moreover, insights derived from John Goldthorpe's conceptualisation of rational choice theory (Breen & Goldthorpe, 1997; Goldthorpe, 1996) have been important in studies of educational choice. Goldthorpe's theory describes how people strive to avoid downward mobility by making rational calculations regarding education. A variant of the rational choice theory, comparative advantages, has been used to explain educational gender segregation (Jonsson, 1999; Støren & Arnesen, 2007). This theory holds that if women and men have comparatively different chances for success in different fields of study, they will necessarily make different educational choices. However, rational choice conceptualisations have been described as disregarding the cultural dimensions of educational choice-making (Devine & Savage, 2005).

Other perspectives in the sociology of education might be more fruitful to examine if and how cultural conceptions of gender and competence play a role in shaping gender inclusion and exclusion in gender-typed study fields. Pierre Bourdieu's theory is often contrasted to the rational choice theory in the sociology of education literature. His influential contribution has illustrated the relevance of *cultural processes* to understand educational choices and feeling of suitability for an educational field, and the mechanisms of the reproduction of inequality in general. I will outline and discuss selected parts of Bourdieu's theoretical perspectives to position my own theoretical framework.

Bourdieu explains inequality through his notions of *capital* (Bourdieu, 1997), *habitus* (Bourdieu, 1990), and *field* (Bourdieu, 1984), understanding educational decisions as habitual and embodied, rather than rational calculations. Bourdieu's concept of field opened up for a more contextual understanding of power, in which different forms of 'capital' can have different meanings in different 'fields' (Bourdieu, 1984; Bourdieu & Wacquant, 1992). Fields may be represented by a classroom or a workplace, but they can also refer to broader and more abstract spaces, such as the political field (Reay, David, & Ball, 2005). Each field has its logic and, as such, informs and sets certain limits on practice. People's competence to participate in a field is closely related to their *habitus*. The habitus is an integrated system of embodied dispositions, which regulate perceptions, appreciations, and actions (Bourdieu, 1977, pp. 82-84). The compatibility and reciprocity between Bourdieu's notions of habitus and field have been important as they break the dualism between structure and agency, between social reproduction and social change (Adkins, 2003). Indeed, the agents are not simply the carriers of the norms of a field, given that the actions of the agents also shape the forms of actions that are constitutive of the field (Bourdieu & Wacquant, 1992). Toril Moi (1991, p. 1021) have stated that the habitus may be seen as the totality of general dispositions acquired through practical experience in the field. The embodied status of the habitus implies that an individual's action is not merely based on reflection, but rather is a *pre-reflexive* understanding of how to act. The embodied status also signals that the habitus is not easily changed. People necessarily act in such a way that the underlying structures are reproduced and given effect (Nash, 1999, p. 177).

Through Bourdieu's work, a new conceptualisation of inequality emerged. Importantly, his perspective recognises inequality as something that manifests itself through the *micro-level*. It appears in the subtle and taken-for-granted daily interactions but materialises in the social structures, such as class inequality, thus bridging the micro and the macro levels of analysis. Moreover, arguing that institutions, such as schools, are not neutral organisations, but rather

reflect the experiences of the 'dominant class', his theory incorporates also the meso- or institutional level. This provides an analytical tool to examine how taken-for-granted routines and conceptualisations are naturalised and institutionalised, which is important when studying gender inclusion and exclusion in gender-typed study fields.

Gender scholars have widely drawn upon, discussed, and criticised Bourdieu's work (e.g. Adkins & Skeggs, 2004). His theories have inspired influential investigations of gendered educational choices, documenting for instance how social class and gender are related (e.g., Archer, Dawson, DeWitt, Seakins, & Wong, 2015; Reay et al., 2005). Moreover, studies applying Bourdieu's theories have revealed the crucial role of parents in (gendered) educational choices, who implicitly or explicitly influence their children's educational paths (Archer et al., 2012; David, Ball, Davies, & Reay, 2003; Lareau & Horvat, 1999; Reay et al., 2005). One of the key theoretical debates among scholars of gender inspired by Bourdieu has been the conceptualisation of social change, for instance changes in the gender system, within his framework (see Adkins, 2003; Dillabough, 2004; McLeod, 2005). His writing on gender is criticised for conceptualising gender as too strongly structured through dichotomous and hierarchical relations of difference (Skeggs, 2004). Several scholars argue that Bourdieu's theory make analytical attention towards ambiguity and complexity difficult. These are important aspects for both empirical and theoretical gender researchers because they analytically open up for the notion of agency (Adkins, 2004; Moi, 1991; Skeggs, 2004). As argued by Lisa Adkins (2003) and William Sewell Jr. (1992), because of the adaption of the habitus to the field, Bourdieu places ambivalence and change *outside* of social practice. The norms of a field are so strictly incorporated that imagining a change stemming from the inside and happening through social practice is difficult (Orupabo, 2014). Several approaches aim to overcome these difficulties, providing readings and developments of Bourdieu's work that allow us to identify flexibility and change when analysing the significance of gender (e.g. McNay, 1999; Reay, 1995, 2004; Skeggs, 1997).

This outcome can be achieved by being attentive to heterogeneity and contradictions in individuals' accounts. In her study of working-class women in England, Beverley Skeggs (1997) make use of Bourdieu's framework. She argues that rather than searching for order and coherence in informants' dispositions, ambiguity and inconsistencies should be permitted in the analyses of the meaning and significance of gender. This will allow for less deterministic analyses. "Femininity is uninhabitable as a complete and coherent category" (1997, p. 102), she claims, showing how analytical approaches that consider inconsistencies to a larger degree

allowed her to understand the informants' agency. This perspective has inspired the analytical and theoretical orientation of this study, leading to identify and interpret the students' use of shifting and pluralistic conceptualisations of gender, as will be discussed below.

Furthermore, Skeggs' argumentation connects the notions of *contradictions and ambivalence* with that of the *supply side* of culture, another important aspect of my theoretical framework. The supply side of culture points to individuals' cultural *resources*, and thus not just a focus on how cultural factors may work as limiting structures. It relates to individuals' *active use* of cultural resources and, thus, a reflective and enabling relationship between person and culture. Skeggs interpreted her informants' fragmented and contradictory accounts as availability and use of different "discursive frameworks" (1997, p. 139), which demonstrates a theoretical openness to reflection and distance between individual agents and their cultural resources. Anette Lareau and Erin McNamara Horvat's (1999) readings of Bourdieu's work exemplify a perspective that focuses on actors' agency by studying people's active use of cultural resources. They analyse social inequality in schools using the concept of cultural capital and argue that the theoretical potential of Bourdieu's framework allows for a dynamic and flexible relationship between structure and agency; however, the *use* of Bourdieu's theories in the sociology of education has been too simplistic and caused an overly deterministic continual process of the reproduction of social inequality. They argue that scholars have placed too much emphasis on actors' possession of cultural resources, and too little on the activation and use of these resources. This focus on the active use of resources is important to interpret how the students in this study drew on different and shifting conceptualisations of gender, competence, and educational choice.

Lareau and Horvat (1999) argued that identifying the micro-level interactional moments of 'social inclusion' and 'social exclusion' (Lamont & Lareau, 1988) is necessary to understand how social inequality in educational institutions is shaped and reproduced. To identify and analyse such moments, one needs to be attentive towards (a) the value attached to individual's cultural resources in particular contexts, (b) the process through which individuals activate their resources, and (c) the institutional legitimacy of these resources (Lareau & Horvat, 1999, p. 38). What is gained by this approach is a conscious attention towards *what* cultural resources are valued in *which contexts*. Applying this perspective means assuming that the assets that potentially come with the majority position must be acknowledged in a particular context and used by individuals and groups to create inclusion and exclusion (Lamont, 1992; Lareau &

Horvat, 1999). Thus, the dynamics of inclusion and exclusion must be examined where they take place and in interaction with specific others (Lareau & Horvat, 1999; Stuber, 2006).

This point is important to Lareau and Weininger (2003), who contends that when studying what shapes and reproduces inequality in schools, it is crucial to identify the expectations, both formal and informal, by means of which school personnel appraise students. They stress the importance of ‘examining micro-interactional processes whereby individual’s strategic use of knowledge, skills, and competence come into contact with institutionalised standards of evaluation’ (2003, p. 597). Orupabo (2014) argues that being the underrepresented gender in an educational context does not automatically lead to marginalisation and exclusion. Therefore, scholars interested in empirically investigating inclusion and exclusion must use contextual awareness. A focus on the *contextual conditions* and on examining *institutionalised evaluation processes* have been important to guide my analytical attention towards what types of competence are assessed as valuable in nursing studies and nautical science studies and how this relates to gender.

Summing up, three theoretical points from Bourdieu scholars are important for my conceptual framework. First, the call for perspectives that analytically allow for grasping contradictions and heterogeneity. Second, the relevance of the cultural resources available to people, and how these resources are used. Third, the focus on what types of competence is assigned value in the two different educational contexts under study. I find that the sociology of culture and the theories of *symbolic boundaries* and *cultural repertoires* offer theoretical tools to perform such an investigation. These theories allow for a careful examination of what is given value, by whom, in what situations, and how this relates to inclusion and exclusion. Furthermore, they provide means to analyse how actors’ preferences and accounts are shaped by the cultural resources available to them and how they use these resources.

Symbolic boundaries and the sociology of valuation

Following Bourdieu’s (1984) argument that the principle of organisation in all forms of social life is the logic of *distinction*, Michelle Lamont has developed analytical tools to understand social inequality by investigating individuals’ *boundary work*. The principle of distinction brings individuals and groups together and separate them one from another. People claim group identities not just by advocating for membership in a group but also by denying membership in the *other* category. For a group to occupy a position of privilege, there must exist an ‘other’ in opposition to which the privileged group can be defined (Abbott, 1995; Vallas, 2001, p. 11). In

her book 'Money, Morals, Manners' (1992), Lamont comparatively investigated the culture of the French and the American middle-class. She looked for the implicit definitions of what is a 'worthy person' in the labels people use to describe, abstractly and concretely, people who are in some way different from themselves (Lamont, 1992). Lamont defines 'symbolic boundaries' as the lines individuals draw when they perform this categorisation of people. Lamont (1992) argued that examining the criteria for peoples' demarcations may reveal what structural factors are salient in what contexts and for what groups of people.

According to Lamont, symbolic boundaries are important, as they contribute to the creation of *social boundaries*, which are the objective differences and inequalities between people and groups. Her contribution aims at clarifying the relationship between symbolic boundaries and inequality, without predetermining the resources that lead to inequality, but specifying whether and under what conditions the boundaries drawn by the interviewees could lead to the reproduction of inequality.

The literature on gender contains a rich treatment of the concept of boundaries (see Gerson & Peiss, 1985; Lamont & Molnár, 2002, pp. 175-177). Cynthia F. Epstein (1992) focuses on processes of boundary maintenance at the micro-level of interaction, and how they intersect with broader institutional structures and cultural values. She argues that 'belief in difference invariably results in inequality' (Epstein, 1992, p. 232). Drawing on a symbolic boundaries approach, Mary Blair-Loy (2003) studies the mechanisms that reproduce gender segregation in the USA. She argues that the distinctions that create commitment towards the family for working women, 'need continuing public reaffirmation to remain convincing and legitimate' (2003, p. 62). Here, Blair-Loy points out an important aspect of Lamont' boundary framework: the cultural resources, or *repertoires*, that shape people's boundary work.

Lamont argues that Bourdieu's idea of habitus focused exclusively on proximate structural conditions, such as a person's class position. Thus, he paid too little attention to the broader structural features, such as the national context, as well as other cultural resources available to people through society. Lamont (1992, p. 188) opens for the idea that people do not always perceive the world only through their experiences, and thus that they can use cultural models that are decoupled from their own lives. Here lies the potential for cultural change in Lamont's framework. This advances Bourdieu's theory of field (Bourdieu & Wacquant, 1992, pp. 94-115), which is not concerned so much with the 'supply side' of culture and social space: what certain contexts makes available for individuals in terms of cultural resources. Compared to

Bourdieu, Lamont arguably offers a perspective with a more flexible and reflective agency, with more distance between person and culture.

A declared intention of this thesis is to investigate what contributes to the gender inclusion and gender exclusion processes in gender-typed fields of education. How is gender evident in the students' accounts of their educational choices? How do notions of gender and competence intersect in students' assessments of professional competence? The articles in this thesis use the theory of symbolic boundaries to explore *competence boundaries* and *gender boundaries*. This means that I identify how the students and teachers make distinctions between the types of knowledge, skills, and qualities that are needed to be a good nursing student/nurse, and a good nautical science student/navigator. Moreover, I identify when they explicitly or implicitly drew boundaries between men and women, and when they did not, and how the gender boundaries and the competence boundaries intersect. Focusing on boundary work is a convenient heuristic tool to explore taken-for-granted criteria of evaluation, by investigating what people value (Lamont & Molnár, 2002). The analysis of the competence ideals of the students and their assessment of their own and others knowledge, skills, and personal qualities, discloses whether what is valued is accessible to everybody or limited to some, and how this relates to gender. Importantly, the concept of boundaries does not solely concern exclusion, but also inclusion; the making of communities and promotion of equality. This is central given my analytical focus on the variability in the notions and accounts of gender, signifying both gender inclusion and exclusion.

The focus in boundary theory on the cultural repertoires that people draw on to constitute and interpret gender and competence distinctions, both permits a view of cultural factors as enabling, and a focus on what limits the availability of the resources. However, this study calls also for analytical tools to interpret heterogeneity and inconsistencies within informants' accounts. In this regard, I have integrated repertoire theory into my theoretical framework.

Cultural repertoires

As argued above, theoretical perspectives that acknowledge ambivalence and heterogeneity are needed in the study of gender. This is necessary to both identify and display the existing variety and theoretically open for agency and the possibility for change. Repertoire theory resonates with this call. In this study, I have drawn on repertoire theory to analyse how the students explain and legitimate their educational choices and to theorise people's various and shifting uses of the notions of gender and competence. Repertoire theory adds to this study because it

more explicitly than the symbolic boundaries framework provides tools to investigate pluralistic and heterogenous notions within interviewees' accounts. Repertoire theory, as conceptualised by Ann Swidler (2001), offers a theoretical framework to maintain that people may keep multiple interpretations and accounts simultaneously available; actors use their cultural resources by making active use of this diversity – or repertoire. This theory allows for actors' active and reflective use of their cultural resources, thus allowing for more distance between actors and culture and less internalisation of culture, compared to the perspectives of Bourdieu and Lamont.

Drawing on insights about culture as fundamentally social (Geertz, 1973a), and the view that people have different cultural resources available (Hannerz, 1969), Swidler argues that culture is “put to use” by individual actors. Studying this use and this variability allows us to understand culture's effects on social action and social organisation. Culture affects action by furnishing a repertoire of capacities for action that can be mobilised to achieve new objectives (Swidler, 2001, p. 81). The cultural resources shape a repertoire of routines, natural skills, styles, and habits that together organise and sustain strategies for action (Swidler, 2001, pp. 81-82). In this study (especially, article 2), I aim at understanding the role of different cultural constructions of gender in shaping notions of belonging and suitability in the educational context. To investigate this, I use repertoire theory to analyse how people shift between different meanings and significances of gender, what contextual cues signal which understandings, and how people keep multiple notions of gender available simultaneously.

According to Swidler, examining how people mobilise several parts of their cultural repertoire simultaneously – for example when they justify a position or a life choice – can reveal the resources they draw upon. I regard students' choices of education as such positions or life choices. Such ‘choice narratives’ might elicit arguments from independent, and sometimes contradictory, ‘traditions of thought’ (Swidler, 2001, 26), showing that people are not always coherent in their reasoning around their actions and life choices. They may hold a variety of (sometimes competing) views simultaneously, sometimes with little reflection on the lack of consistency, because their arguments tie on to different topics and situations, anchoring their accounts in different frames of reference. Swidler's perspective makes room for actors' pragmatic *reflection* and strategic use of elements in their cultural repertoire, as well as unreflective and habitual use of their repertoire, and switching between parts of their repertoire. The focus in repertoire theory on how people select and use cultural meanings allows for asking why in some situations cultural symbols lose their force, whereas in others remain persuasive.

I find this a fruitful theoretical optic for understanding the meaning and significance of gender and the interconnections between gender and competence. Also, this resonates well with the gender perspectives I will discuss later.

An important point I am trying to make by applying this theoretical framework is that heterogeneous conceptions of gender are common and important for our understanding of gender. People may shift between these different conceptualisations within a single conversation, depending on the topic at hand; different conceptualisations will activate different parts of their repertoire. Aiming to understand how conceptions of gender and competence relate to suitability and belonging in gender-typed study field, the framework of cultural repertoires is fruitful because it helps identify plurality and variability, thus illuminating processes signalling both gender inclusion and exclusion.

Swidler's concept of repertoires has been criticised (e.g., Lamont, 1992) for being too concerned with displaying the various ways people *use* culture, and thus overly agentic, not paying enough attention to how social and structural factors constrain individual actors' accounts and actions. Drawing largely on Geertz's framework of culture (Geertz, 1973a) as 'shared meaning', and the role of 'symbolic vehicles' such as rituals, stories, and sayings in creating and sustaining those modes of behaviour, she does inherit a view of culture as less concerned with *whose* meaning. Indeed, Geertz's work has been criticised for being blind to power differentials in his empirical work (e.g. Ortner, 1997). Swidler emphasises that the cultural repertoires available to a person constrain the strategies he or she can pursue (Swidler, 2001, p. 7). Furthermore, actors do also use parts of their repertoire without reflection and by habit, as people are not always distant enough from their culture to 'use it'. However, Swidler's explanation of why different people draw on different cultural resources refers mostly to personal experience (Swidler, 2001, pp. 51-52). The question of if and how the availability of cultural repertoires is affected by social positions, such as gender and social class, remains less problematized in Swidler's account.

In this study, I rely on Lamont's perspective to deal with this issue, as it accounts more explicitly for how structural factors and social position shape the access to various repertoires and cultural resources. According to Lamont, the availability of repertoires are shaped by factors such as the education system and other influential institutions, values that have been important in the history of a nation or region, the media, the nature of the stratification system, and proximate factors, such as gender, social class and ethnicity (Lamont, 1992, chapter 5). Thus, the probability of people drawing one or another type of boundary is structured through both remote

and proximate environments (Lamont, 1992, p. 148). It thus provides a more structured account of how cultural patterns may contribute to the reproduction of gender boundaries (Lamont & Small, 2008). Combining repertoire theory with perspectives that to a stronger degree rests on habitual and internalised dispositions can offer fruitful theoretical investigations (see Lizardo & Strand, 2010). Like Rasmussen (2019, p. 36), I suggest that repertoire theory is useful to think about reflexive and adaptable uses of cultural resources *when and where they occur*.

Perspectives on gender and gender segregation

In order to explore the topic of gender inclusion and exclusion in education we need to engage with the literature that specifically addresses these questions. This section presents the gender perspectives applied in this thesis and reviews relevant contributions on gender segregation in education. I emphasise also the processes that signify *change* in the patterns sustaining segregation. This implies focusing also on when gender does *not* work exclusively or *does not* matter.

Doing and undoing gender

Whereas the term “sex” is described as something biologically given, determined by anatomical, hormonal, and chromosomal factors, “gender” is conceptualised as a social identity, constructed by culture and society (West & Fenstermaker, 1993). The term incorporates the idea that men and women’s behaviour and understanding of themselves as social beings is influenced by the way society is organised, and that gender differences in behaviour occur partly because different norms apply to behaviours that are considered appropriate for men and women in society (Karlsen, 2012). West and Zimmerman’s (1987) famous conceptualisation of gender as ‘doing’ relies on this understanding (West & Fenstermaker, 1993; West & Zimmerman, 1987). They argue that the characteristics of gender are ongoing and emergent aspects of social interaction. This approach is anchored in an *ethnomethodological* conceptualisation of gender, described as “[ethnomethodology] proposes that the properties of social life which seems objective, factual and transsituational, are actually managed accomplishments or achievements of local processes” (Zimmerman, 1978, p. 11). Thus, gender is accomplished through interactions with others and variations in *situations* determine variations in the enactment of gender.

The doing gender approach has been important to highlight the interactional and contextual aspects of gender. One central contribution of the doing gender perspective is that it de-emphasised early socialisation as the basis for gender differences (Deutsch, 2007). The attention

shifted from an internalised set of behaviours and practices or identities modelled by parents, teachers, and other role models to how men and women create gender within social relationships throughout their lives. Thus, gender is dynamic and what is considered as appropriate gendered behaviour changes over time, and at a faster pace than implied by socialisation approaches (Deutsch, 2007, p. 107; Thorne, 2002). The doing gender approach has also exposed the weaknesses of the accounts based solely on structural explanations of gender differences, arguing that even when structural conditions produce gender difference and inequality, these are mediated by social interactions, always containing the potential for resistance (Deutsch, 2007, p. 108). However, similar to other perspectives informed by ethnomethodology, the approach has been criticised for disregarding structural mechanisms altogether. Lynn Weber (2002) argued that because of the inherent focus on face-to-face interaction, macro-social structural processes are rendered invisible. Francine Deutsch (2007) maintains that the doing gender perspective both fails to acknowledge structural processes and lacks analytical tools to grasp possibilities for change. She argues that West and colleagues appears to preclude the possibility that gender could be eliminated or that some forms of gender might be compatible with equality between men and women (Deutsch, 2007).

According to West and Zimmerman (1987), gender cannot be *not* done as it is 'omnirelevant'. This premise has been criticised, among others, by Nancy Tuana (1993, p. 287), who argues that it leaves us with the question: What causes gender to be relevant in social situations? Ridgeway and Smith-Lovin (2006) claimed that the doing gender approach has been more important as an orienting perspective than a predictive theory of gender's impact on behaviour in interaction, arguably because it offers no explicit guidelines for the circumstances under which the salience of gender will vary. Similarly, Nancy J. Risman (2009, p. 82) contends that the 'ubiquitous usage of "doing gender" creates conceptual confusion as we try to study a world that is indeed changing'. She asks: Why should we categorise innovative gender behaviour as a new kind of masculinities and femininities, rather than noticing that old gender norms are losing their currency? This may serve to reinforce stereotypes about women and men as well as to reify differences between them, instead of also pointing to their similarities (McDonald, 2013, p. 565).

According to Deutsch, the insight that the social construction of gender also implies *deconstruction* has received too little attention in gender theory. Instead of focusing only on how gender is done and how gender inequality is reproduced, we should also consider how gender is *undone*. She maintains that more conscious attention to the variations of gender

inequality across and within societies and over time will illuminate the possibilities for change in systems of gender inequality and gender segregation. Finally, for Deutsch, this approach arguably allows to grasp how institutional and interactional levels might work together to shape and reproduce gendered conceptions. This is achieved focusing on the situations in which gender is less relevant or not relevant at all, investigating whether all gendered interactions reinforce inequality, and treating interaction as the site of change.

Judith Butler (1990, 2004) argues also for the undoing of gender, this thesis will however not rely on her work. Where Deutsch has an ethnomethodological perspective, Butler adopts poststructuralist and discursive approaches in her writings. She understands undoing gender as subverting the norms by which gendered subjects are produced. Thus, Butler argues for identifying ‘enacting gender in a way that goes beyond conventional parameters’ (Kelan, 2010, p. 190). This can be done by recognising more diverse forms of gender and a greater number of gendered meanings. Elisabeth Kelan (2010) describes this perspective as a pluralisation of gender, in which more positions become available within the matrix. The ethnomethodologist approach concerns rather an undoing of gender which entails interactionally accomplishing *similarities* and *de-emphasising difference* between women and men (Deutsch, 2007; see also McDonald, 2013). Therefore, another way of describing the difference between the two approaches is to assess the poststructuralist approach as a ‘multiple logic’, in which more than two options are offered, and the ethnomethodologist perspective used in this study as a ‘unitary logic’, in which one option is offered (Kelan, 2010, p. 175).

Deutsch’ undoing gender approach resonates with boundary theory’s focus on investigating the interactional level, on the weighting of categorisation and valuation as institutionalised, and on the need of contextualisation. Furthermore, it resonates with repertoire theory’s situational focus and, thus, that the significance and meaning that people assign gender is dynamic and adaptable. This perspective aligns with the call from gender scholars to apply perspectives that allows for ambivalence, contradictions, and variety in studies of gender (Adkins, 2004; Skeggs, 1997). Moreover, it resonates with central and recent contributions within studies of gender and education, arguing for identifying and articulating the heterogeneous constructions of gender that are found within gender-typed study fields (Francis et al., 2017; Francis & Paechter, 2015; McDonald, 2013). Next, I will discuss how theories on gender segregation in education resonate with this perspective.

Understandings of occupational gender segregation

Within the research field of gender segregation, Paula England is a central contributor. England (2010) explains what she calls the uneven and stalling progress of desegregation: change is seen mainly in the movement of women into male-dominated occupations and not vice versa. England's work is influential in understanding both persistence and change. It has been important for addressing the lack of men in female-dominated occupations, for accentuating the importance of social class in discussions on gender segregation and promoting the 'devaluation thesis'. She argues that the continued devaluation of characteristics and activities associated with women, and the subsequent low status and pay that comes with it, give men little incentive to move into 'female jobs', whereas women have strong incentives to move into high-status and high-paid 'male jobs'. Another influential contribution is from Maria Charles and colleagues (2009; 2004), who claim that two mechanisms drive occupational gender segregation. One is *essentialism*—a deep rooted cultural notion about men and women having fundamentally different skills and interests and, therefore, being suited to work in different occupations—which is the core component that maintain *horizontal* gender segregation in the education system and the labour market. The second mechanism is *male primacy*. This helps maintain the *vertical* gender segregation, which places men in better occupations across the horizontal divide. As long as men and women perceive the choice of education as an expression of their 'gendered selves' (Charles & Bradley, 2009), essentialist ideas will continue to be influential also in egalitarian societies, they argue. One of their main argument is that gender essentialism and gender egalitarianism can operate simultaneously, because gender essentialism promotes a 'different but equal' segregation regime, which stimulates and reproduces the horizontal gender segregation. Liberal egalitarianism may delegitimize overt inequalities of opportunity; however, it does not prevent individuals from understanding their competencies and those of others in terms of standard essentialist ideas (Charles & Grusky, 2004, p. 302). Thus, the spread of gender-egalitarian values has weakened vertical gender segregation, but not the horizontal forms of segregation. They argued that this explains the paradoxical continuous gender segregation in egalitarian Scandinavian countries, such as Norway. However, Scandinavian gender scholars replies that Scandinavian social democratic egalitarianism differs from the liberal egalitarianism. For instance, Anne Lise Ellingsæter (2014, pp. 102-103) claims that liberal egalitarianism advocates a 'different but equal' view on gender and it concerns *equal opportunities*. Scandinavian countries, however, are rather characterised by a 'gender as sameness' understanding, which also concerns *equal outcome*, and which is less consistent with gender essentialism. Ellingsæter (2013) points to studies that

show a relatively rapid occupational desegregation in Scandinavia and an increasing segregation among Mediterranean and Eastern European countries (Bettio & Verashchagina, 2009). Furthermore, she observes that the existing literature on Norway does not support strong essentialist ideas and suggests that the content and meanings of essentialism should be rather studied as dynamic and changing based on the context. Based on evidence that Norway has been gradually becoming less segregated, she insists on the necessity of conceptualising the drivers for *desegregation*.

In this thesis, the presence or absence of gender essentialist and gender equal ideas are treated as empirical questions. Different meanings and conceptualisations of gender are viewed as different discursive frameworks, or cultural repertoires, available to the actors. Also, separating processes that work to promote horizontal segregation and vertical segregation may hide the complexity of notions of gender and competence. Thus, a predetermined theoretical distinction between ‘essentialism’ and ‘primacy’ may not be fruitful when empirically investigating what exactly promotes gender inclusion and exclusion in particular educational contexts. Moreover, in these perspectives gender essentialism is described as ‘indefinite’, and the traces of change are described as not likely to occur as long as essentialism goes hand in hand with liberal egalitarianism. To grasp situations and contexts in which gender is less or not relevant, according to the undoing gender perspective, we need a more micro-level and interactionist perspective than those offered by England and Charles. Cecilia Ridgeway’s theory on gendered cultural beliefs is useful to this aim.

The gender frame: cultural beliefs about gender

The gender frame theory (Ridgeway, 2011), argues that widely shared *cultural beliefs about gender*, formed and reinforced by the division of labour in modern societies, and their effect in social contexts, are among the core components of what she calls ‘the gender system’. Building on social-psychological theories, the basis of Cecilia Ridgeway’s gender frame theory is the process of *sex categorisation*, which is the cognitive process by which individuals label another as male or female. As we categorise each other, we also implicitly categorise ourselves as either similar or different from that other (Ridgeway & Correll, 2004, p. 514). According to this theory, male and female is usually the first category that people sort themselves and others into in social relational contexts. These category systems, as emphasised in the previously discussed boundary approach, are by their nature based on contrast. ‘Man’ and ‘woman’ are understood as primary categories, simple and binary, whereas other categories are more complex.

Crucially, common cultural beliefs facilitate *shared cultural expectations* about men and women. Thus, according to Ridgeway, beliefs about gender, such as that ‘women are more communal and communicative than men’, and ‘men are more agentic and instrumental than women’, define the distinguishing characteristics of women and men and how they are expected to behave. In this respect, people are *framed by gender*. These beliefs function as ‘cultural rules’ or instructions for enacting the social structure of difference that is gender (Ridgeway & Correll, 2004). In practice, gender functions as a background identity in social contexts, an implicit, cultural-cognitive feature that colours people’s activities to different degrees, but that is rarely the primary focus of what is going on in the situation. The impact of those beliefs on behaviour and evaluation will vary extensively across contexts, from imperceptible to substantial (Ridgeway & Correll, 2004, p. 516).

Focusing on the interpersonal level, the theory highlights how cultural beliefs and individual expectations play out in everyday social relational contexts, and how this affects, in turn, gender inequality. Based on West and Zimmermans’ (1987) doing gender approach, Ridgeway (2004) aims at specifying the processes by which gender inequality is recreated through every day social relations. Relating to women and men is a significant feature of nearly everyone’s daily experience, which reinforces the role of gender as a significant definer of oneself and the other in all social relational contexts. Therefore, any context in which individuals define themselves in relation to others to comprehend the situation and act will evoke cultural beliefs about gender.

Importantly, the doing gender perspective implies the concept of *accountability* (West & Zimmerman, 1987). People know that their behaviour might be evaluated in relation to prevailing normative conceptions of gender; thus, they act according to this (Hollander, 2013). For Ridgeway (2014), given that individuals expect others to judge them according to gender beliefs, they must consider these beliefs, whether or not they personally endorse them. I find that this argument analytically opens for a reflective and critical distance between people and the gender beliefs. Ridgeway’s argument indicates that although this theory implies a view of cultural beliefs about gender as largely habitual and unreflective, it does open for a reflective and flexible agency, because it acknowledges that people may use and act on such beliefs although they disapprove them. This possibility for reflexivity is consistent with boundary theory and repertoire theory, although arguably with less distance than suggested by the latter perspective. The constraining effect of gender beliefs is strong and the gender frame thus works limiting more than enabling.

In this theory, gender is seen as a multilevel system of difference and inequality. This involves cultural beliefs and distribution of resources at the macro-level, patterns of behaviour, and organisational practices at the interactional level, and selves and identities at the individual level (Ridgeway, 2011; Ridgeway & Correll, 2004). However, the analytical focus (2011, pp. 17-18) is mainly on the interactional and interpersonal micro-level of the gender system, because processes at the interpersonal level are especially implicated in the *persistence* of gender inequality in modern times. Gender processes at the interpersonal level draw on widely shared *gender status beliefs*, which are macro-level cultural phenomena but are learned by individuals at the micro-level and used to frame their social expectations. These beliefs include different abilities ascribed to women and men, and a status inequality favouring men over women. Cultural beliefs about gender strongly influence young people's choice of education, because they cause women and men to interpret their ability differently in career-relevant tasks. Accordingly, they will develop different preferences and ambitions, and pursue different careers.

This conception of cultural beliefs is useful to think about how gendered notions operate, and how micro-level interactions are important in shaping the system of gender segregation. Furthermore, the attention towards how the meaning of gender varies within different contexts is important for my use of this theory. The 'situational relevance' of gender is fruitful for identifying and understanding heterogeneous and dynamic accounts of gender, allowing for gender to vary in significance, in line with the undoing gender perspective.

Importantly, this focus on the situational relevance is consistent with symbolic boundary theory and, especially, repertoire theory. In article 2, I combine these theories and show that the cultural belief that women are more caring than men is widespread; also, it is actively adopted by the female students when explaining their choice of education and when showing suitability for the profession. Female and male students' different legitimations of their choices is interpreted here as the result of having different repertoires available. This interpretation is possible combining cultural beliefs theory, symbolic boundaries, and repertoire theory. It allows identifying the existence and impact of cultural beliefs of gender, an analysis with reflection and critical distance between actors and cultural beliefs and seeing gender as the salient factor in determining the use of these different conceptions of gender.

However, I modify this perspective in two ways. First, according to Ridgeway and Correll (2004, p. 513), widespread cultural beliefs frame men as more status worthy and competent overall (Acker, 1990), and more competent at the things that 'count most', whereas women are

presented as less competent in general but ‘nicer’ and better at communal tasks, even though these tasks are less valued. This predefined hierarchical dimension might narrow the scope of analysis, whereas I aim at an open questioning of what is valued, by whom, in different contexts, and how this relates to gender. Treating the content of the cultural beliefs as empirical questions, I investigate what is valued and how this relates to gender as open-ended questions and to a lesser degree as something predefined, compared to Ridgeway’s approach.

Second, I depart from the theory’s implication that people are unable to relate to each other without filtering them through the lens of gender. Ridgeway presents gender as a master status overruling any other social category. She states that gender occasionally is merely ‘lurking in the background’, and that it varies in salience across situations (Ridgeway & Correll, 2004), thus opening for an analytical focus on when gender matters less. However, gender is always understood to be relevant and making a difference. Ridgeway (2004) argues that until the status distinctions between men and women are reduced, the gender filter is unavoidable. In this study, I rather attempt to leave the ubiquitous significance of gender as an empirical question. In line with Deutsch (2007) and her undoing gender perspective, I analytically retain the possibility that, under some conditions, gender will be a more or less irrelevant category.

Combining boundaries, repertoires, and gendered beliefs

In this chapter, I have reviewed theoretical debates within the sociology of education and the literature on gender and gender segregation, situating my position at the interface of these fields. Furthermore, I have described my use of boundary theory, repertoire theory, and gender frame theory, shown how these perspectives intersect, and how I combine them. I have described how I find Lamont’s theories of symbolic boundaries and cultural repertoires (e.g. Lamont, 1992; Lamont, Beljean, & Clair, 2014; Lamont & Thévenot, 2000) fruitful to investigate how the students and teachers draw boundaries and how this is related to gender, and to grasp the various cultural repertoires that people use to constitute and interpret these distinctions. Providing the analytical tools to examine these processes of categorisation and valuation, the perspective helps make explicit how and under what conditions gender inclusion and exclusion take place.

However, combining Lamont’s framework with Swidler’s take on repertoire theory one can explore more carefully the use and meaning of variation and inconsistencies within people’s accounts. Analysing students’ accounts through the lens of repertoire theory, students’ notions of gender can be understood as pragmatic, variable, and adaptable, and as making active use of different cultural resources. This allows for a flexible and reflective understanding of cultural

resources, however retaining the structuring impact, by understanding the availability of resources as formed by factors such as the Norwegian national context, the institutionalised valuation systems within the two different fields of study, and by the students' gender.

Similar to the symbolic boundary perspective, theory on gendered cultural beliefs (Ridgeway, 2011) is suitable for understanding how categorisation processes work through social interaction, and how they shape and are shaped by larger processes of equality and inequality. Furthermore, it emphasises the situational relevance and salience of gender, which aligns with the flexibility and heterogeneity inherent in repertoire theory. This combination of theories allows for seeing how cultural conceptions of gender work to shape accounts and alternatives for action through institutionalised and largely taken-for-granted assumptions and habits. However, it also opens for reflection and critical distance between actors and these conceptions of gender. Leaning on Deutsch' (2007) undoing gender perspective, I argue for including an analysis of the circumstances in which gender does not matter when considering the different conceptions of gender. This view is apt to explore what causes gender to be relevant in social situations and illuminate the possibilities for change in the processes sustaining gender exclusion in gender-typed study fields.

5. Methods and analytical approach

This study is empirically driven. However, theoretical assumptions and previous studies in the field have inevitably informed my research (Tavory & Timmermans, 2014). As described in the introduction, this study was motivated by a theoretical interest in the symbolic and cultural dimensions of gender and work (Solheim, 2002; Solheim & Teigen, 2006) and a curiosity about what gender means for young people in Norway today. Anthropological training has provided me with the methodological tools to study these topics combining participant observation and in-depth interviews. The data on which this thesis is based were produced through fieldwork at the college where the two bachelor's degree programmes are located. The fieldwork included approximately 120 hours of participant observation and in-depth interviews with 35 students. Interviews and observation were conducted among first year students in the nautical science and nursing class of 2014 and 2015, making up altogether four classes. In this chapter, I describe and discuss the methods used to gather and analyse the empirical data.

Choice of and access to the field

In qualitative research, sampling decisions are often made with a focus on specific people, situations, or sites, because they are expected to offer information-rich and illuminative perspectives. In such 'purposeful sampling', cases are selected with an aim to provide insight into a phenomenon, not statistical generalisation from a sample to a population (Patton, 2002, p. 46). The region in which the fieldwork was conducted was selected because of its gender segregation in both industrial history and contemporary labour market, which arguably offer a context where gendered perspectives are more present, and hypothetically, more pronounced, than in more gender equal regions. Much research both in Norway and abroad on youth and education is conducted in the bigger cities where the major universities are located (Cuervo & Wyn, 2012; Farrugia, 2014; Lødding & Paulgaard, 2019; Paulgaard, 2017). People in other regions and smaller cities are likely to have other experiences, barriers, and strategies than people inhabiting large cities; thus, producing empirical material from these areas will contribute to an even broader understanding of adolescence and young adults in Norway.

This study explores the perspectives and the experiences of the gender minority and the gender majority positions in both female-dominated and male-dominated study fields. The region had obvious limitations on the range of colleges, as not many educational institutions in the region offered bachelor programmes distinctly dominated by either men or women. Nursing and nautical science provided both a numerical majority of women and men, respectively, and

culturally and historically gender-typed educations. These bachelor programmes have been the two most gender-segregated disciplines at the college for the last decades. They are historically and culturally defined as a ‘female profession’ and a ‘male profession’. This is not just in terms of who has occupied the professions, but also because the manual and administrative skills associated with deck officers, and the relational skills associated with the nursing profession are traditionally seen as typical interests and skills of men and women, respectively. I decided to interview and observe first year students in both bachelor programmes, as I was interested in perspectives on their first meeting with the program and whether and how their expectations were met. I contacted the president of the college in April 2014, sending over a preliminary project plan, and I was generously granted access to participate in lectures and practical training in nursing and nautical science and to conduct interviews with the students. Lecturers and teachers in both programmes were informed about my project when I paid my first visit to the college in September 2014, and the welcoming attitude of both the staff and the students facilitated an uncomplicated start. An e-mail about the project was sent out to all students and teachers before I started observing, informing them about the right to withdraw from the study, and encouraging students to make contact if they wanted to participate in an interview.

Choice of methods: Interviewing and observing

There is little qualitative research on gender, educational choices, and gender-typed study fields in Norway. Even rarer are perspectives that include both female-dominated and male-dominated study fields and observation from the education setting. Thus, I was interested in doing a broad exploratory investigation of what it takes and what it means to make gender non-traditional choices of education in Norway today. Given this ambition, I found a combination of participant observation and individual in-depth interviews appropriate.

A focal interest at the onset of this study was how the students described and reflected around making gender non-traditional choices of education. Therefore, I found in-depth interviews suitable, as this method allows people to tell their biographical stories. Interviews are suited for gaining knowledge about people’s experiences and their descriptions of these experiences (Gerson & Horowitz, 2002). Being interested in the informants’ personal stories, individual interviews seemed more suitable than group interviews⁶. Furthermore, given a preliminary interest in the symbolic and cultural dimension of gender and work (Solheim, 2002), interviews allowed grasping explicit and implicit competence ideals among the students and how this

⁶ Two female students in nautical science wanted to do the interview together. This is why the number of interviews is 34 whereas the number of interviewees is 35.

related to gender. Interviews allow the interviewees to describe and define who and what is considered good, valuable, and suitable. This permits the researcher to be led toward the most appropriate analytical categories and grasping also implicit criteria of what is good and suitable (Lamont, 1992).

For several reasons, I thought participant observation would be a well-suited method for exploring my research questions. First, since I was interested in what knowledge, skills and qualities that were explicitly and implicitly given value, and how this related to gender, I reckoned that observing what the teachers and the students assigned attention to during training would provide relevant data. I could observe how types of knowledge, skills, and qualities were more or less prominent *in situ*, which offers different analytical lens compared to the interviews.

Second, the knowledge base underpinning professional education in nursing and nautical science gives prominence to practical training, and this training provides an opportunity to observe how the students play out their future professional roles. Given the aim to understand how different educational contexts might represent different possibilities for gender inclusion and exclusion, partaking in practical training provided the opportunity to observe directly if and how gender distinctions were apparent. Third, participant observation offers a less formal setting to talk to the students and teachers than the interviews, offering also unsolicited verbal accounts, as I will report below.

Finally, moving from the lectures to the practical training, via chats with the teachers and students in the breaks, and to the formal interviews gives the possibility to see the findings in relation to each other. This provides a broad foundation for interpreting the findings. Several interviewees referred to situations I had observed, for instance when talking about the professional skills deemed important. Although my observation data are explicitly used only in one article, they nevertheless provide reliable support also for the analysis of other data. For example, article 2 discusses the importance of personal qualities for being a good professional in nursing and article 3 addresses this topic in relation to how required types of skills were presented in nautical science. The importance of personal qualities was seen across contexts and confirmed when following introductory lectures at the beginning of the semesters. However, observations from lectures were not found room for in the articles. This is an illustration of how observation produces an excessive amount of data, which cannot be used entirely, however still useful for the researcher to interpret and discuss the findings (see Hammersley & Atkinson, 2007, p. 102).

In the field

The fieldwork was conducted from September 2014 to October 2015. The college is located in a small city in the west coast of Norway and has about 2000 students. Most students come from the region where the college is located, yet many of them are far away from home and need to rent an apartment. About two times a month, I spent Monday to Thursday at the college, travelling back and forth from Oslo. The in-and-out nature of my fieldwork offered me time to reflect on my observations and interviews, as well as discuss them with colleagues and supervisors. These breaks reinforced and refined the constant alternation and developing of the focus of the thesis, the so-called 'round dance' between data, methods, and theory that characterises the fieldwork process (Wadel, 1991). Furthermore, the travels back and forth made the fieldwork last over three semesters instead of concentrating in one period, which gave me the possibility to explore if my findings were confirmed in different classes. The variation across classes was explored comparing the data collected in the autumn of 2014 and spring of 2015 with those gathered in the autumn of 2015.

The lecture halls and simulator rooms in both nursing and nautical science studies were located in the same building, and the interviews were conducted in classrooms or meeting rooms at the college. In addition to the simulator areas, the lecture halls, and rooms used for conducting interviews, I spent time with the students in the cafeteria and the library. The practical training in nautical science is mostly conducted in the ship simulators, which are realistic copies of wheelhouses on different types of ships, constructed to make the experience of being on a boat as authentic as possible. The wheelhouses, although all slightly different in size and equipment, all had large windows overlooking the ocean, numerous technical instruments, and a table and a light for the paper map. Some had tall and comfortable chairs for the navigators to sit in, whereas others had a plainer interior. They all had instructions on the wall on what to do in emergencies. The wheelhouses could simulate night, fog, snow, and so forth, and some also simulated the feeling of waves in rough sea.

In nursing, the practical training took place mainly in a corridor with separate wards, imitating a hospital corridor or a nursing home, with numbers on each door. The corridor had illustrative charts of human anatomy, and real size figures of bodies and body parts. In each ward, several hospital beds were placed next to each other, with the possibility of using folding screens for privacy. The students were practicing different procedures either on each other, on dummies imitating patients, or on live models (actors). The manifold medical equipment was orderly located in a closet on one of the walls. The students and the teachers were all wearing nursing

uniforms with nametags. The male students were usually dressed in dark or light blue uniforms, and the female students in white, pink, or purple uniforms.

Importantly, the combination of interviews and observation, and the reciprocal relation between the two methods, gave direction to the study and informed my analytical attention. While observing, I noticed topics for investigation in the interviews, and similarly, during interviews, I took interest in matters that gave direction to the observation.

Participant observation

Participant observation was mainly conducted in the students' practical training, where they practice and play out their future professional roles. In total, I participated in 105 hours of practical training, 56 in nautical science and 49 in nursing. I also observed lectures (15 hours), including the first lectures of a new semester, to learn how the education was introduced to new students. In both programmes, I observed more students than I interviewed.

In nautical science, the practical training was from 08.00 to 16.00 in the ship simulators. The class was split in four groups of around ten students; each assigned two hours in the simulators. Therefore, I could observe the entire class within one full day of simulating. The simulators consisted of five copies of wheelhouses on different types of ships, and a 'classroom'/control room with monitors overlooking the different wheelhouses where they prepared and debriefed each "sailing". One session in the simulator involved a 30-minute preparing session, about one hour in the wheelhouses, and debriefing, discussion and summing up afterwards. In nursing, I attended their practical training between 9 and 15 o'clock. The classes included more than 100 students; therefore, I had to choose a few groups within the class to observe. The class was separated in two large groups and the groups were further divided for the practical training into three groups in three training rooms. Each training room had five or six beds and two or three students often practiced together around one bed.

In each practical training session, my strategy was to join one group and try to be part of the experience. In nursing, I joined one group around a bed with a patient, and in nautical science, I chose one group to follow and stayed in the wheelhouse with them for the full session. This meant that I was not observing from a distance, but instead joined a group to observe closely, listen to their discussions, and be able to ask questions. However, I did not actually perform the exercises that the students practiced.

The role of the researcher in the field depends on the types of roles available in the setting (Wind, 2008). The anthropological ideal of Malinowski (1922), namely, participant observation

as ‘going native’, is not always possible when conducting participant observation at a college where there are two usual roles: students and teachers. None of these roles were practically or ethically possible for me to take on. As argued by Gitte Wind (2008), sometimes the only feasible role is the role of the ‘researcher’.

When observing, I was interested in how the teachers and lecturers presented the knowledge related to the discipline, and what they implicitly and explicitly emphasised through their instructions. Observing the introductory and preparing phase and the debriefing afterwards provided data about types of knowledge and skills that were accentuated by the teachers and the students. Moreover, I observed which students participated in discussions in class, how the students cooperated and what they discussed, the dynamics of the student groups, and what topics emerged in discussions.

Furthermore, I was interested in the role of gender in their practical training, focusing on if and how gender was relevant. This was explored paying attention to whether, how, and when gender was a topic, and comparing differences and similarities between female and male students, and differences and similarities within the female and the male student groups (Dahl-Michelsen, 2015). I observed whether there were any patterns concerning gender as for who took lead in the training sessions, which students were active in discussions, who gained attention from other students and from teachers, and how this was related to what competence were most valued. Thus, my observations of gender were largely limited to observing if men and/or women were taking lead, partaking in discussion etc., and not identifying gender via performance, or *expressions* of gender, such as acting or appearing feminine or masculine.

Unsolicited accounts and in-field interviews

The simulator settings in both study programmes offered good possibilities for informal chats with students and teachers. Unsolicited oral accounts from the students and teachers provided important insights. The occasions in which the students and the teachers would spontaneously explain to me what happened and why were useful sources of direct information about the setting, the perspectives, concerns, and discursive practices of the people expressing them (Hammersley & Atkinson, 2007). Both students and teachers were often eager to make sure that I understood the situation ‘correctly’, providing helpful information at several levels about what was going on or what they considered important about what we were doing. Spontaneous unsolicited accounts often initiated in field-interviews, were I followed up on something that was being said.

In-field interviews (Spradley, 1979), during which I explicitly asked students or teachers questions about a situation or about their perspectives on a topic, provided a less formal setting to gain knowledge than the interview setting. For example, the navigation bridge simulators in nautical science provide a good environment for this. Students are in the simulator in pairs, for about an hour and a half at the time. As it is smooth sailing parts of the time, I had the chance to discuss different topics while they practiced handling the instruments. Similarly, I had informal conversations with the nursing students during breaks and in the groups before the practice started. Also, the practical training setting provided good opportunities to talk to the teachers, who also provided important data.

Field notes

Taking field notes is a necessary part of any fieldwork. More than simply expressing any instances in words, writing field notes is an interpretative process: it is the very first act of textualizing (Emerson, Fretz, & Shaw, 1995, p. 16). During observation, I always carried a notebook and a pen. During the introductory and debriefing phase of practical training I would have my notebook in front of me and take notes. When practicing in groups, however, I rarely took continuous notes. As emphasised by Emerson and colleagues (1995), field researchers must decide when, where, and how it is appropriate to take notes, as these decisions can have important effects on the relationships with those in the field. When students were practicing nursing techniques around a bed, or when in the wheelhouse, I usually refrained from taking notes because I partly took part in the activity and did not want to stand out, make the students feel uncomfortable, or disturb their interactional dynamics. Furthermore, having one's 'nose in the notebook' (Emerson et al., 1995, p. 23) may distract one from paying close attention to the talks and activities occurring in the setting, thus missing relevant content. I would jot down an expression, or a series of events through key words, when it happened, if I was worried about forgetting the accurate description; however, usually I would write complete notes right after the session finished. During the introductory and debriefing phases, I could write elaborate notes, both descriptive and analytic (Hammersley & Atkinson, 2007, p. 150), with less concern of standing out, making the students feel uncomfortable, or disturbing the setting in any way. After a day's fieldwork, based on all my notes, I would write a report of the day.

Individual interviews

I started recruiting students for interviews after I had participated in their training for about two weeks. Two students offered to participate by responding to the information e-mail, whereas

the rest were recruited after being asked verbally, usually during the breaks between or after the observation sessions.

The interview sample was put together based on an interest in talking to both the gender minority and gender majority in both lines of study. Most students agreed immediately to be interviewed, but some, primarily male students, declined. The possible impact of being a female researcher on the recruitment process is discussed later in this chapter.

Whereas self-selection will often recruit the people most interested and comfortable in sharing their stories, asking people to be interviewed may recruit both people eager to share their experiences and perceptions and those more reluctant to divulge their personal views and opinions. The interviewed students could be placed in both these categories. I conducted 34 interviews with 35 students (one interview was with two female students in nautical science). Of these, 15 were nursing students and 20 were nautical science students. The students were aged between 18 and 28, but the majority (29 out of the 35) were between 18 and 21. They were all in their first year of the respective bachelor's degree programmes.

Table 1: Interview participants

	<i>Men/women</i>	<i>Age</i>
<i>Nursing</i>	<i>8 women</i>	<i>18-21 (7)</i> <i>22-28 (1)</i>
	<i>7 men</i>	<i>18-21 (2)</i> <i>22-28 (5)</i>
<i>Nautical science</i>	<i>12 women</i>	<i>18-21 (12)</i> <i>22-28 (0)</i>
	<i>8 men</i>	<i>18-21 (8)</i> <i>22-28 (0)</i>

All interviews were recorded. The interviews were semi-structured, lasting from 45 to 120 minutes; most of them lasted between 60 and 90 minutes. All interviews were conducted in

seminar rooms at the college. I used three preliminary guidelines for the interviewing techniques. Spradley (1979) advised to ask descriptive questions to generate useful accounts of practice and to avoid normative discourse. I started all interviews by asking the interviewees to tell the story of how they started this field of education. They were invited to narrate their first thoughts on different occupations as children, their spare time interests and hobbies, their favourite subjects in school, and then their considerations on their present choice. This usually generated information on what their parents and other persons in their family worked with, and their thought on these professions. These enquiries also provided information about the place where they grew up and how they described the labour market there. Such questioning was also inspired by the technique of life history interviews, and the rich context data this provides (Mason, 2002). By asking the interviewees to structure their life story narrative through their educational biography, and then follow their own cues, I aimed at both getting descriptive knowledge about practice and noting how they presented and legitimated their *choice narrative*. Moreover, opening with a question that invites people to share their 'life stories' also aligns with Spradley's (1979, p. 46) first advice on starting a successful interview: 'keep informants talking'.

Second, given my interest in the cultural interconnections between gender and competence, I aimed at grasping both explicit and implicit conceptions of this matter. Therefore, I questioned participants about the kinds of knowledge, skills, and qualities they found necessary and important to be a good professional in their fields. Inviting them to describe the core competence and what it takes to be good, the interview allowed grasping what types of knowledge, skills, and qualities are explicitly recognised and formalised in the different fields (Mangset, 2017). As argued by Mangset (2017), directly questioning participants about this, helps elicit the 'official' discourse on what it takes to be good. Furthermore, analysing how the accounts of competence and gender more elusively intersect, implicit connections between the two are identified.

Finally, being interested in whether and how gender matters, I did not ask explicitly about gender until the end of the interviews, to avoid transferring my terms and topics to the interviewees. Analytically, gender may signify structure, hierarchies, and boundaries, and at the same time something slippery and hardly categorizable, changing its meaning based on situation and context (Højgaard, 2010). Therefore, a conscious research strategy is necessary to approach the topic and gain knowledge on it. The interviews intended to grasp the contextual frames and situations in which gender proved relevant. This meant investigating the situations

and topics, discursive as well as practical and symbolic, where gender became significant (Højgaard, 2010). Not trying to keep my interest in gender a secret⁷, I nevertheless avoided bringing up ‘gender’, ‘female-dominated’, ‘male-dominated’ and similar terms explicitly at the beginning and for most of the interview, rather stating my interest in the line of study the students attended. By such, I let the interviewees decide if and when to introduce gender as a topic in the interviews. To avoid purely normative assertions common in interviews about gender, I asked descriptive and specific questions about the discipline and the training (Højgaard, 2010; Spradley, 1979). I ended each interview by inviting the students to reflect over the gender-divided nature of the disciplines they were entering.

Several students had seemingly little knowledge of interviews as a research method and were confused about the purpose of the interview. Therefore, before the interview started, I was cautious to explain in detail my intentions. The questions were openly formulated, as inviting storytelling. As mentioned, I started every interview by asking the students to tell the story of how they got interested in their current studies. I followed up by inviting them to tell me about the study programme, the discipline, and their expectations, experiences, and opinions regarding this. During the interviews, I aimed at fitting the role of a sympathetic, naïve listener (Blair-Loy, 2003), interested in whatever they wanted to tell me about their educational choice and their studies. I had an interview guide, but the interview was guided by the dynamics of our conversation, and in many interviews the themes were covered without me explicitly raising them. The students generally gave elaborated answers, and in most interviews, it was easy to keep the conversation going. However, a few students were more reluctant with their answers, which I presume was due to either shyness, an uncertainty about the meaning and use of a research interview (all though I did my very best in elaborately explaining), or a combination of them. Recalling that many students were 19 or 20 years old with seemingly limited knowledge of social science research methods, this is not surprising or uncommon (Hammersley & Atkinson, 2007).

Analytical approach

The analysing process in qualitative research starts when one enters the field and accelerates with every interview and every session of observation as more information is gained. Here,

⁷ All interviewees signed an information letter to obtain written consent, which stated an interest in gender and educational choices (see Appendix 1).

however, I describe how I worked with my material after the fieldwork was finished. With the exception of two interviews transcribed by me, a research assistant did the transcripts. After transcription, I read all interviews while listening to the recordings, making analytical notes as I went along. This also served as a thorough control of the transcripts. My coding and analysing techniques were in line with Braun and Clarke's (2006) description of thematic analysis.⁸ After listening and reading the interview transcripts and field notes, highlighting and taking notes as I went along, I used both manual techniques and NVivo to code, categorise, and annotate my material. The numerous codes and categories were empirically grounded, in line with inductive analytic strategies. This was a time-consuming and detailed process, which made me thoroughly familiar with the material. The coding and categorisation provided a rich thematic description of the entire data set and produced an overview of the predominant themes. It allowed me to recognize patterns across interviews and situations and left me with a categorised and organised material convenient to work with. Moreover, this process generated rough outlines of article ideas.

A researcher enters a field with a set of perspectives, influenced by both academic training and personal characteristics, and a reflective approach to these factors is necessary. To assess if alternative understandings were more pertinent, my findings were exposed to an academic 'community of inquiry' (Tavory & Timmermans, 2014). I displayed extracts from observation and interview data to research colleagues to probe initial analyses, discussed article drafts in seminars, presented preliminary findings at international conferences, and articles submitted to journals have undergone peer review. This served to improve the quality and refine the study. Moreover, it displays the inherent social nature of the research process.

The writing phase, with numerous drafts of the articles, was essential in producing the final analyses that ended up in the articles. While writing, gradually more informed by theoretical concepts such as symbolic boundaries, cultural beliefs, and repertoires, I re-analysed my data, looking into how students and teachers demarcated between what was valuable and not, the descriptions about women and men's interests, skills, and competencies, and with an eye for how the interviewees shifted between different ways of talking about gender. Accordingly, my overall analytical approach can be described as *abductive*. Abduction is an analytical approach in which the researcher switches between empirical driven interpretations and theoretical conceptualisations. The analysis develops as a dialogue between theory and data, where the

⁸ The following description is a condensation of Braun and Clarke's (2006) six steps of thematic analysis.

empirical data influence choices of theory, whereas the theoretical perspectives provide concepts to interpret the empirical findings (Järvinen & Mik-Meyer, 2017; Tavory & Timmermans, 2014).

The theoretical perspectives moved my awareness towards an interest not only in *what* people think and do but also in what they think and act *with* and thus the cultural frameworks they have available and use to think about a problem (Gullestad, 1992; Swidler, 2001). Furthermore, theoretical perspectives informed my analysis specifically directing my attention from looking for coherence in narratives to also identifying and displaying variation and contradictions (Skeggs, 1997) and how this changes across contexts and situations (Ridgeway, 2011; Swidler, 2001). The interview situation –similar to ordinary situations in which people offer accounts of themselves or their life experience – encourages narratives that give coherence and meaning to life (Lamont & Swidler, 2014, p. 162). Lamont and Swidler (2014) argue that interviews could lead to an impression of people’s lives as more coherent and with less contradiction and unpredictability than what real lives normally encompass. Beverly Skeggs (1997) maintains that inconsistencies and contradictions within interviewees’ accounts are often found to be challenging in qualitative methods analyses. The analytic framework introduced in the previous chapter, offers a possibility to make sense of variation and inconsistency.

Overall, my analyses were done in line with an *interpretivist stance* (Geertz, 1973b), which considers the study participants’ active representations of their worlds and the relation between the study participants and my interpretations as important for knowledge production. As for the analysis of the interview data, the interviewees’ talks were largely interpreted as *accounts* (Lamont & Swidler, 2014), in opposition to views where the aim of the interview is to elicit some kind of absolute ‘truth’ about the phenomenon under investigation. In addition to *what* people say, I was interested in *the various ways they talk about an issue*; that is, I was just as interested in the frameworks the interviewees used to address an issue as in the ‘facts’ (Gullestad, 1992; Holstein & Gubrium, 1995; Lamont & Swidler, 2014; Pugh, 2013; Swidler, 2001).

Similarly, as for observation data, I did not consider the observed actions or events as self-evident facts inherently endowed with meaning, unambiguously available for inspection (Atkinson & Coffey, 2003). The actions observed, written down, and interpreted, relied on the same hermeneutic processes as the interview data. I used the data material to investigate the research questions from different angles. For example, being interested in what knowledge, skills, and qualities were valued in the two educational contexts, I interviewed the students,

observed their training, and talked to the teachers. This provided information about how students and teachers *talked* about nursing and nautical science competence, how the discipline knowledge was *presented and discussed* in class, and how different elements of this knowledge was *tried out and practiced* among different students during training.

However, an interpretivist stance does not mean that interview and observation material cannot be analysed as indicatives of practice. This, however, is not an uncontroversial issue, and especially the use of interview data to gain knowledge about behaviour has been at the centre of epistemological debate in the social sciences for decades (e.g. Atkinson & Coffey, 2003; H. Becker & Geer, 1957; Cerulo, 2014; DiMaggio, 2014; Hammersley, 2003; Jerolmack & Khan, 2014).

Jerolmack and Khan (2014) criticize the frequent use of interviews among sociologists who are interested in understanding and describing social action. They argue that observation data concern behaviour and interview data concern talk and warn researchers against committing the *attitudinal fallacy*—the error of inferring situated behaviour from verbal accounts. Ethnography, they argue, gives more accurate information about social action than data gathered by other methods, because the action is observed *in situ*. They rightfully remind and advise authors of account-driven studies to develop explicit rationales for their studies. Their interactionist position, advocating for understanding attitudes and action as collectively negotiated and context-dependent, resonates with my analytical approach. However, applying such a dichotomy between interviewing and ethnography accentuates the differences and undermines both the similarities between the methods and the variation within each of them.

First, Jerolmack and Khan's argument may be read as implying that interviewers interested in social action are searching for some sort of 'truth' or factual reproduction or understanding of events. As discussed above, my interpretivist position is that observed action is not filled with an objectified and definite meaning for the observer to grasp. I analyse both interview data and observation data as 'something made' (Geertz, 1973b, p. 17), as object to the researchers' hermeneutic work; yet different types of data require different analysing techniques.

Second, interview data *can* elicit useful indicators of behaviour, given that the information gained is reasonably trustworthy based on contextual knowledge and other sources and gathered using suitable interviewing techniques (Cerulo, 2014; DiMaggio, 2014; Hammersley, 2003). For example, asking descriptive rather than normative questions may generate reliable accounts of practice (Spradley, 1979). Moreover, people's reports of their behaviour, *what* they do, are

arguably more reliable than *why* they do the things they do (Vaisey, 2014). When the interviewees in this study talked about what they had done before starting their current education, or how friends and family had reacted to their choice, I interpreted their answers as responses to questions in the particular interview setting. However, I also used the information as indicative of practice and events. One illustrative example may be the students who told me that they had worked as medics in the military, or at a care centre because they were out of jobs, and that this experience exposed them to new experiences, which made them reconsider their plans and start nursing studies. I do understand what they told me as a product of the interview situation; as accounts chosen by them, highlighting this specific experience as important. However, I also used these accounts as credible data about practice.

Finally, the variation within interviewing techniques means that the purpose of the interviews is not only probing behaviour; it is possible to attain various purposes simultaneously as long as one is explicit about the analytical approach (Hammersley & Atkinson, 2007). As already explained, my interview approach largely implied interpreting interviewees' talks as accounts and representations. The aim in these cases is not to probe behaviour but to investigate the various frameworks used by different interviewees in different settings and situations. This point might also be couched in theoretical terms, as it aligns with my conceptual interest in what resources people draw on to frame their arguments, as explained in the previous chapter. As similarly phrased by Swidler (2001, p. 221) and Gullestad (1992, p. 21), I am equally interested in understanding what resources people have available to think with as in what people think. These resources are arguably elucidated by listening to the different ways people frame an issue and to compare how different groups of people frame and anchor their arguments (Lamont, 1992; Swidler, 2001). The potential implications for behaviour depend on a theoretical argument in which the frameworks, or cultural resources, available to individuals (displayed by the various ways of talking about gender and about competence) potentially shape beliefs and thus what action seems possible (Lamont, 1992; Ridgeway, 2011; Swidler, 2001).

Comparison

The aim of the project is to investigate gender non-traditional educational choices *in* two study fields, more than *across* two study fields. However, the two contexts work as sensitising cases for each other; thus, I will describe how I use comparative approaches in this thesis.

The two study fields are both three-year bachelor's degree programmes within professional education, consisting of a combination of an abstract theoretical knowledge base and extensive

practical training. Moreover, they are part of the same college, and both are largely dominated by men or women. As I am interested in their gender division, I compare aspects of being the gender minority and how gender and competence intersect across the study programmes.

I am also interested in how issues of gender are related to what types of knowledge, skills, and qualities are valued in the two disciplines. As described in chapter 2, the two disciplines build on two profoundly different knowledge bases. I did not choose these two study fields to get a comparison of ‘most similar systems’ (Korsnes, 2014), where the cases compared should be as similar as possible in order to best uncover differences. Rather, the point of having two study programmes was to take advantage of the differences for sensitizing purposes and increase variation in the data. For instance, in article 3, I compare observations and interviews from the two study programmes, identifying and describing differences, to explore whether these differences may have implications for gender inclusion and exclusion in the two education fields.

The comparison, then, serves two main functions. First, I use comparison to clarify the profile of one case by contrasting it with the other case. Following Kocka’s (2003) distinction between different purposes and functions of comparison, such a comparison serves a *descriptive function*. By looking at one case through the lens of the other can serve as a methodological means to “‘visibilise” the invisible’ (Knorr-Cetina, 1999, p. 4).

Second, my comparative approach is also used to ‘identify questions and problems that one might miss, neglect, or just not think of otherwise’ (Kocka, 2003, p. 40), and thus facilitate research questions that might not otherwise have emerged (Korsnes, 2014). A related point is that the comparison may activate what Cato Wadel (1991) calls ‘naïve observation’ or Tavory and Timmermans (2014) call ‘defamiliarisation’: to lay our prior knowledge aside to be able to observe and describe something as it was unfamiliar to us, and as such identify patterns of interest. In Kocka’s (2003) terminology, such a comparison serves a *heuristic function*. In this study, this may be exemplified by how comparison awoke an awareness of the significance of previous experience with the professional field when entering gender-typed study fields. Moreover, the comparative approach emphasises how processes of inclusion and exclusion are context specific. The comparison in qualitative analysis aims at abstraction by doing justice to the context in which the different cases are embedded and as such ‘theorise context’ (Palmberger & Gingrich, 2014, p. 96). Indeed, in article 3, the distinctions between the students in the two lines of study are interpreted as embedded in the environment, through cultural repertoires made available for students and teachers (Lamont, 1992).

The role of the researcher

I positioned myself within the field as neither a student nor a teacher, but in the role of a researcher, and this position may induce a certain authority in the field (Wind, 2008). As described in the section about interviews, a few students acted as they were unsecure and confused about the purpose of the interview. In the observations setting, however, both students and teachers were usually eager to explain and comment ongoing situations, and my position resembled that of an apprentice or an audience to the participants (Wind, 2008).

Given my approach to the data gathering and analysing process, the researcher will affect what knowledge comes out of the interviews and observations. First, characteristics such as age and gender might affect what is told in the interview settings and observation settings⁹. The fact that I am a female researcher might have influenced both the sample and the content of the data gathered. More female than male students agreed to participate in the interviews, which might not have been the case with a male researcher. Moreover, overall, the female students were more talkative about matters concerning gender and gender non-traditional choices; a male researcher might have generated other discussions with the male students on these matters. Alternatively, or rather additionally, the female students had available a different and more elaborative language on these matters than the male students (see chapter 7). Methodological and theoretical positioning gained through education and professional life will colour the observations and interpretation of the researcher (Tavory & Timmermans, 2014). Therefore, my preliminary interest in the symbolic and cultural dimensions of gender and competence inevitably influenced my observations and interpretations.

Limitations of the research design

Although the current research design provides good possibilities for exploring gender inclusion and exclusion in gender-typed study fields, some limitations must be acknowledged. First, travelling in and out of fieldwork has some disadvantages. It was frustrating not to be able to attend lectures I was invited to or conduct an interview at a certain time requested by a student, because I would not be present the following day. I was also unable to be present uninterrupted for a longer period, which might have provided deeper insights and a larger variety of data. Although the field breaks offered possibilities for sharpening the direction of the study and determined a prolongation of the duration of the fieldwork, a continuous presence

⁹ What the students *did* in the observation sessions I regard as less affected by my presence given the educational setting.

might have offered other insights into the two study programmes than what I was able to gain by going back and forth.

Another limitation is that the numbers of interviewees within each category of students (male nursing students, female nautical science students, etc.) prevented me from elaborating on a systematic comparison of the female minority and male minority students in the articles. The unequal number of students in both groups add to this limitation.

Furthermore, the comparability of the cases in terms of working conditions limited the investigation of how the nursing and nautical science students reflected on their choices in terms of future family life. Comparing the situation of being the gender minority *at work* is difficult in these cases, and this is not a topic of investigation in this thesis. The discussion about the difference between how the female gender minority and the male gender minority talked about their educational choices has been conducted with an awareness of the differences in working conditions.

Ethical considerations

The Norwegian Social Scientific Data Services approved both participant observation and interviews before I started my fieldwork (Appendix 3). All students and teachers in nursing and nautical science received information about the project before the fieldwork started, offering the right to not participate in the study. In the first observation session, and whenever I observed a new group, I introduced myself and the project and informed about the right to reserve from being observed. None of the students or teachers opted out of the study. The students who agreed to participate in the interviews also signed a written consent (Appendix 1). All participants have been anonymised and the recorded interviews have been erased, in accordance with the approval from the Norwegian Social Scientific Data Services.

At the outset of the fieldwork, my focus was on the students and less on the teachers. The information sent out stated that I would observe practical training, and teachers were, of course, part of this setting. However, the project was presented as a study of students. As the fieldwork progressed, I gained increasing interest in how the teachers presented the discipline knowledge, and I took notes from the conversations I had with them. In one of my articles, I also use quotes from the teachers. As the information sent out did not specifically state that I would interview teachers, there is a possibility that the teachers were unaware that their statements could also be explicitly used in my study.

6. Summary of the articles

Article 1

Myklebust, Runa B. (2019) 'Resistance and persistence. Exploring gender-untypical educational choices'. *British Journal of Sociology of Education*. 40(2), 254-268.

DOI: <https://dx.doi.org/10.1080/01425692.2018.1529553>

The first article uses interview data to analyse the choice narratives of female students in their first year of the nautical science bachelor programme. The article explores how female students in nautical science accounted for their choices and the resistance they met from family and friends. Thus, the findings here mostly relate to gender exclusive or inclusive processes *outside* of the education context. The article combines theories on symbolic boundaries and gendered cultural beliefs with literature on gender and work.

First, I detected the possible obstacles met by young women in making their educational choices given the feedback of their family and friends. The reactions were twofold. One category of comments related to the women's future children and the hypothetical conflict between career and family, shedding light on how tensions between family commitment and career are evident long before a family is started. Kathleen Gerson's moral dilemma perspective (2002) proved relevant as an analytical lens because it concerns the tension between society's normative expectations and a person's aspirations. In this material, the dilemma is brought upon the girls from friends, family, and colleagues; however, they seem to reject the dilemma. Since none of the women had children or any short-term plans of having any, the reactions were related to opinions and expectations on gender roles and responsibilities and not actual priorities between family and work.

The second type of reactions to the girls' choices was being put in a 'tomboy' category. The concept of the tomboy served as both a categorisation of the type of girl who chooses gender-untypical fields, and as an explanation of deviant choices, making it resistant to change. The tomboy categorisation fits with Ridgeway's argument (2011) that people often fail to see disconfirming information about gender stereotypes, or if they see it, they often implicitly interpret it in stereotype-confirming ways. Therefore, when changing social circumstances cause people to have more gender-atypical experiences, such as young women aspiring to be deck officers, they treat the individual as an exception, and their impact on gender stereotypes is negligible. Among the friends and family of the women, there seemed to be an opinion that women who want to be deck officers are tomboys, that is, they are the exception to the rule.

The other analytical strategy of this article was identifying the young women's coping strategies, which were twofold. One type of response was positioning themselves as 'one who dares', thereby claiming the identity of someone who has integrity and opposes gender norms. The second, and related, response was making use of the cultural repertoires of gender equality ideology available in the Norwegian context, thereby positioning their choice within a normative framework. The girls' valuation of choosing a gender non-traditional field of study mirrors ideas of gender equality prominent in the Norwegian public. These repertoires may serve as an anchor when facing negative reactions to their choice, and the two sets of responses might strengthen the women's motivation and conviction when meeting resistance. The article's findings represent both reproduction and traces of change in educational gender segregation.

Article 2

Myklebust, Runa B. (2020) 'Gendered repertoires in nursing: New conceptualisations of educational gender segregation'. *Gender and Education*.

DOI: <https://dx.doi.org/10.1080/09540253.2020.1765993>

The second article explores the processes of gender inclusion and exclusion in nursing studies. Making use of interview data, the article investigates how female and male students define a good nurse, how they talk about the gender gap, and how they explain and legitimate their choice of education. The article identifies how different notions of gender, and different *uses* of the notions of gender, relate to processes of inclusion and exclusion of male and female students.

Theoretically, the article combines cultural belief perspectives, theories of symbolic boundaries, and repertoire theory. Arguing that the importance of context bridges theories of cultural beliefs and repertoire theory, the article aims to demonstrate how the situational and contextual significance of gender vary, depending on the setting at hand. The situational relevance of gender is illustrated by how individuals and groups make use of different notions of gender. This variation implies a difference in both salience and meaning of gender. Different notions of gender and different ways of legitimating educational choices are understood as the availability of different cultural resources, or *repertoires*.

Methodologically, the article argues for analysing notions of gender across situations and contexts, down to variations within single interviewees' accounts of different topics addressed

in the interview. This displays how people are not necessarily coherent in their reasoning about their life choices, and how the framing of different questions in the interview activates different notions of gender.

The analyses of the students' accounts of educational choices tuned in on the variation in how the students talked about their choices, showed that the female and the male nursing students described different entries into the education, and moreover, they presented their reasons for choosing nursing studies differently. When accounting for their choice of education, the female and the male students both highlighted the attractiveness of the nursing profession similarly, by arguing that it is a safe job, a meaningful job, a job with action, which provides the opportunity to work with people. However, the female students provided additional explanations, as they also argued that it was a job that *suited them*. They argued that they were fitted to become nurses because of their personality traits, qualities they had recognised in themselves or that others had pointed out to them.

Showing the use of a narrative according to which women are more caring than men and finding that the personal quality of being caring is highly valued in the nursing context, I suggest that the female and male students' use of different repertoires to legitimise their choices may signify that they have different cultural resources available (Lamont & Thévenot, 2000). Analysing the accounts as anchored in different cultural repertoires (Lamont, 1992; Swidler, 2001), I suggest that the female students had a wider repertoire more readily available than the male students when legitimating their choices. The activation of various repertoires depends on available cultural ideas about gender and competence (Ridgeway, 2011), on the students' gender (Lamont, 1992), and the contextual and local support of the various repertoires (Harding, 2007; Lamont, 2012). The women's use of a wider set of repertoires provides the female students with an advantage both when legitimating their educational choice and when showing suitability for the profession. Developing a professional role confidence may be crucial for the gender minority in gender-typed professions (Cech et al., 2011). The high valuation of personal qualities in the nursing context may have the unintended consequence of hampering male students' confidence and sense of belonging.

Article 3

Myklebust, Runa B. (2020) Skilful sailors and natural nurses. Exploring assessments of competence in female- and male-dominated study fields. *Journal of Education and Work*.

DOI: <https://dx.doi.org/10.1080/13639080.2020.1820964>

In the third article, I use participant observation and interview data to show how the two different educational programmes reflect different possibilities and challenges for the gender minority. The article combines analyses of the students' choice narratives with a comparison of what types of knowledge, skills, and qualities are valued in the educational contexts; then, it discusses the implications of the different competence valuation for the gender minority.

Theoretically, this article uses boundary theory (Lamont, 1992) and perspectives from the sociology of evaluation and valuation (Lamont, 2012) to analyse what is valued in the two study programmes, and how this is related to gender. Moreover, the article draws on insights from theory on development of professional knowledge and skills. These insights are used to analyse the students' narratives of their educational choices in relation to what types of knowledge, skills, and qualities are valued in the education context. This analysis and the combination of perspectives allows for grasping important aspects of gendered educational choice and the experience of being the gender minority. One aspect is how institutionalised valuation processes may have implications for gender inclusion and exclusion, and another, rarely examined aspect, is how motivation for entering fields of education relates to what promotes perceptions of suitability and belonging in the study context.

The article finds that the gender minority in both study fields shared some sort of previous experience with the professional field. The students described such experience as instrumental in making their choices. Experience from the military, part-time jobs, or parents and grandparents in the profession were common previous involvement with the field.

The article then investigates what type of knowledge, skills, and qualities were valued in the two educational settings. To distinguish between what categories of competence were assigned value, I use the terms pre-education knowledge, in-education knowledge, and personal qualities. In nautical science, both in-education knowledge and pre-education knowledge was highly valued by students and teachers, and in-education knowledge was sometimes building on insight from students with pre-education knowledge. To be a good navigator, then, knowledge must be gained both from studies, and *in the professional context*. The knowledge of having actually 'been there', in the professional field, gave a certain know-how that was explicitly recognised, making it easy to fit in and prove suitable. Holding or not holding pre-

education knowledge proved to be a central criterion of evaluation, creating both academic and social distinctions. Moreover, the personal qualities required were described as gained through experience. Thus, the categories of competence were related and symbiotic. In nursing, the categories of competence were more detached from each other than in nautical science. In-education knowledge was highly valued, and, having the right sort of personal qualities; being a caring person. The personal qualities were implicitly and explicitly described as innate and *unlearnable*. Pre-education knowledge, such as previous experience from the professional field, was not part of the 'official' discourse on valued and acknowledged competence. It appeared rather as an impediment to the in-education knowledge. The 'official' discourse of what a good nurse was in this context, seldom contained knowledge gleaned from being 'in the field'.

The article discusses the implications of the different valuation in terms of social and academic inclusion of the gender minority. According to the gender minority students, previous experience was instrumental in making their choice of education and presented as a core part of their motivation. How this motivation was met in the educational context might affect the degree to which students' expectations were fulfilled and, thus, their resultant perceptions of suitability and contentment (Jungert, Alm, and Thornberg 2014). Professional identification is arguably especially important for the gender minority in a professional field (Cech et al. 2011, Seron et al. 2015). In this case, coherence between the different categories of knowledge, skills and qualities promotes social and academic integration of the gender minority, whereas a disruption between these elements hampers such integration. In nautical science, the valuation of such knowledge provided the female students with a prominent academic and social position.

7. Concluding discussion

In this concluding chapter, I will first summarise and discuss the study's findings and outline its implications on a substantive level. I will structure this section by discussing the two research questions put forward in the introduction: What role does gender play in the students' accounts of their gender traditional and gender non-traditional educational choices? What types of competences are valued in nursing studies and nautical science studies, and how does this relate to gender? I will address these questions, and, moreover; discussions that arise from connecting the findings from the three articles. Then, I will suggest the theoretical implications of this thesis, by discussing how the conceptual approach developed in this study contributes to understandings of gender inclusion and exclusion in gender-typed study fields. Finally, I will propose paths for further research.

Summary and discussion of the main findings: Between gendered competence and ideas of equality

Gender and educational choices

The analysis of the role of gender in the students' accounts of their educational pathways showed somewhat contrasting findings across the two study fields. The female gender minority students in nautical science expressed more negative reactions to their choices and more elaborated and normatively anchored answers than the male minority students in nursing. The female students in nautical science had experienced negative comments on being 'tomboys' and received remarks on the hypothetical conflict between family and career. Such accounts may illustrate Ridgeway's theory of the gender frame: how the persistence of cultural beliefs about gender causes gender inequality to re-inscribe itself in new forms of social organisation as these forms emerge in society. Ridgeway argues that although changing social circumstances cause people to have more gender-atypical experiences, the impact on their gender frames is negligible because they reinterpret it in stereotype-confirming ways. Gerson (2002) uses the term 'moral dilemma' to describe tensions between society's normative expectations, such as taking care of a family, and a person's aspirations. The moral obligation for women to take care of the family is conceptualised by Blair-Loy (2003) as the 'family devotion' schema, which works as a powerful cultural repertoire and helps sustain occupational gender segregation. She argues that the distinctions that create commitment towards the family for working women need 'continuing public reaffirmation to remain convincing and legitimate' (2003, p. 62). Blair-Loy and Gerson's research builds on studies of working mothers balancing the demands of family

life and working life. However, this study shows that the family devotion repertoire and negotiations between family commitment and career are operative long before a family is started. The negative reactions met by the female students are illustrative of conceptions of gender that may be limiting for young women when making educational choices. Notably, the comments received by the female students did not concern gender stereotyped notions of skills and competence, such as men being more technical, better at managerial tasks or having better spatial skills, but rather gender role expectations.

One issue emerging from the students' accounts of their educational choices is the significance of locality. The research literature on young people and educational pathways shows that the place where one grows up affects the career decisions (e.g. Cuervo & Wyn, 2012; Lødding & Paulgaard, 2019; Reisel & Brekke, 2013). Many students referred to the line of work existing in their hometowns when discussing their educational paths. Both with reference to which professions they actually knew about growing up ('teachers and nurses', as exemplified in article 2), and in wishing to embark on an education that gave them possibilities to continue to live in the region where they grew up. Most students had parents without higher education and the region offered little diversity concerning the career paths for people with higher education. Nautical science is a study field closely tied to the labour market along the Norwegian coastline, exemplified also by the students in this study. They had mostly grown up along the coast, many of them with fathers and grandfathers who took them with them out to sea. For the female nautical science students, their fathers and grandfathers were important professional role models, as none of them knew of female navigators in their parents' or grandparents' generation.

Lødding and Paulgaard (2019) argue, in line with Massey (2005), that investigations of young people's educational trajectories too long have been blind to the importance of space, and that the research often gives priority to studies of young people in urban regions. They argue for a more focused attention on how spatial experience affects young people's educational trajectories in Norway. Skarpenes and Nilsen (2015) discuss how a gender-segregated labour market might intersect with inhabitants' attitudes and norms towards gender equality, based on a study of gender attitudes among inhabitants in the south of Norway. They argue that notions of gender might have greater reproductive socialisation implications in regions with fewer available career paths, than in regions with more complex work and organisational life. However, a space-oriented perspective on gender and education is perhaps more pertinent in studies of upper secondary students' educational aspirations and pathways, where all students

have spatial attachment to a smaller area. In this study, many of the students were from the region, however from different parts of it, including both cities and rural towns. Moreover, several students also came from other parts of Norway, making the regional context less applicable as a prominent overall analytical frame in this study. Nevertheless, I argue that studies from outside the urban regions in Norway are a necessary compliment to the existing research on the educational pathways of young people in the country. People from outside the big city regions will arguably display other experiences and barriers than people in urban areas. Therefore, including empirical material from these regions will contribute to a broad understanding of the diverse lives of adolescence and young adults in Norway.

A third topic relevant for the young people's educational choices was the importance of previous experience with the professional field they were entering. In both nursing and nautical science, many students had such knowledge of the field and/or vocational experience, and this was especially the case for the gender minority students. When accounting for their educational choice, the gender-minority students described this previous experience as instrumental to make their choice and important for their motivation. They had experience from the military, from part time and summer jobs, and from partaking in their parents and grandparents' line of work. The gender majority, however, was more likely to have made their choice of education based on little or no previous experience.

This suggests that young people primarily orient towards fields of education that they are familiar with and that are consistent with perceptions of traditional gender roles, as demonstrated in previous research and theorised in classical sociological perspectives of educational choice (e.g. Hodkinson & Sparkes, 1997). Furthermore, this study sees the importance of previous experience in the students' accounts of their educational choices in relation to the observations and accounts of what types of competence was valued in the education. This allows for understanding the making of gender non-traditional choices and what contributes to gender inclusion and exclusion in the education context in relation to each other, a connection which has been rarely explored. The valuation of previous experience in the two study programmes and how this related to gender is further explored later in this chapter.

A fourth and final topic within the students' accounts of their educational choices was the difference in how male and female students explained and legitimated their choices, as explored in the case of the nursing students. The analysis shows that both the female and the male nursing students explained their choices in terms of the benefits and the characteristics of the profession. However, the female students had additional explanations. They also linked their choice to how

they were *as persons*, and that they were *suitied* to nursing. This finding mirrors Jorun Solheim's (2002) discussion of traditional women's work as 'relational work' in the family, and traditional men's work as related to 'production' and, thus, to 'things'. The continuous symbolic connections between 'production', 'things' and men and between 'persons' and women, implies that 'person skills' appear less as a form of competence in itself compared to 'things skills'. It rather appears as an innate form of competence, belonging to women as persons.

In the nursing context, the personal quality of being caring was a highly valued competence. Combined with an operative notion of women being more caring than men, this provided, I argue, the female students with an asset both in justifying their educational choice and in demonstrating their suitability to be nurses. The different explanations and legitimations used by the male and female nursing students are interpreted as availability of different repertoires of legitimation; women had available a wider set of repertoires than men. The activation of various repertoires depends on available cultural ideas about gender and competence (Ridgeway, 2011), on the students' gender (Lamont, 1992), and the contextual and local support of the various repertoires (Harding, 2007; Lamont, 2012). What types of knowledge, skills, and qualities are valued in nursing and nautical science, and how this is related to gender, is further discussed in the following section.

Assessments of competence and gender

This study shows different interconnections between gender and competence in the two study fields, explored by investigating *what types of knowledge, skills and qualities* were assigned value in the two study programmes. This analysis gave insights into how conceptions of gender and assessments of competence interact, both explicitly and implicitly. The explicit assessments of the students about what knowledge, skills and qualities were needed to be a good nurse or a good navigator were largely gender-neutral in nature. The analysis of the boundaries the student drew between different types of knowledge, skills and qualities, and how this intersected with gender, showed that distinctions were not made between women and men, and that the female and the male students performed similar boundary work. Thus, gender as category was not made relevant when the students accounted for the competence they considered pertinent. The examples of the students who were regarded as fitted and suitable, or less suitable, did not align with gender. When assessing the valued competence, the assessments illuminated similarities between men and women, and gender distinctions were absent. If gender was made relevant when addressing these issues, it was by rejecting its relevance.

Based on an undoing gender perspective, Michela Musto (2014) suggests that when individuals enact equitable gender relations in one context, aspects of these gender relations may ‘spill over’ into other settings. Arguably, the use of gender-neutral conceptions of competence provides glimpses into the type of practices that potentially can enable interactional gender expectations to become less segregated (Musto, 2014). Although the gender neutrality evident in the students’ assessments is complicated by the further analysis of how gender and competence intersect, identifying under what conditions gender-neutral conceptions are drawn on make evident the plurality and variability in conceptions of gender. In this thesis, I argue that such pluralistic and adaptable notions of gender are common and acknowledging this is necessary to understand the complexity of the meaning and significance of gender. I argue that an empirical attention towards the situations and contexts that signal gender-neutral notions is needed (Deutsch, 2007), together with analytical and theoretical perspectives that are suited for identifying and analysing the variation (Swidler, 2001). In addition to displaying the existing variability, then, grasping when and how social interactions and boundary work become less gendered may illuminate nascent paths of change in the processes sustaining gender segregation. In line with the theoretical frameworks adopted in this thesis, the potential for change indeed lies in the use of various cultural resources.

Yet another angle to analyse the relation between gender and competence from is presented in article 3. Here, I investigate what categories of competence were assigned value, how these categories are related, and how this implicates gender inclusion and exclusion. To distinguish between what categories of competence were assigned value, I use the terms pre-education knowledge, in-education knowledge, and personal qualities. In nautical science, pre-education knowledge was highly valued and assigned both social and academic status. Furthermore, the categories of competence were related and symbiotic. In nursing, in-education knowledge was highly valued, so was personal qualities. However, the categories of competence were more detached from each other than in nautical science. Pre-education knowledge, such as previous experience from the professional field, was not part of the ‘official’ discourse on valued and acknowledged competence. Recalling that the students, and especially the gender minority, described their previous experience as crucial for making their choice of education, this difference may have implications for the students’ professional identification and perception of suitability.

Using insights from research on learning and professional identification, allows for interpreting the notion of what is seen as important and valued knowledge in nursing as a disruption of the

coherence between pre-education and in-education knowledge. According to the literature, such coherence is not only important for learning (Smeby & Heggen, 2014), but also for identifying with the profession while under education (Jordal & Heggen, 2015b). The article argues that the difference between how knowledge, skills and qualities is valued in the study fields may have implications for the minority students' professional identification and notions of suitability in the education. How motivation described as instrumental for the students is met in the education might affect the degree to which students' expectations are fulfilled, and thus their resultant notions of suitability and contentment (Jungert, Alm, & Thornberg, 2014). Professional identification is argued to be crucial for the persistence of the gender minority in gender-typed study fields (Cech et al. 2011, Seron et al. 2015).

The institutionalised evaluation processes identified in the two study contexts may have consequences for social inclusion and exclusion (Lamont, 2012; Lamont et al., 2014). In the nautical science case, one implication was that students with previous experience were advantaged both academically and socially. Because previous experience was widespread among the gender minority, this valuation worked gender inclusively. It led the female students to have prominent social and academic positions in an educational context in which they were the gender minority. However, this might not necessarily be the case in other educational contexts. Orupabo (2014) found in a study of computer engineering studies, in line with studies by Balkmar (2012) and Holth and Mellstrom (2011) that a lack (of the right type) of previous experience may work to exclude the female students from the male community and from proving suitable for the profession. In nautical science studies, however, all the female students had previous experience. The valuation of practice and having been at sea in nautical science may provide the students with a clearer definition of what previous experience entails compared to computer engineering studies. This might avoid negotiations about and ambiguous understandings of the meaning and content of previous experience. The valuation of previous experience conveyed gender inclusion but did create distinctions along other lines, between having and not having field knowledge.

The value of previous experience provided the gender minority students in nautical science with a more prominent social and academic position than the gender minority students in nursing. The ideal competence in nautical science, both concerning the possession of 'the right type' of professional knowledge or having the suitable personal qualities, was depicted as something gained mainly by experience, and thus learnable. Furthermore, the personal qualities needed were not explicitly linked to stereotypical male qualities to the same degree as in nursing. The

valuation processes in nursing may implicate a stronger professional identification and sense of suitability for the students who identified with having the personal qualities of being caring and considerate.

The shifting conceptualisations of gender in nursing, from gender-neutral notions to gender essentialist notions, are explored in article 2 by analytically addressing heterogeneity and contradictions. By identifying such variation, we can identify the students' categorisation systems and relate it to the institutionalised and cultural repertoires they have available (Lamont, 1992; Ridgeway, 2011). Ridgeway (2011) suggests that to understand how educational fields or types of competence are gendered, we need to pay attention to the interface between the implicit, background gender frame made available to actors through the society at large, and the institutional frame within which individuals are acting. Further, the institutional frame affects whether gender as a frame is accessible at all, whether it is just diffusely present or as a more powerful backdrop (Ridgeway, 2011, p. 123). An analytic attention to the shifting meaning of gender evident across the interviews allowed exploring the diverse use of conceptions of gender across and within the students' accounts. In nursing, as discussed, the students' explicit assessments of what competence is needed were gender-neutral, stating for example that both male and female nursing students were fitted to be nurses and possessed or were lacking the valued personal qualities. However, when addressing the issue of numerical female-domination in nursing, a different meaning of gender was used. Here, the students stated that women were more caring than men, in general, and that men often lacked needed nursing qualities as they were less attentive, empathetic, and caring. As such, both male and female students, evoked gender essentialist notions of women and men, and importantly, they *gendered* the nursing competence (Solheim, 2002). Their swift moves between different conceptualisations display the heterogeneous and adaptable use of notions of gender.

The nursing students' shifting accounts can be understood in several ways. One explanation is that they might have had essentialist assumptions about men and women's different abilities, but their experience from studying with both men and women made them aware that having or lacking the competence needed to be good at their profession was independent from the gender. When addressing the abstract problem of gender segregation, they were no longer talking about their fellow students, but about women and men in general. A similar difference in the meaning of gender between the individual and the group level has been observed also in other studies of gender segregation and equality in Norway (Jensen & Øistad, 2019; Kasin & Slåtten, 2015). Furthermore, such findings can also be understood as a normative reluctance towards

characterising specific women and men based on their gender, but that the segregated nature of a profession calls for gender stereotyped explanations possibly deriving from the need to rationalise the existing distribution of men and women into the occupation (Clow & Ricciardelli, 2011; Francis et al., 2017). It nevertheless displays an operative cultural belief according to which women are more caring than men, which is used when addressing general abstract questions more than when evaluating people and their competences. This finding supports gender frame theory (Ridgeway, 2011), showing that gender differences are a widely accessible frame, but more or less relevant depending on the context and situation.

As reported by Francis et al. (2017) for male-dominated areas of study, the lack of representation of the underrepresented gender may simply become evidence to support the ‘naturalness’ of men’s dominance. The underrepresentation legitimates the opinion that it is a ‘manly’ subject, creating a tautological explanation for the gender segregation. Thus, the lack of representation of one gender in an educational field will trigger and legitimate cyclical assumptions about the underrepresented gender, such as inability and/or lack of suitability. In my material, these tautological explanations were found among the nursing students, but to a lesser degree among the students in nautical science. In nautical science, the students, especially the men, were reluctant in reflecting on the matter, also when asked directly. Some, both men and women, explained the lack of women referring to the difficulties of combining the profession with having a family. The female students framed it also as arguments of gender equality, arguing that many women do not dare to act in violation of traditional gender norms, because they are afraid of negative sanctions. However, as shown, in nautical science, the links between the needed competence to be a deck officer and gender were not established to the same extent; thus, the students did not gender the competence as the students in nursing did.

Conceptions of men’s work and women’s work

The above discussions relate to the issue of the durability of conceptions of what women and men are good at and suited for, and thus what is ‘men’s work’ and ‘women’s work’. The resilience of such notions of women and men are at the root of the theories on gender segregation presented by Ridgeway (2011) and Charles and Grusky (2004). This study cannot determine whether gendered beliefs are changing or how genuinely or deeply held they are. However, it shows that statements regarding men being less suited for caring tasks than women were *more legitimate* than accounts of women being less suited for traditional male tasks involving technology and management. This finding relates to discussions on whether the notions of men’s competence are changing slower than those of women’s competence.

As argued, people's valuation and categorisation systems are shaped by their available cultural resources (Lamont, 1992, 2012). The idea of women's 'family devotion', inherent in the gender frame, essentialises women's role in the family by suggesting that women are uniquely and innately able to care for children. Ridgeway (2011) argues that cultural beliefs about women's role in the family is, as such, the bedrock problem around which the achievement of gender equality turns. However, it needs continuing reaffirmation to remain convincing and legitimate (Blair-Loy, 2003). The activation of the family devotion narrative is displayed in the female nautical science students' accounts of the reactions they encountered on their choice of education, which was related to future family obligations. This was experienced as a limiting factor for the female students. Furthermore, nursing students established a link between caring competence and gender by referring to women's superior capabilities to perform care work.

The operative cultural belief about women being better suited to care for children in the family possibly invoke beliefs about women's greater ability for care also in a professional setting. The connection between gender and competence was more pronounced for caring tasks in nursing studies than for managerial and technical work in nautical science. This suggests that the view of women as superior at the professional tasks traditionally considered women's work is more resistant to change than the notion of men's greater ability at tasks traditionally considered men's work. It seems that men's professional tasks lack equally powerful cultural ideas supporting the connection between work tasks and gender, and 'men's tasks' are thus not reserved to men as 'women's tasks' are reserved to women. Research documenting that women's characteristics are perceived as more dynamic than men's characteristics, such as Diekmann and Eagly (2000), may also be considered in support of such an argument. The discrepancy between how the connections between gender and competence are established in nursing and in nautical science can be related to the lack of status of tasks traditionally associated with women, compared to the status of tasks traditionally associated with men (England, 2010; Solheim, 2002). Thus, it is more inappropriate to suggest that women are not cut out to perform high-paid and high-status technical and managerial tasks, whereas it is more legitimate to argue that men are not suited to do the lower valued and lower paid 'women's work'.

Processes sustaining stability and change

Overall, the findings show that the female students talked more about gender equality/inequality than the male students. This elicits the question whether gender makes available different cultural resources for men and women in gender-typed study fields, and what this might

implicate. In my material, the male students did not talk about their gender non-traditional choices by drawing on normative arguments of gender equality. This might have methodological reasons, as discussed in chapter 5. Additionally, this may be explained by applying the cultural repertoire perspective: The female students had available a different and more elaborative language on these matters than the male students. Influential ideas of feminism may provide arguments for women's rights that bear significance when choosing male-dominated fields of study. Moreover, most initiatives regarding the making of gender non-traditional educational and occupational choices from the Norwegian government, the universities, the industry, and the trade unions have been concerned with recruiting women for male-dominated areas of the labour force, more than recruiting men for the female-dominated occupations (Reisel et al., 2019). Thus, public debate, school curriculum, campaigns and other initiatives may have provided the female students with a normative vocabulary to talk about such matters and frame their choices within, which the male students lacked.

According to Lamont (1992), cultural repertoires provide people with readily usable cultural notions that could be mobilised in their boundary work. The cultural repertoires shaping people's boundary work and categorisation systems are formed by gender and social class, and by contextual features such as the education system, values that have been important in the history of a nation, and the media (Lamont, 1992 chapter 5). Accordingly, it is reasonable to think that the conceptualisations of gender equality in Norway – that gender equality is fulfilled by encouraging *women to change* and to a lesser degree, *men to change* – has informed young people's ideas about what gender equality means. Paying attention to the boundary work and the repertoires may capture the conditions that make people's choices possible (Lamont & Small, 2008). The repertoire available to the female students making gender non-traditional educational choices may work to encourage gender non-traditional choices to a larger degree for women than for men. As argued in the gender segregation literature (England, 2010), men's incentives to move into traditional women's work are already small because of the low status and pay compared to male-dominated work. Adding to this literature, the more elusive processes explored in this study contribute to explain why the changes in the segregation are slow and largely work one way.

Theoretical implications: grasping processes of gender inclusion and exclusion

This study contributes to research on gender and educational pathways and, more in general, to the study of the relation between gender and conceptions of competence. On a theoretical level, it does so by proposing a conceptual framework for understanding how and under what

conditions the processes that create gender inclusion and exclusion may take place. The thesis combines perspectives from boundary theory, repertoire theory, and gender frame theory, which have rarely been used in this field before. This theoretical framework suggests that gender inclusion and exclusion may take shape through processes of *categorisation* and *valuation*. Studying how people categorise and value is fruitful to clarify the conditions that open up for processes of exclusion, but also the shaping of processes of inclusion – and the sustaining of diverse views of who belongs (Lamont, 2012). These processes are largely habitual and institutionally embedded, but also pluralistic, reflexive and adaptable – because the categorisation and valuation are formed by people’s use of available cultural resources.

This thesis suggests that by the use of this theoretical framework we may understand *under what conditions* gender inclusion and exclusion are formed. To this end, the study emphasises the analytical importance of contextual and situational sensitivity. To understand how educational fields or types of competence are gendered, we need to pay attention to both conceptions of gender available to people through society at large, the institutional frame within which individuals are acting, and the dynamic relationship between these contexts. Furthermore, the thesis suggests an analytical openness towards pluralistic and shifting accounts of gender, which allow for identifying what stimulates gender to be relevant or not in shifting social situations.

An advantage of this approach is that the context-sensitivity allows for grasping how institutionalised valuation processes have implications for gender inclusion. Culturally embedded and taken-for-granted notions of gender provide a powerful frame for conceptualisations of gender and competence. These perspectives suggest moreover that resources that potentially come with a gender majority position must be not only acknowledged in the particular context, but also used by individuals and groups to create inclusion and exclusion. Thus, this theoretical framework offers also a reflexive approach. It combines a view of the cultural repertoires that people draw on to constitute gender and competence distinctions as enabling resources, with a focus on what limits the availability of the resources.

The combination of perspectives modifies the way the specific theories are used. For instance, the predefined hierarchical dimension between men and women inherent in the gender frame theory risk to narrow down the analytical attention in my use of boundary theory and repertoire theory, where the aim is to scrutinise what is valued, by whom, in different contexts and situations – and how this is related to gender. The exact content of the beliefs is, therefore, more of an open empirical question than in Ridgeway’s (2011) original approach.

A common call among gender scholars is to make use of theoretical perspectives that allows for analytically grasping heterogeneity and ambiguity in the meaning of gender (e.g. Adkins, 2004; Francis & Paechter, 2015; Moi, 1991; Skeggs, 1997). As argued previously in this chapter, acknowledging pluralistic and contradictory notions is necessary to understand the complexity of the meaning and significance of gender. I suggest that repertoire theory and gender frame theory together provide such an analytic tool. The cautious attention inherent in these perspectives towards the situational relevance of gender opens for analyses of the shifting meaning and significance of gender. They suggest that the conceptions of gender are pluralistic and reflexive, however, also accommodate habitual and un-reflexive gendered accounts and action. Identifying the variability in the use of a concept may illuminate the cultural repertoire drawn on (Swidler, 2001), the resources which in turn shapes the availability and use of concepts and categorisation systems (Lamont, 1992). Thus, grasping this cultural variability and when and how social interactions and boundary work become less gendered does not only display existing heterogeneous understandings but also –illuminates nascent paths of change in the processes that sustain gender segregation.

A final theoretical contribution of this thesis is the suggestion to expand gender frame theory to analytically capture not only those scenarios in which gender is *less relevant* but also situations in which it is *not relevant*. This study illustrates how displaying contradictions and paradoxes, and the heterogeneity of the meanings of gender for people in different settings, also opens for an understanding of how more diverse views of what gender means may come about. It illustrates how movement in the processes that help sustain the gender segregation may be formed. However, this analysis presupposes an analytical openness to identifying also when gender is not only done, but also undone. This means asking what social situations cause gender to not be relevant and focus on interactions as the site of this change (Deutsch, 2007).

Paths for further research

One central finding in previous research on gender and education is that the inequality dimensions of social class and ethnicity is firmly intertwined with gender. Thus, it has been argued that research on gender and education should include perspectives accounting for the significance of social class and ethnicity and how this intersects with gender. This research was designed to investigate empirically also social class and ethnicity. Given that the two study programmes had few students with other ethnic backgrounds than Norwegian, ethnicity proved less relevant as an analytical category. As for social class, it is highlighted that the sample consists mainly of students with a working-class background, expanding the research literature.

However, the social class of students was not found to have a bearing on the analysis of gender in the articles. Further research is encouraged to continue studying the complex intersections of these social categories. The theoretical framework suggested here is compatible with integrating social class and ethnicity perspectives.

A challenge with interview data is accurately explaining meaning making within the interview situation with reference to larger institutional and national patterns (Lamont & Swidler, 2014). A promising direction for future research would be comparing the accounts explored in this study with data from other countries, with less cultural support for ideas of gender equality and with less (or non-existing) strategies and policies to address gender equality in the labour force. Such an analysis would provide interesting data for studying how such assessments are related to institutional and national contexts.

The theoretical framework proposed here is suitable for exploring how gender and assessments of competence are interrelated. This framework could be fruitfully used to investigate what it means to be good and competent and how this relates to gender within many contexts. This study focused on higher education; however, segregation patterns are even more prominent in vocational routes in upper secondary education; thus, more studies are needed that investigate the interconnections between gender and assessments of competence also in lower educational levels. In such a study, perceptions of how different types of knowledge, skills, and personal qualities are related to gender could be explored. For instance, how are the differences in the assessments of practical and theoretical knowledge related to gender? Also, what school subjects are assigned what sorts of value among girls and boys? What does it mean to be academically brilliant, and how do such assessments relate to gender? Investigating these questions could provide insights into the gendered notions employed by young people and how the assessments of competence and gender relate to differences in school achievements and future educational choices.

8. References

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List of Appendixes

Appendix 1: Information letter

Appendix 2: Interview guide

Appendix 3: Ethics approval

Appendix 1

Forespørsel om deltakelse i forskningsprosjektet

«Kjønn og yrkesval»

Bakgrunn og formål

Tema for doktorgradsavhandlinga er utdanningsval blant unge [anonymisert region]. Prosjektet vil studere utdanningsvala og oppfatningar om utdanninga og yrket blant studentar ved bachelor i sjukepleie og nautikk. Utvalet vil bli rekruttert blant studentar ved [anonymisert].

Stipendiaten er tilknytt Senter for profesjonsstudier ved Høgskolen i Oslo og Akershus.

Kva innebærer det å delta i studien?

Deltaking i studien betyr å la seg intervju av stipendiaten om sitt utdanningsval. Spørsmåla vil handle om bakgrunn og motivasjon for valet, planar for framtida, oppfatningar om utdanninga og om det yrket ein er på veg inn i. Intervjua vil bli tatt opp på lydopptak. Stipendiaten vil også nytte deltakande observasjon som metode, noko som inneberer at data om informantar (t.d. kommentarar, samhandling, bevegelse) også vil bli samla inn ved observasjon.

Kva skjer med informasjonen om deg?

Alle personopplysingar vil bli behandla konfidensielt. Kun stipendiaten har tilgang til dei indirekte personopplysingane som blir innhenta, og deltaking inneberer anonymisering. Den informasjonen som blir samla inn vil ikkje kunne koplatt til person i publisering av avhandlinga.

Prosjektet blir avslutta hausten 2018. Innan den tid vil alle eventuelle personopplysingar og lydfiler bli sletta.

Frivillig deltakelse

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke utan å oppgi nokon grunn. Dersom du trekker deg, vil alle opplysningar om deg bli anonymisert.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med Runa Brandal Myklebust, telefonnummer 48180013 eller epost runa-brandal.myklebust@hioa.no

Studien er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datateneste AS.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

(Signert av prosjektdeltaker, dato)

Appendix 2: Interview guide¹⁰

Introduction

Introduce myself and the project

Explain the purpose of the interview

Explain how I will ensure anonymity

Background information

Name:

Age:

Hometown:

Study field:

The route in

Can you start by telling me how and why you started this field of study? Include what you wanted to be when you grew up, your hobbies, what you liked in school, and when you first thought about starting this study.

Follow up:

- Vocational or program for general studies
- Other educational routes considered/not considered

Have you discussed your choice of education with anybody? With your family and friends?

Follow up:

- Reactions from friends and family
- What are your friends studying?
- What do your parents work with/level of education?

Motivation:

What is the best thing about being a nurse/navigator?

Are there any negative sides of being a nurse/navigator?

¹⁰ Translated from the Norwegian original

Competence

How do you like it here?

Follow up:

- Expectations? In line with expectations?
- Any regrets?

What was your expectations towards your fellow students?

How do you like your fellow students?

How do you like your teachers?

How do you like your practical training?

- Cooperation between students

Vocational/previous experience: do this come to use?

General studies program: do this come to use?

For nursing: Have you had your trainee period? How did you like it?

What is a good nurse/navigator?

What is it important to be good at to be a good nurse/navigator?

What is not a good nurse/navigator?

Which of these skills/qualities do you feel you have/lack?

What is the hardest to learn?

What is easy to learn?

Any situations where you have thought “this is right/I am at the right place”?

Any situations where you have thought “this is wrong/I am at the wrong place”?

Future plans:

Where do you see yourself in ten years?

- What do you do?
- Where do you live?

The class:

What is the study environment like?

- Who do you spend most time with?
- Do you feel like you fit in?

There are few men/women at this study program. What are your thoughts about entering a female-dominated/male-dominated profession?

Anything else you would like to add?

Article 1

Myklebust, Runa B. (2019) 'Resistance and persistence. Exploring gender-untypical educational choices'. *British Journal of Sociology of Education*. 40(2), 254-268.

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Article 2

Myklebust, Runa B. (2020) 'Gendered repertoires in nursing: New conceptualisations of educational gender segregation'. *Gender and Education*.

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Gendered repertoires in nursing: new conceptualizations of educational gender segregation

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ABSTRACT

Research on educational gender segregation has been mostly concerned with the lack of women in male-dominated educational fields, and only to a lesser degree with the shortage of men in female-dominated subjects. This article addresses the latter issue and introduces new theoretical tools to the research field of educational gender segregation. Building on in-depth interviews with male and female nursing students in Norway, the article illuminates processes that may contribute to gender inclusion and exclusion. Combining theory on cultural beliefs on gender, symbolic boundaries and repertoire theory, the article shows how the valued nursing competence of being caring – together with an operative cultural belief that women are more caring than men – provides the female students with an asset both when accounting for their educational choice and in demonstrating their suitability to be nurses. The article demonstrates the situational relevance of gender and the value of analysing accounts of gender within particular contexts.

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Educational choice; gender; care; nursing; repertoires

Introduction

The research field of educational and occupational gender segregation is largely concerned with the lack of women choosing traditionally male-dominated subjects as science, technology, engineering and mathematics (e.g. Blickenstaff 2005; Lynch and Nowosenetz 2009). The lack of men in female-dominated fields of education has received comparatively less attention (Lupton 2006; Simpson 2009; Riegle-Crumb, King, and Moore 2016). There are two prominent reasons why there should be more research on men and gender non-traditional educational choices. Firstly, the hitherto movement in gender segregation involves women moving into positions and occupations previously dominated by men, with few changes in the opposite direction (England 2010; Williams 2013). Obviously, reduction in the levels of occupational segregation requires movement both ways, and more research on the reasons for the absence of men in female-dominated arenas is therefore needed (Simpson 2009; Shen-Miller and Smiler 2015; Williams 2015). Secondly, the crossing of gendered work boundaries illuminates the processes by which

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occupational segregation is maintained or reduced (Lupton 2006) and these processes might be different for men and women (Simpson 2004). Therefore, this must be empirically explored within the various educational contexts. This article attends to these issues by analysing gender inclusion and gender exclusion in nursing studies.

Influential theoretical perspectives on gender segregation hold that the devaluation of traditional female work, and the subsequent low status and pay that comes with it, provides incentives for both men and women to choose 'male' over 'female' occupations, and the fields of study that lead to them (England 2010, 153). Such rational choice-influenced explanations are often offered to explain the lack of men in female-dominated occupations, as well as educational choices in general. However, empirical findings and theoretical arguments hold that there are also other, more elusive processes at play (Williams 1992; Lupton 2006; Cech 2016). Accordingly, this article will explore nursing students' different use of notions of gender and how this relates to exclusion and inclusion of male and female students. A combination of theoretical perspectives that addresses both implicit and explicit accounts of gender and nursing competence allows for grasping the situational relevance of gender. These perspectives enable an analysis of how the students' gender, and the situational and contextual support of the various notions of gender, provide the students with unequal access to cultural resources found valuable in the nursing context. Methodologically, the article argues for assessing contradictions in the interviewees' accounts, displaying that heterogeneous conceptions of gender are common, and that people are not necessarily coherent in their reasoning around their life choices.

Most studies on men and nursing leave women out of the research (McDonald 2013). In this study, 15 in-depth interviews with Norwegian male and female nursing students provide the empirical basis. The article investigates the students' assessment of gender and competence by analysing the symbolic boundaries (Lamont and Molnár 2002) the students use to categorize competence and people. Moreover, perspectives from repertoire theory (Lamont and Thévenot 2000; Swidler 2001), allows for displaying students' unequal repertoires of legitimation when justifying their choices of education. By use of these perspectives, the article detects the gender distinctions people make, grasps the various cultural repertoires that people draw on to constitute and interpret such distinctions, and discusses the implications this may have in making educational choices and feeling suitable in the educational context.

Combining these perspectives with theories on gendered cultural beliefs (Ridgeway 2011), the article suggests that gender differences may be reproduced through conceptions of gender and competence, possibly even by those who do not personally endorse these beliefs. By introducing this theoretical framework to the research field, the article aims to explicitly display how the meaning and significance of gender may vary across and within contexts and situations, and as such function both inclusively and exclusively (Lamont 1992; Swidler 2001; Deutsch 2007; Ridgeway 2011). Thus, this article brings new understandings to the role cultural conceptions of gender play in choices of education and in gender inclusion and exclusion in educational settings.

Research on gender and nursing

A vast body of research investigates and theorizes the position of men in nursing (for a review see for example Lupton 2006; Solbrække, Solvoll, and Heggen 2013; Harvey and

Myles 2014). Most of them examine the experience of being the gender minority in the workplace. Lupton's (2006) review of the field identifies two contrasting themes. One is the finding that men take their gender privilege with them (Williams 1992) and thus represent an advantaged, rather than an oppressed, minority. For instance, in a study by Cottingham, Erickson, and Diefendorff (2015) it is argued that men continue to take their status advantage with them to their nursing work, by being shielded from and less harmed by 'emotional labour'. The second theme is that men experience difficulties being the gender minority. They might be affected by stereotypical beliefs that men are less capable than women of nurturing and providing care to others (Evans 2002; Cottingham, Johnson, and Taylor 2016). This article contributes to the second theme, however by investigating the choices and competence assessment of nursing students rather than nurses in the workplace, relating to the issue of recruitment and retention of male nursing students.

Research on nursing in the gender-equal countries of Scandinavia provides somewhat contrasting findings. For example, Bloksgaard (2011) claims that gendered identity constructions contribute to reproducing segregation in the Danish labour market. She interviewed male nurses and found constructions of professional fields and work in masculine and feminine terms and argues that this may restrict individual men and women in their orientation towards their work and their choice of career. However, Solbrække, Solvoll, and Heggen (2013) argue in an article about nursing education in Norway that male nursing students today might not view nursing as a particularly gendered profession and thus not feel marginalized, because they have grown up and been educated in a country that strongly emphasizes ideals of equity. This article explores if such Norwegian 'ideals of equity' are distinct in students' perceptions about gender and competence in a nursing education context.

Theoretical perspectives

To explore the complex relationship between notions of gender and competence, and gender inclusion and exclusion in nursing studies, I combine the theoretical perspectives of symbolic boundaries, repertoire theory and gendered cultural beliefs.

Boundaries and repertoire theory

Symbolic boundaries are the demarcations actors use to categorize objects, people, practices, time and places. These demarcations are used to construct groups of people and create affiliation as well as accentuate distinctions (Lamont and Molnár 2002). According to Lamont (1992, 136), structural factors channel this boundary work, and the structures may be revealed by considering what cultural resources or repertoires are available to and used by the interviewees. Analysing the competence ideals of the nursing students and their assessment of their own and others competence discloses whether what is valued is accessible to everybody or limited to some. Analysing the criteria for such demarcations may reveal what structural factors are salient in which contexts and for which groups of people (Lamont 1992).

To further analyse how individuals account for their choices, I make use of the theoretical framework of cultural repertoires, as developed by Swidler (2001) and Lamont (1992,

2000). Repertoire theory holds that people actively make use of their surrounding culture to construct a meaningful life. Swidler argues in favour of analysing how people shift between different cultural frames in order to assess and make sense of the world. Within this perspective, people have an array of cultural resources to draw on, and the focus is not only on what elements are in the repertoire, but why some are performed at one time, and others at another (Swidler 2001, 25). According to Swidler, examining how people mobilize several parts of their repertoires simultaneously – for example when they justify a position or a life choice – can illuminate the repertoires. I regard students' choices of education as such positions and analyse the cultural meanings the students draw on in different situations to talk about their choice. Choice narratives might elicit arguments from independent, and sometimes contradictory, 'traditions of thought' (Swidler 2001, 26), which illuminates that people are not always coherent in their reasoning around their own actions and life choices. Moreover, it displays how notions of gender and competence may be pluralistic and dynamic, and depending on the situation at hand.

The repertoires a person has available constrains the strategies he can pursue, Swidler (2001) argues. Yet, Lamont and Thévenot (2000) offer a perspective on repertoires that to a larger degree make explicit the shaping impact of cultural resources (Silber 2003). Swidler emphasizes the resources different contexts make available and how individuals use these. In line with Lamont, this article applies a framework that also accounts for how contextual and structural factors may shape the availability of different repertoires and resources, and thus work limiting or enabling. Such factors include the national context, the mass media, the school system, and individuals' social class and gender, and affect what cultural resources are most likely to be mobilized by different individuals, and what elements of the repertoires people have easiest access to (Lamont 1992). Analysing which parts of their repertoires are used by whom in what situations and contexts allow for grasping the limiting factors at play. Repertoire theory is scarcely used in gender research (for notable exceptions see Bartkowski and Read 2003; Gustavsen 2013; Lépinard 2014; Musto 2014), and is rare in studies of educational choice. This article aims to introduce these theoretical tools to the research field of gender and education.

Gendered cultural beliefs

Cecilia Ridgeway (2011) argues that widespread cultural beliefs about women and men exacerbate gender inequality. The deep-rooted notion that men and women have fundamentally different skills and interests and are therefore suited to different occupations – is a core component that maintains gender segregation in the labour market. Notions of women as being more caring and having better social skills, and men as more technically competent and imbued with better managerial skills, are widespread (for a review of empirical support see Ridgeway 2011, 82–83). Gender beliefs reflect a cultural system, representing what we think 'most people' believe as true about the categories of 'men' and 'women', and may thus be supported also by those who do not personally endorse the beliefs (Correll 2004, 98). Furthermore, such cultural stereotypes influence young people's aspirations and choice of education, documented among others by Correll (2001, 2004). I find this framework useful to investigate what conceptions of gender and competence the students draw on; however, I modify this theory in two ways. First, according to Ridgeway, gender is always understood to be relevant and making a

difference. In line with Deutsch (2007), I leave the omnipresent significance of gender an empirical question. Second, different from the hierarchical dimension in Ridgeway's theory, where men are regarded as more status worthy and competent than women overall, I approach understandings of what is valued and how this relates to gender as open empirical questions and to a lesser degree predefined compared to Ridgeway's approach.

Context

Compared to other European countries, Norway has a strong gender equality ideology (Aboim 2010), and ideals of equality are an important part of Norwegian culture (Gullestad 2001; Berg et al. 2010). Nevertheless, Norway has a considerably gender-segregated labour market. Within the education system, health and social work have a strong majority of women, and STEM-subjects an equivalent majority of men (Frønes and Kjølørød, 2010; Reisel and Teigen 2014). Men make up 12% of Norwegian nursing students, and the numbers have not changed over the latest decade. Men also seem to drop out of nursing studies at higher rates. A new report states that in Norway's biggest institution for nursing education, 47% of men drop out, compared to 19% of women (Nedregård and Abrahamsen 2018). Research on the lack of men in nursing should therefore attend to both recruitment and retention. Policy aimed at improving gender balance in the education sector consists of public awareness campaigns, the inclusion of the subject 'Choice of education' in the lower secondary school curriculum, and the granting of additional admission points to the underrepresented gender (White Paper No. 7 2016). Two colleges in Norway gave additional admission points for male nursing students in 2018. Furthermore, Norwegian family policy aims to enhance gender equality – for example, is one-third of paid parental leave reserved for the father. Gender researchers have discussed whether changing practice for the care of children will also change perceptions about care work in general being 'women's work' (Brighouse and Wright 2008; Brandth and Kvande 2016).

About the study

The data used in this article was obtained from 15 in-depth interviews with eight female and seven male students at a college in a city in the west of Norway. All names are pseudonyms. The students were from 18 to 28 years old and were all in their first year of a bachelor's degree programme in nursing. The students were recruited after I had taken part in their training for a few weeks, as I was conducting participant observation as part of a bigger project. Two students made contact by e-mail offering to participate, while the rest of the interviewees agreed to participate after being asked verbally. The interviews were semi-structured, lasting from 50 minutes to two hours, and were conducted at the college. The interviews were structured around two major themes: competence ideals and the choice of education. Gender as a topic was not explicitly referred to until the last part of the interview, when I asked if the students had reflected on the male underrepresentation in nursing. This permitted an analysis of both implicit and explicit notions of the meaning of gender. After transcription, the analysing process was done

in line with Braun and Clarke's (2006) description of thematic analysis, using NVivo to code, categorize and annotate the material.

Informed by the theoretical perspectives of repertoire theory and symbolic boundaries, I re-analysed my data with an eye to different accounts of gender and competence and the boundaries they drew between people and competencies. I investigated how the students distinguished between different sorts of nursing competence in order to ascertain what was being valued, and how this related to boundaries drawn between men and women. An analytical attention towards the shifting meaning and significance of gender (Deutsch 2007; Ridgeway 2011) within social interaction meets repertoire theory's aim to identify how different conditions – here understood as diverse topics discussed during the interview – activated different arguments. The various arguments were interpreted as different cultural resources the students had access to.

Competence, gender and choice

In what follows, I analyse and discuss how the students identify what the core competence is and how they assess their own and others' competence. Then, I explore how the students talk about gender and nursing, and finally, how they account for their choice of education.

The ideal nurse: the carer

The various students, both men and women, described the ideal competence in largely similar ways, by differentiating between two forms of competence. The first was the competence of being medically, pharmacologically and anatomically skilled. All students acknowledged the importance of, and held in high regard, the competence of being a 'medically skilful nurse'. The second aspect of what was recognized as ideal competence concerned the practical and relational sides of how to *perform* good nursing. As when Siri said: 'It's not enough to *know* that I have to do this and that, one has to *be able to do it* also.' The students often placed these two forms of competence up against each other – the medical and anatomical knowledge and the competence of *doing* nursing. John valued the former highly, but thought that teachers and other students often felt differently. When we talked about what it means to be a good nurse, he said:

John: It depends on where you work, but I believe that being medically skilled, is the most important. [...] But some of the teachers would say that the most important thing is to be considerate and caring.

R: But you don't think so?

J: No, I don't think that it's the most important thing. I think that the most important thing is to make people well. But of course, it is important to be considerate too.

Most of the students made a similar comparison when asked to describe what a good nurse is, but with the opposite conclusion to John. The students ended up awarding higher value to the practical and relational competence. This was not necessarily because it was more important, but because it was, they argued, a competence that *cannot be learnt*. Although this competence also was an element of classroom study, it was portrayed as more of a personality trait and therefore as something hardly learnable.

Thus, it was limited and not available to everybody. Conversely, the medical and anatomical knowledge gained from lectures and textbooks was available to every nursing student through studying. As Inga put it: ‘Everyone can become a nurse, but not everyone can become a *good* nurse’. The practical and relational competence related to what the students described as ‘who you are as a person’, a personal quality one either possessed or did not possess. It was defined in several ways, such as being able to handle stress and being patient, but more than anything it related to being a ‘caring person’. According to Daniel:

If you just do everything correct in theory, then you, according to the book, perform good nursing. But if you don’t have that capacity to do, what I explained as the little extra, then you can’t be a good nurse. Not in that sense.

Daniel provided a lengthy example of ‘the little extra’ – a willingness to show compassion towards the patient beyond the bare necessity of providing general care. Anita offered further examples, stressing:

Medical knowledge is important. But what one can’t learn to do, that is how you *are* towards other people. Like how you treat the person. What I’ve seen [in practical training] is that you have to treat the patient with respect and some don’t do that. [...] If the patient asks for a drink and then the person just slams the drink down and leaves. You should say, ‘here you go, here’s your drink.’ [...] We don’t learn that in school, but this is good knowledge to have.

Christine described a practical, embodied competence: ‘you must be able to *see* if a patient is uncomfortable in bed. That is a skill that, to a certain degree can be learnt, but it is also something I think people have innately’. Since these skills are not something that can be learnt, they argued, not all people are fit to be nurses. Ida explains: ‘You have caring people. There are some who like to provide care, who just automatically are the kind of person who cares for others, and then there are those who are more selfish.’ A few of the students confessed that they doubted whether all their fellow students would become good nurses, because they did not all seem to have what it takes. Inga told me that she doubted the suitability of another nursing student: ‘She will probably get through the education and she will become a nurse [...], but she will not be someone the patients have a relation to’. Ali also talked about a fellow student who he was not sure would make a good nurse:

If you are a kind and good person, which 90% of nursing students are, than you will be ok. But you have those, like one fellow student, he didn’t really know what this profession is about, I think. He is a pretty rough and tough person, I was about to say. So whether he is able to provide the same care and the same treatment as we do, I’m not sure.

Talking about a core nursing competence as a personality trait or quality, rather than something that can be learnt, means assigning it a high value. Not everybody can do this. By claiming to possess this important and valuable competence, and pointing out the ones who do not, the students constitute a self and claim membership of a group (Lamont and Molnár 2002). Applying a symbolic boundary approach, the distinctions were drawn between students with or without this relational competence. This competence was based on personal characteristics and qualities, and described as innate and essential. The boundaries drawn depicted the medical and anatomical knowledge learned in class as necessary, but not enough, to be a good nurse. Such boundaries

might provide a mechanism for social exclusion. The ideal nurse is caring and empathetic by nature, and students lacking this competence were described as 'rough and tough' or 'a bitch', and unable to provide good care. The boundaries create a sense of fitting in and being suitable and able.

A few students brought up gender as a topic when talking about nursing competence and emphasized that women and men made equally good nurses. Moreover, an evaluation of the implicit accounts of gender confirms the gender-neutral assessments. Analysing the distinctions along gendered lines shows that both male and female students created the same boundaries. In Lamont and Thévenot's (2000) words, 'the criteria for demarcation', which, in this case, is having relational competence, are similarly framed, used, and valued, by both women and men. Both women and men claimed membership in the group possessing these qualities. Furthermore, both women and men were used as examples of students lacking the important relational competence and were therefore less likely to become *good* nurses. Thus, women and men are found in both the excluded and the included groups. Arguably, since these boundaries are not drawn along gendered lines neither in use nor in content, the students' accounts of ideal competence are in this respect gender-neutral.

Gender essentialist notions of nursing competence

I will now turn to an analysis of how the students talked about the gender gap in nursing, which was different from the gender-neutral assessment of competence in statements of what good nursing is, and who is suitable and not. Addressing the issue of the shortage of men in nursing, the students stated:

Boys are much more ... like it seems like boys are more, they are not as considerate as girls, if that makes sense. Girls kind of, I don't know why, but girls take care of each other, if you know what I mean. If something happens, if you see someone on the ground, I think it's a bigger chance that a girl attends to this person than a boy. (Ali)

There's a difference between boys and girls [...]. It's probably to do with upbringing and such too, but generally girls are more sensitive. And when we [the girls] know that one can have all these feelings, then one thinks that maybe it's easier to understand other people's feelings, too. (Laura)

They say that men often have more How to put it, a more practical way of thinking, while women sense feelings more easily. It is complementary sides, even if these skills are not always ... like, it would be stereotypical to say that one skill belongs to one and not the other. But still. (Erik)

These quotes illustrate how the students attempted to explain the lack of men by portraying women as naturally and innately more caring and empathetic than men. As such, the students' both male and female, evoked gender essentialist notions of women and men, and, moreover, they *gendered* the nursing competence. Mina reasoned that being male or female makes you different when it comes to personal qualities: 'I think I can open up more than a man would be able to, like, even though we have the same personality, kind of.' Christine told me:

I think maybe for girls it is something innate. [...] I think it's got to do with girls having more of a naturally caring instinct [...].

R: Why do you think it is so? That the girls have more ... ?

Christine: It's like ... The girls are the ones carrying a baby for nine months, and looking after it. We're just created like that, I think. There's a difference between girls and boys, mentally, not because of society, it's the way it is.

Henry similarly explains the lack of men in nursing. However, he does not regard being caring as an innate quality, but rather something that's not socially accepted for boys:

I won't say it is like that, but guys maybe have some qualities that the women don't, and the other way around. Guys have maybe a harder time getting involved and using their empathy, because maybe they are a bit afraid, and you're supposedly less of a man if you use your empathy. I don't know. That's what has been running through my mind a couple of times.

According to the stories about who were suited and not suited to becoming a good nurse – categories which included both male and female students – women and men make equally good nurses. However, when talking about the lack of men in nursing education, the students drew on other notions about gender, competence and skills, and the distinctions were drawn *between* women and men. Women in general were described, in line with stereotypes of gender and competence, as more caring, empathetic, nicer, and more sensitive than men, and therefore more suitable to become nurses. Despite the students' expressed experience with the opposite, that both male and female students are equally suited, or not suited, to become nurses, they reproduce stereotypical images of women and men when addressing another and more general issue: that of the gender gap in nursing. As argued by among others Ridgeway (2011) and Musto (2014), the meanings people associate with gender might vary considerably across context, depending on whether gender is a salient organizing principle.

Accounting for their choice

To elaborate this point, I will in the following show how the students made use of different and inconsistent accounts when talking about their choice of education. When studying how people select among parts of their repertoires, picking up and setting aside different cultural themes, it is useful to explore the circumstances in which they shift from one part of their repertoire to another, and what anchors or triggers the various shifts (Swidler 2001). Both the female and the male students underlined how important friends' educational decisions were for their own choice of education. What 'everybody else' was doing was presented by the students as a key reason to choose as they did. Many of the female students had vocational training in health care before starting the bachelor's degree in nursing. Siri went along with the majority of the girls in her class in lower secondary school:

It started in tenth grade. I was not sure what I wanted to do. I thought about nursing already at that point, because I thought that nursing is kind of, yeah it's kind of normal. I didn't know about that many occupations, and I thought that that is probably something I can do. I started vocational training in health work in the first year of upper secondary, really because all my friends were going to. So all of the girls [in the tenth grade class] started there, except one.

Siri talks about nursing as *normal*. By contrast, most of the male students had made an educational 'reorientation' (Orupabo 2014), where they decided on nursing education

after years in another educational field or occupation. This finding is supported by the fact that male students in Norway are on average almost 3.5 years older than the female students when they start nursing education (Nedregård and Abrahamsen 2018), and research documents a general tendency of men's late entrance into female-concentrated occupations (Williams, 1995). John may serve as an illustration. He started vocational training in electrical engineering in upper secondary school and told me that he 'chose electrical engineering because all my friends did so. [...] As a 19-year-old I had never pictured myself as a nurse'. This illustrates that although individuals choose from among several options, they do not actively or consciously assess the full range of objectively available options (Hodkinson and Sparkes 1997). Arguably, many educational options are never considered because they do not fit with individuals' perception of gender roles (Gottfredson 1981; Eccles 1994). Most of the students grew up in villages or smaller towns. When talking about what they had considered as options when choosing an education or an occupation, many of them stated that they did not know of too many alternatives. Inga stated, 'Where I'm from, the jobs I knew of were teacher and nurse, pretty much just that.'

Looking into the repertoires they drew on when talking about their choice of education, the female and the male students legitimated and explained their choices in both a similar and a dissimilar manner. Both women and men explained their choice in terms of the benefits and characteristics of the profession, and recurring reasons were the desire for a safe job, a meaningful job, a job with action, or the opportunity to work with people. However, most of the female students had additional explanations. They also talked about their choice by relating it to how they were *as persons*, and that they were *suited* to nursing. This suitability mostly related to being a caring person. Like Christine, who explained her choice of education like this: 'I'm a pretty caring person, and I have sort of a need to work with people.' And Laura, who said:

I didn't know what I wanted to do, but then there are these personality traits that I have ... which fit very well with being a nurse. [...] My stepmum has worked within this field, and she recognized these traits.

R:

What traits are they? Laura:

Like caring for others and stuff like that.

I interpret the male and female students' different arguments for choosing education as different repertoires of legitimation, and that the women drew on a wider repertoire than the men did. The example of Liv will further illustrate this finding. Talking about nursing competence, Liv expressed that she had problems with the image of nursing being too much about the relational competence and in particular *care*, both because of the actual care-giving aspect and what she thinks is too strong a focus on care in nursing education.

Liv: And I had *never* thought that I would end up here in nursing. [...] For my part I could never have worked in ... I'm not very eager to work in the health sector. What I have thought about, is that I'm never going to work in a care center. That is not an option. And I have friends working there. And I just think, no!

R: Why?

Liv: Unfavourable working hours, you don't use your head at all, you just walk around and flutter about. You do the same thing as you do at home ... but you have big babies to care for.

When talking about lectures on concepts such as ‘care’, ‘identity’ and ‘integrity’, she remarks:

Liv: What is this, really? I feel like it is such a girly education.

R: What do you mean by ‘girly education’?

Liv: Like, mollycoddle. If you would compare it to a math teacher standing there talking about math puzzles, then we are here, talking about, yeah ...

Liv problematizes and criticizes the parts in the syllabus about ‘care’ and similar concepts relating to relational competence. She opposes the importance given to these topics and speaks negatively about the practical tending and care-giving aspects of nursing. However, when shifting the topic from talking about nursing competence to explaining her own choice, she argued that she wanted to become a nurse because she is a *caring person* and she wants to *provide care* for others. Explaining her choice of education, Liv concludes: ‘It fits me, as a person. I think, I don’t know. I feel it’s that part about providing care, sort of.’ Because of these opposing accounts, Liv is a good example of making use of different repertoires. Swidler (2001) argues that in the more or less reasoned arguments people make, drawing from their repertoires, trying various rationales, there might be little concern for their overall coherence. Liv had difficulties with the concept of care in nursing, but she still used *being caring* when legitimating her choice of education, just as several of the other female students did. Liv’s narrative, although it can be interpreted as contradictory, has the rationale of explaining her choice, and justifying that she has made the right one. In doing this, she draws on different repertoires, among them the repertoire of being a caring person. Arguably, women have access to a wider set of repertoires when legitimating their choices. The male students, although seemingly equally valuing the relational aspect of nursing, are left with emphasizing the advantages of the profession and not their personal suitability.

Discussion and conclusion

This article displays a double contradiction in how nursing students assess issues of gender and competence. First, the students’ assessments of gender and competence are gender-neutral, but gender-stereotypical accounts are activated when addressing the gender gap in nursing. Second, the female students could be negative towards the practical tending and care-giving aspects of nursing and the value this is given in the education, yet still present themselves as *caring persons* when legitimating their choice of education. The contradictions demonstrate how the meaning and salience of gender vary according to context and situations, down to the level of variations within single interviewees’ accounts and highlight the importance of interpreting accounts within their context. Furthermore, the different notions of gender and the different *use* of the notions of gender, has different implications for women and for men.

Theoretically, this article introduces the combination of cultural belief perspectives, theories of symbolic boundaries and cultural repertoires to the research field of gender and education. Firstly, the analysis investigates what the students value as important nursing competence and how this is related to gender. Detecting what the students assess as important and valuable competence, and who possesses this competence, allows for identifying whom they perceive as suitable for the nursing profession. Revealing such sorting

processes of what and who is valuable in specific contexts and situations give an entry to understanding the elusive processes that promote gender inclusion or sustain gender exclusion in gender-typed study fields. The analysis illuminates the importance of 'what you cannot learn' and that central elements of nursing competence, according to the students, are the personality traits of being caring and empathetic. The 'criteria for demarcation' (Lamont and Thévenot 2000), which in this case is having relational competence, are similarly framed and used by both women and men. Moreover, both women and men are equally identified as belonging or not belonging to the groups possessing these qualities.

Secondly, the analysis demonstrates the situational relevance of gender. Constructing beliefs about what categories of people are 'better' means making systematic use of socially defined differences among people (Lamont 2012; Ridgeway 2014). Such status processes are often driven by widely shared beliefs about the competence of people in the social groups of which the actors belong, and are consensual in that people share them as cultural knowledge about what 'most people' think. Because individuals expect others to judge them according to these beliefs they must take them into account, whether or not they personally endorse them (Ridgeway 2014). Thus, gender stereotypes may be confirmed and used also by people who do not necessarily support the content of the stereotype. The effects of such beliefs depend on the extent to which the social context makes status beliefs implicitly salient to participants and relevant to their concerns in the setting at hand (Ridgeway and Correll 2004). The importance of context bridges theories of cultural beliefs on gender and repertoire theory. The latter highlights how the meaning of a particular action depends on the context: People first anchor themselves in a context, a real or imagined situation, and then derive beliefs or arguments from that situation (Swidler 2001, 186), as demonstrated by the students when addressing the diverse topics. In addition to investigating what cultural resources are available, it is therefore essential to investigate also which resources are used in specific situations. Shifting frames from actual students and actual competence to addressing the general, abstract question of the gender gap, the students activate stereotypical accounts of men and women. Similar findings of opposing accounts of gender are found by Francis et al. (2016). The 'situational relevance' of gender emphasized by Ridgeway and Correll (2004) is here documented by how individuals and groups make use of different elements of their repertoires depending on the context, making gender more, or less, salient. Taking into account Deutsch (2007) plea for investigating also when gender does not matter, argues for extending Ridgeway's conception of gender as 'less salient' to gender as 'not relevant'.

Some of the research that argues that men take their gender privilege with them into female-dominated occupations consider being advantaged as getting managerial positions or better salaries (Williams 1992). However, scrutinizing what is valued in the specific setting at hand will provide a context-sensitive understanding of what is the advantageous skills or characteristics. This article demonstrates the importance of analytical perspectives that understands valuations processes, and how such processes relate to gender, as highly situational and contextual – and thus to be approached as open empirical questions. In this context, the students identified the relational competence as highly valuable. Analysing the arguments used to legitimate their choice of education revealed that the female students drew on a wider set of repertoires, matching the valued relational

competence. If one wants to support and justify a decision, having a rich variety of rationales available can strengthen one's position (Swidler 2001). Because of an operative cultural belief of women as more caring than men, demonstrated when the students explained the gender gap, a wider set of justifications were readily available for the female students than the male students. Displaying this advantage demonstrates the third contribution of the theories applied. The activation of various repertoires both depends on individuals' structural position (Lamont 1992) and the contextual and local support of the various repertoires (Harding 2007; Ridgeway 2011). Arguably, the women's use of a wider set of repertoires provides the female students with an advantage both when legitimating their educational choice and when showing suitability for the profession. This might have implications for gender inclusion, since identifying with what is perceived as core competence and developing a 'professional role confidence' is crucial for the gender minority to pursue a career, to persistence, and to feel suitable for a profession (Cech et al. 2011).

The article demonstrates the situational and contextual relevance of gender. An operating cultural belief about women as more caring than men is reinforced in the nursing context where relational competence is held high. Depending on whether the specific situation makes gender salient or not, this will trump more gender equal informed accounts. The students provide gender equal assessments of nursing competence when addressing competence needed and actual students. However, the stereotypical accounts prove powerful when the students discuss the issue of the gender gap in nursing, or when the female students legitimate their choice of study. Thus, their accounts represent both reproduction and traces of change in educational gender segregation.

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Article 3

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Skilful sailors and natural nurses. Exploring assessments of competence in female- and male-dominated study fields

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ABSTRACT

This article compares educational choice narratives and assessments of ideal competence within and across female-dominated nursing studies and male-dominated nautical science studies. By use of this comparative approach, the article offers new understandings of gendered educational choices and what promotes gender inclusion and exclusion in educational settings. The article finds that previous experience from the field was instrumental in the choice of education made by the gender minority. However, the different valuations of such experience in the two study programmes had implications for the social and academic position of gender minority students.

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Despite vast gains in gender equality in most industrialised nations, the distribution of men and women across occupational structures is still very uneven. Most of the gender segregation in the labour market is due to young women and men making different educational choices (Østbakken et al. 2017). The technical/social dualism which characterises gender segregation in education is self-reinforcing as young women and men continue to make gender-typical study choices, and thus reproduce the labelling of care as feminine and technology as masculine (Faulkner 2000; Barone 2011). Furthermore, the gender minority seems to drop out of their study programmes more often than the gender majority, further increasing the gender gap (Severiens and Ten Dam 2012; Nedregård and Abrahamsen 2018).

There is an extensive body of research on what fuels gender segregation, especially regarding the lack of women in technology and engineering. However, few studies qualitatively compare female and male gender minority students' experiences across different educational fields and examine what contributes to academic and social inclusion across study programmes. Moreover, studies that focus both on choices of education and gender inclusion and exclusion in the educational context – and how these issues relate – are rare (Mastekaasa and Smeby 2008). This article investigates nursing students' and nautical science students' accounts of their educational choices, examines which competences are assigned value in the study programmes, and discusses how this has implications for the students' professional identification and the notions of suitability in the educational domain they have chosen. The article thus contributes to the literature on educational gender segregation both in terms of displaying how gender non-traditional choices come about and by showing how assessments of ideal competence in gender-typed study fields have implications for processes of gender inclusion and exclusion.

According to theories of educational choice, young people about to make study decisions do not consider the whole range of possible opportunities; they are restricted by what appears for them to

be the available alternatives (e.g. Hodkinson and Sparkes 1997; Lee and Zhou 2013). These theories hold that young women and men need an expansion in their frame of reference to change which alternatives are considered available and appropriate. Furthermore, studies of what promotes gender inclusion and exclusion in education suggest that the gender minority lacks both professional and social confidence in heavily gender-typed educational fields and professions, and therefore is less likely to persist than the gender majority (Cech et al. 2011; Stott 2007). However, being the underrepresented gender in an educational context does not automatically lead to marginalisation and exclusion, since different educational contexts might harbour different possibilities for gender inclusion and exclusion (Orupabo 2018). This calls for an attention to what promotes students' confidence in their ability to fulfil the knowledge, skills and personal qualities required in gender-typed study programmes. Investigating what competences¹ are assigned explicit and implicit value in nursing and nautical science – and how this relates to gender – provides insight into processes that might promote exclusion and inclusion.

In this study, nursing studies and nautical science studies at a college in the western region of Norway are used as cases of female-dominated and male-dominated study fields. The labour market in the region is highly gender segregated due to the traditionally male-dominated maritime industries. Arguably, this context provides a setting where gendered accounts of work and competence are more pronounced than in regions with more gender-balanced labour markets. I make use of data from participant observation in practical training, and individual in-depth interviews with female and male students, in both programmes. The comparison of the programmes serves two functions. One is to clarify the profile of one case by contrasting it to the other (Kocka 2003). Second, it helps to 'identify questions and problems that one might miss, neglect, or just not think of otherwise' (Kocka 2003, 40). Importantly, the article aims first and foremost to discuss the potential *implications* of the differences observed between the study fields, and not to explain the differences.

Previous research and theoretical perspectives

Research has not agreed on why the gender minority seem to have lower attrition rates in gender-typed study programmes (Severiens and Ten Dam 2012). However, according to seminal contributions in the dropout literature, retention depends on the students being both *socially* and *academically* integrated (Tinto 1987, 1998). Such integration may be especially important for the gender minority (Cech et al. 2011; Seron et al. 2016). In a study of female students as the gender minority in engineering education, Cech and colleagues (2011) introduce the concept of professional role confidence – individuals' confidence in their ability to fulfil the roles, competencies and identity expectations of a profession. They argue that identifying with what is seen as core competence in the profession is crucial to pursuing a career, to persistence and to the feeling of being suited to a profession. Previous research has demonstrated that an individual's perceived ability to meet the competence ideals in educational programmes strongly influences identification and a sense of belonging (Orupabo 2018). Making use of the concept of self-socialisation (Heinz 1999), Orupabo (2018) shows how students' sense of professional suitability is an ongoing learning process, influenced by the competence ideals in specific educational programmes.

Research within studies of professional skills formation argues that the experiences that students have acquired outside their education has not been given sufficient attention (Jordal and Heggen 2015; Smeby and Heggen 2014). The relation between previous experience and what happens in education has been conceptualised as *coherence* (Smeby and Heggen 2014). The concept addresses how the relationships between the different elements of education (i.e. between theoretical knowledge and practical skills) affects professional development in the educational context (Smeby and Heggen 2014). While the coherence literature focuses mainly on learning outcomes, some recent contributions have documented how coherence is also significant for whether and how students identify with the profession while undergoing education (Jordal and Heggen 2015). Jordal and Heggen interpret through interview data how nursing students are 'telling themselves into nursing'

(2015, 111) and argue that the students understand and identify themselves with the profession through their previous life experiences.

What criteria are used to demarcate which individuals and groups are more or less suited to become good nurses and navigators? The boundary approach (Lamont 1992) offers an analytical perspective suitable to analyse and compare what is given value in the two educational settings. This perspective makes use of the concepts of 'cultural tools' or 'repertoires' that are unevenly available across situations and contexts (Lamont and Thévenot 2000). Focusing on which evaluative repertoire the two different educational contexts make available to their students and teachers gives an insight into how the context shapes and constrains the views and vocabularies that create distinctions between individuals and groups. Such distinctions may matter for the inclusion and exclusion of gender. The distinctions individuals draw when they perform this categorisation of people, Michèle Lamont terms 'symbolic boundaries' (Lamont 1992). Focusing on boundary work is a convenient heuristic tool for bringing taken-for-granted criteria of evaluation to light, by exploring what individuals value (Lamont and Molnár 2002). Such an analysis displays whether what is valued is accessible to everybody or limited to some.

Context

Norway is a welfare state with an extensive system of work-family policies, and women's employment rates are high compared to other Western countries (Aboim 2010). But despite gender-equality policies, Norway has a gender segregated labour-market, where women are generally found in health, social work and education sectors, and men in manufacturing and finance sectors (Reisel and Teigen 2014). The labour market in the region where the college in this study is located is highly gender segregated and scores low, overall, on gender equality indicators (NOU 2012: 15). The region has an especially low amount of men in health and social disciplines (Reisel 2014).

Nursing and nautical science are examples of 'professional educations' (Smeby and Sutphen 2015), with a knowledge base consisting of a combination of practical, theoretical, and tacit knowledge (Grimen 2008). The bachelor's degree programme in nautical science includes both practical training in ship simulators and an abstract theoretical knowledge base built up around mathematics and physics. Like the similar engineering bachelor's degrees in Norway, nautical science offers a vocational-route (v-route) programme where students are accepted into higher education programmes also based on vocational education qualifications. The bachelor's degree in nursing similarly contains a combination of abstract theoretical teaching and extensive practical training. The programme requests general university and college admissions certification. However, students may have previous vocational training as health workers before starting the bachelor's degree, and then complete a year of supplementary studies to qualify for higher education. A v-route for nursing studies is not available in Norway today.

Methods and data

The data was obtained from 120 hours of participant observation of practical training and interviews with 35 students in nursing studies and nautical science studies. The region was chosen because of its gender-divided labour market, and the fields of study because of their female- and male-dominance. Since I wanted the perspectives of both the gender majority and minority, I interviewed both male and female students. There are more female than male students in the sample because more women than men agreed to participate in interviews, which may relate to the interviewer being female. This might have had implications for the comparison between women and men, although the aim of this article is not primarily to compare male and female students, but the two educational programmes.

The nautical science class at this college comprises about 40 students every year, half of whom have vocational training and experience of working at sea. One of the nautical science classes under study had seven female students and the other had ten female students. The nursing classes consisted of around 150 students, around 10% were men. At this college, a substantial number of

nursing students had a vocational background – over the two years the field work was conducted they constituted 33% and 37% of the total number of students. The students were recruited for interviews after I had observed their training for a few weeks. Most of the interviewees agreed to participate after being asked verbally, while two students answered an email sent out to all students and offered to participate. 15 interviewees were nursing students (8 women) and 20 were nautical science students (11 women). The students were from 18 to 28 years old and were all in the first year of their bachelor programmes. The interviews were semi-structured, lasting from 45 minutes to two hours, and were conducted at the college.

Two interview techniques were used to gain insight into the students' choice narratives and their assessment of what constitutes important and valuable knowledge and skills in their future professions. First, by using descriptive questions (Spradley 1979) about what the students had done before starting this education, information is gained about practice. The descriptive questions were formulated as life history questions, where the students were asked to structure their own story of how they came to choose their line of study, and then follow their own cues (Mason 2002). The second approach was to question participants about the kinds of knowledge and skills they found necessary and important to be a good professional in their fields, and invite them to make explicit the 'criteria of evaluation' (Lamont and Thévenot 2000) they use when they describe what is good nursing/navigating, and who is good at performing it. As such, the interview material allows for grasping which types of knowledge and skills are explicitly recognised and formalised in the two study fields (Mangset 2017), and how this is related to gender. Observing practical training offered the possibility to directly observe if and how gender distinctions were apparent. Observing which of the students took the lead in the practical training and in class discussions, what topics emerged in discussions, and what the lecturers – through their instructions – implicitly and explicitly gave attention to, allowed for identifying what was assigned value and how this was related to gender.

The two study programmes are built up around radically different knowledge bases, being one health profession and one technical profession. However, they share an uneven gender composition, and are both examples of professional educations with theoretical and practical knowledge bases. What is being compared across the two educational contexts is the students' accounts of their educational choices, what types of competence is valued, and how this relates to gender.

Educational decisions and ideal competence

First, I analyse the students' accounts of their choice of education. Second, I analyse what was seen as valued competence in the two fields of study.

The way in

One issue stood out as strikingly similar between the two study programmes – a distinction between the gender minority and the gender majority in how they described their path into the education. Several of the female students in nursing and the male students in nautical science described their choice as based on little or no previous experience. They had heard friends talk about it, they had acquaintances or friends who planned to enrol in the programme, or they had read about the study online, as illustrated by the quotes below:

I started at *utdanning.no*² [...] It's a very good site, a good initiative. So I looked at that list, occupations from A to Z, and I went through it all. And looked for something that caught my interest. And then it boiled down to marine biology and nautical science [...]. Without *utdanning.no* I had never decided on this. So I have to thank that site. [...] I had nautical science on top of my list, that was what caught my interest the most. And then I got in. *Christoffer, nautical science*

I was not sure what I wanted to do. I thought about nursing already [in tenth grade], because I thought that nursing is kind of, yeah it's kind of normal. I didn't know about that many occupations, and I thought that that is probably something I can do. I started vocational training in health work in the first year of upper secondary,

really because all my friends were going to. So all of the girls [in the tenth grade class] started there, except one.
Siri, nursing

Male nautical science students and female nursing students did not seemingly need familiarity with the professional field to make their choice of education. Christoffer had no previous experience or knowledge about the profession but reading about it caught his interest and he applied. Siri said that she applied for health work because it was 'normal' and that 'all my friends were going', not needing previous experience to convince her that this was something she would enjoy or feel suited to.

Conversely, many of the female students in nautical science and the male students in nursing had in common that they had some sort of previous experience with, and thereby knowledge of, the professional work they were entering. In their stories of when and where they had first considered these areas of study, they talked about working as 'medics'³ or serving in the coastguard in the military,⁴ observing and assisting their parents or grandparents in their professional life, or doing part time jobs in related professions. According to the stories from the gender minority students, experience from a maritime or medical context was essential for them to make their choice of education. The quotes below may illustrate the stories from the gender minority of how they entered their studies. The female students in nautical science had experience with the profession either from military service in the coastguard, or through fathers or grandfathers in the profession:

I didn't know what I wanted to do when I was younger, I thought it was very difficult to decide. So, after upper secondary school I did military service [førstegangstenesten] for a year, to have something to do and not just stay home and work. I ended up in the navy, and on a boat, so ... *Elisabeth, nautical science*

R: Was it at random that you ended up in the navy?

Yeah, I wanted to go to the army, but then it was ... They didn't have any openings ... Like, I wanted to start studying in the autumn, but they didn't have any openings until January. And then I didn't want to wait at home for half a year. So then I joined the navy, I ended up on a boat and I liked it very much. So, I figured, this is what I want to do, or try at least. I enjoyed myself very much at sea and like being on a boat and stuff. If it wasn't for that I wouldn't be here. Then I wouldn't have a clue ...

Another of the female nautical science students said her grandfather served as an important role model for her, influencing her choice of education:

He dragged me out to sea and onto all the boats in the county. And I've always gone straight to the wheelhouse and just, 'this is where I want to be', sort of. So I think they might have realized it before I did, almost. *Emma, nautical science*

Several of the female nautical science students had fathers and grandfathers as important professional role models, as none of them knew of female navigators in their parents' or grandparents' generation. Some of the male nursing students had persons in their family serving as role models, also men. Importantly, like the female navigator students, the male students in nursing described a previous experience that led them to consider nursing studies:

Sort of coincidentally, I started vocational training as an electrical repairer after lower secondary, then I did computer electronics the second year. Then I served in the military, as a paramedic. Then I returned and finished the last year [of the vocational training] in space technology. Then I went for my college admissions certification, took a few extra science subjects. But then I applied for nursing studies because I think it's fun to work with people and that sort of thing rather than sitting in an office working with formulas. *Alex, Nursing*

R: So you hadn't considered nursing studies before this?

No, not really. It was because I randomly joined the medics..

When talking about how he decided between occupational choices, he said:

It was just sort of, what I like and don't like. I'm not really a big fan of maths, not programming either. And I don't want to sit and work theoretically, I would rather do something practical. I figured it was more fun to be out and yeah, do something.

Alex had not pictured himself being a nurse earlier, but after being recruited to medical service during his one-year military service, he decided to change his educational route. Choosing nursing 'out of the blue' seemed unlikely for the male nursing students. Most of them had chosen other, mostly male-dominated areas of study first, and after a few years doing military service or working as assistants in health professions after being unemployed, reoriented towards nursing studies. At age 17 or 18 they did not consider nursing studies, they said, either because it simply never occurred to them as an alternative, or because of 'prejudiced beliefs' about the profession, as one of the students phrased it.

Previous experience seemed instrumental for making their choice of education and an important motivation for the gender minority. How is this previous experience met in the educational context?

Sorts of competence valued

By examining what knowledge, skills and qualities are explicitly and implicitly given value, I aim to grasp views of who belongs and are suited to be good at their job, and how this is related to gender.

Nautical science: 'a smooth sea never made a skilful sailor'

The above quote is taken from a poster that covered the entrance door to the ship simulators at the college. Much of the practical training in nautical science took place in the simulators, where the students trained for their future professional roles. The five simulators are copies of wheelhouses on different types of ships, constructed so as the experience of being on a boat is as authentic as possible. The simulators have large windows overlooking 'the ocean', numerous technical instruments, a table and a light where the paper map is found and instructions on the wall detailing what to do in emergency situations. Some of the simulators also imitate the feeling of being at sea in the way the room moves to resemble waves.

When I attended the students' first lectures in the simulator, the difference between the students with former sea experience and the ones without was obvious. The students with former experience, although few had experience with actual navigation, understood more of the technical terms, some of them were acquainted with the instruments in the wheelhouse, and they seemed to know how to read the map. Furthermore, they had embodied knowledge. They knew where to stand and how to move in the wheelhouse, altering between the key positions in front of the map and the steering instruments, and they did not – as the more inexperienced students had to – twist their body around when figuring out if they were turning the ship portside or starboard. The students with vocational training were especially skilled, but also the students with navy training or more informal knowledge knew the jargon and were acquainted with the instruments and the maps.

This episode illustrates a typical session in the simulator:

As the students are paired up and are getting ready to enter the simulators, I join Lina and her partner Frank. Walking to the simulators, I notice that Lina has a map and compass tattoo on her shoulder. As soon as we enter the simulator, Lina lay out the map on the table, moves to the instrument panels and start pushing buttons, walks over to the map and checks something, and then walks back to the instruments. Frank observes her. When their journey eventually starts, Lina gives Frank instructions on what to do. As the journey proceeds, they discuss how to solve the situations that arise, meeting and passing other ships while keeping to their planned track on the map.

Since most of the female students had some sort of previous experience and many of them had vocational training, they often took lead in the simulators, as this episode illustrates. Because of the v-route programme, all students were paired up; one student with vocational training and one without. As in this case – where Frank had neither vocational training nor any other experience from being at sea – the distinction between the two is obvious, and the intention is that Frank learns from

Lina's experience. Apparently, previous experience was an advantage when it came to master the practical training.

Furthermore, the students with previous knowledge more often took part in the discussions in class after the simulator sessions. When reviewing the decisions and actions made by the students after each session, questions and comments from the students with previous experience were often the starting point of the discussions, even though the decisions they had made were sometimes, according to the teacher, wrong. In a conversation with the teacher after a day in the simulators, he confirmed the value of the students with experience:

It works really well; they can go straight in without having to be told everything. However, we must weed out some bad habits, that is a part of it. They have learned some simple solutions, shortcuts. But it is still worth it.

The teacher acknowledges that the knowledge derived from previous experience is not necessarily at one with the curriculum but argues that the gains from the discussions and the advantages of having some students with such knowledge in class are greater than the disadvantages. Although the v-route programme is designed to benefit from the students with vocational training, its valuation of vocational education served also as a valuation of other forms of experience. The teachers assigned value to knowledge gained 'in the field', and thereby included knowledge acquired from other experiences within the maritime context. Some of the students, and especially those with such experience, did question the teachers' versions of 'the right way'. Because 'field knowledge' was highly valued among the students, discussions sometimes occurred between procedures these students had learned at sea, and what was given in the curriculum.

The analysis of the interview material further informed the investigation of the types of knowledge, skills and qualities that were significant. Female student Gina, describing the first weeks of the semester, observed: 'You could really tell that we have been at sea, many of us, not everybody. We really get along.' She continues, talking about the ones without previous experience:

Some of them have never been on a boat before. They come here, and when we go through something and they ask, 'what is that?', and we are all like 'what?' But then I think, oh well, they know nothing about it.

Illustrative of the distinction was that students with experience were referred to as 'sea people' and those without were called 'school people'. Ole, referring to the advantage he feels in having previous experience, says: 'We have been at sea. We know what it's like at sea. We know that it is a life for us.'

Similarly, when the nautical science students described what a *good navigator* looks like, essentially two categories were emphasised: personal qualities, such as being thorough and calm under stressful situations, and being 'experienced'. The experience and knowledge gained from 'doing the work' was accentuated. Notably, the personal qualities of keeping one's cool under stress were often described as stemming from experience. These quotes from nautical science students illustrate that the arguments they used when defining what it takes to be a good navigator drew on the distinction between having been 'in the field' and not having that background:

Well, you need some understanding. More than just schoolwork. You need understanding to ... There are very many things that can go wrong on a boat, and then you have to understand and know what to do in every situation.

I feel like here we learn the fundamental stuff to be able to navigate, but what it takes to be a good, steady navigator ... that you get from experience and being in situations that are a bit challenging or ... having to make difficult judgements.

Recalling the two categories of 'school people' and 'sea people' used to describe fellow students, these quotes came from students in the latter category. Some of the students without experience questioned such statements, and negotiations of the value of previous experience did occur. However, the 'school people' also acknowledged the value of such proficiency and referred to experience from the field when describing what it takes to be a skilled navigator. Importantly, statements of what valued competence consisted of was similarly defined by both women and men, and both women and

men possessed the valued field knowledge. Professional role confidence and identification is arguably especially important for the gender minority (Cech et al. 2011; Seron et al. 2016). In this case, the strong assessment given to field knowledge promotes the social and academic integration of the gender minority and provides the female students with a prominent academic and social position.

Nursing: 'That is something you cannot learn, that is something in

In nursing, the practical training took place in a corridor with separate wards which imitated a hospital corridor or a nursing home. The corridor had illustrative charts and real size models of human anatomy. In the wards, several hospital beds were placed next to each other. The students were often in groups of three, practicing different procedures on each other, on dummies imitating patients or on live models (actors). The students wore nursing uniforms with nametags, the male students in dark or light blue, and the girls in white, pink or purple uniforms.

In practical training in nursing, the distinction between the students with and without some sort of experience in the medical context was less obvious. Although many students had working experience from nursing homes, medical training from the military or vocational training as health workers, this was not as apparent in the training sessions, and distinctions between those with experience and those without was not necessarily convergent with who took the lead in conducting the procedures. When practicing lifting techniques, doing blood tests, taking blood pressure measurements, or in communicating with patients,⁵ some of the students seemed more comfortable and had the confidence to take initiative, and this did sometimes – but not always – coincide with who had previous experience and training. Moreover, there was little explicit focus on previous experience in plenary discussions. Experience from being in a medical or health care context was more rarely drawn on in class discussions or when reviewing and discussing the practice afterwards, than what was the case in nautical science. Furthermore, the nursing students underwent practical training in care centres as a part of their first year, which blurred the potential distinction between students with and without previous experience.

The strong focus in nursing on learning and performing the correct nursing procedures,⁶ further stressed the 'begin with a clean slate' approach that characterised practical training in nursing compared with nautical science. Salient in the nursing practical training was the focus on 'unlearning' any techniques and practices the students had acquired before embarking on the course. When the students were corrected for their techniques, it was either by simply referring to the correct way according to the nursing procedures, or in the form of a correction of 'bad habits'. Either way, it provided little room for discussions of the (possible) previous knowledge the students had based their decisions on. Compared to the nautical science training, fewer discussions between 'the right way' of doing things were observed. However, some students, for instance the male students with medical training from the military did express frustration over other procedures than what they had been used to. In terms of gender distinctions, none of the cases I observed that involved students taking a lead and acting with confidence were with male students. About one third of the students in the nursing class had vocational training, and all but one of the male students I interviewed possessed previous experience from care centres, psychiatric wards or medical training from the military.

Two of the teachers I talked to during practical training confirmed the observation that knowledge gained from previous experience was not assigned notably high status and value in nursing:

Teacher: I can tell the difference between the ones who have been in practical training and the ones who haven't.

R: What about the ones with previous experience as health care workers or with other experience? Can you tell?

Teacher: Yes, but this is not necessarily a good thing. No. They may have learnt things wrong.

Another teacher similarly argued that the students were best without previous experience because they had not learnt 'nursing knowledge' and therefore learned things wrongly. The teachers' quotes suggest that having previous experience is not an asset in nursing; rather they

state that starting without any prior knowledge is preferred, since this provides the best conditions for learning. Recalling the lecturer in nautical science stating that in spite of needing to unlearn some bad habits, previous experience is an asset in the educational setting because it provides both practical and theoretical benefits, these quotes confirm the observed distinction between the valuations of forms of knowledge in the two programmes.

In addition to the theoretical and practical knowledge underpinning the nursing procedures, there was a prominent focus on personal qualities in nursing. The qualities largely concerned some sort of relational competence, and it was often referred to as something innate and unlearnable. This may be illustrated by this quote from one of the teachers, stated when she gave feedback in a plenary after the students had practiced with live models:

You were *present*, and that is something you cannot learn, that is something *in here* [holding her fist on her chest]. Everything can be learnt, about aphasia, about lifting, but *that* you cannot learn. That is about personal qualities, and that is not easily learnt.

The interviews with the nursing students further informed the analyses of valued competence. Arguments of 'doing the work' and the knowledge deriving from 'being in the field', which were important in the nautical science context, were close to absent from the nursing students' criteria when they talked about what it takes to be a good nurse. When describing what characterises good nursing, they referred to theoretical nursing knowledge, like being medically, pharmacologically and anatomically skilled, and having the right personal qualities, such as being caring, patient and calm under stress. Such competence however was rarely related to, or explained as being a result of, practice from the field – for example gleaned from experience with having to make difficult judgements under stress.

The personal qualities required were by the students described as innate and 'not learnable' through education, and thus assigned high value: 'Medical knowledge is important. But what one can't learn to do is how you *are* towards other people'. Another account exemplified how some are cut out to be nurses and others are not: 'You have caring people. There are some who like to provide care, who just automatically is the person who cares for others, and then there are those who are more selfish'. Yet another described a fellow student's lack of suitability like this: 'she just doesn't have the personal qualities to become a nurse'. Following the logic that some are more suited than others, both female and male students described some of their fellow students – women and men both – as not fit to be nurses because they did not have the right personal qualities. Thus, what operated as the clearest distinction between groups of students when describing ideal competence was whether one was 'cut out' to be a nurse in terms of personal traits, and such distinctions were not drawn between female and male students.

Discussion and conclusion

The male nursing students and the female nautical science students resembled each other because both groups accentuated the importance of previous experience for their choice of education. Such experience was described as instrumental by the gender minority and seemed to have a motivational effect. Here, previous experience is defined broadly, and includes working experience, military or voluntary service, and familiarity and experience with the profession through parents or grandparents. The findings are in line with previous studies of gender non-traditional choices of education, which show that the gender minority make their choice of education at an older age than the gender majority, giving time to have other work and educational experience (Mastekaasa and Smeby 2008; Nedregård and Abrahamsen 2018; Williams 1992). Male nursing students especially are documented to be older and have previous experience before starting their studies (Karlsen 2012; Svare 2009). These findings indicate that many young people are not exposed to experiences that make them aware that they might enjoy gender non-traditional work.

Next, the article analyses what competence – understood as knowledge, skills and qualities – was given value in the two educational contexts. To distinguish between what categories of competence

were assigned value I will here use the terms *pre-education knowledge*, *in-education knowledge*, and *personal qualities*. The analytical category of pre-education knowledge is aligned with the experiences the gender minority described as essential for their educational choice in the previous section. Importantly, the content of the categories was not necessarily different; the distinction between the two types is characterised by *when* the knowledge was gained.

In nautical science, both in-education knowledge and pre-education knowledge was assigned high value by students and teachers, institutionalised through the v-route programme. The v-route programme is designed to benefit from the students with vocational training, but the importance of empirical knowledge also served as a valuation of other forms of 'in the field' knowledge. To be a good navigator, the interviewees argued, knowledge must be gained both from studies, and *in the professional context*. The knowledge of having actually 'been there', in the professional field, gave a certain know-how that was explicitly recognised, making it easy to fit in and prove suitable. Holding or not holding pre-education knowledge proved to be a central criterion of evaluation, creating both academic and social distinctions. Informed by the theoretical perspectives from the symbolic boundary literature (Lamont and Molnár 2002; Lamont and Thévenot 2000), on how context shapes individuals' boundary work by making available different evaluative repertoires, the distinctions the student draw on are interpreted as being embedded in the environment, not created by individual actors. Importantly, both women and men possessed such knowledge. However, since all the female students had some sort of previous experience, and this experience gave them the field knowledge which was highly valued both academically and socially, the female students had prominent positions in an educational context where they were the gender minority.

The personal qualities highlighted in nautical science were related to experience from the field, because experience promotes the ability to keep calm in stressful situations. In nautical science then, the categories of pre-education knowledge, in-education knowledge, and personal qualities were intertwined. In-education knowledge built on insights from pre-education knowledge, and the personal qualities were a product of experience. Thus, the types of valued knowledge, skills and qualities are related, symbiotic, and heterarchical. In this case, this implied gender inclusion, but created distinctions between having and not having field knowledge.

In nursing, in-education knowledge was assigned high value through the focus on performing the correct nursing procedures as detailed in the curriculum. Previous experience was not an apparent distinction between students in practical training, and it was more commonly referred to as 'unlearning bad habits' than as a source of discussion about nursing knowledge. While in-education knowledge was highly valued, pre-education knowledge appeared as something of an impediment. A lack of previous experience seemingly gave the best conditions for learning in-education knowledge. Moreover, experience from the field was not a distinction drawn on when discussing what competence was needed and when discussing who makes a good nurse. The professional knowledge that comes from in-field experience was close to absent in the interviews. The legitimate narratives then – the 'official' discourse of what a good nurse is in this context – seldom contained knowledge gleaned from being 'in the field'. This had implications for gender inclusion, as the male students' route into the education was via experience with the professional field. In addition to in-education knowledge; having the medical, pharmaceutical and anatomical knowledge learned through studying, the possession of the right sort of personal qualities and traits was important; being a caring person. The personal qualities were implicitly and explicitly described as innate and *unlearnable*. In terms of gender distinctions in nursing, both women and men made similar distinctions, and were described as having, or lacking, the valued relational competence. However, male students were rarely seen acting with confidence or taking the lead in practical training. In nursing, the types of valued competence were presented as more detached from each other and less dynamic than in nautical science. The use of different evaluative repertoires does not mean that the pre-education repertoire is absent in the nursing context, but that that it is more sparingly used by fewer people. I found

that a repertoire of field knowledge was more readily available in the nautical science context and enabled the students to employ such references in a wider range of situations.

The concept of coherence can be used to describe the difference between the two contexts. Since learning 'implies the development of meaningful connections to what is already known and experienced' (Smeby and Heggen 2014, 73), the relation between learning and previous experience is important for the development of professional knowledge and skills. However, coherence is also significant for *identifying with the profession* while undergoing education (Jordal and Heggen 2015). According to Jordal and Heggen (2015), the lack of focus in the nursing context on the knowledge the students bring with them to the educational field may have implications for the nursing students' ability to identify with the profession.

According to the gender minority students, previous experience was instrumental in making their choice of education and presented as a core part of their motivation. How this motivation is met in the educational context might affect the degree to which students' expectations are fulfilled and thus their resultant notions of suitability and contentment (Jungert, Alm, and Thornberg 2014). Professional identification is arguably especially important for the gender minority in a professional field (Cech et al. 2011; Seron et al. 2016). In this case, coherence between the different categories of knowledge, skills and qualities promotes social and academic integration of the gender minority, while a disruption between these elements hampers such integration. In nautical science, this provided the female students with a prominent academic and social position. My data suggests that the valuation of the knowledge that comes from 'having been there', in the professional field, promotes the idea that 'this is a job for me'. This is further acknowledged by relating the personal qualities required to professional experience, and thus to something accessible for everybody. Although a substantial proportion of the nursing students had previous experience of some sort – and this was evidently a key source of recruitment of male students – this link between previous experience and expressed social and academic belonging is weaker in nursing. Rather, other features of the required knowledge, such as personal qualities, are more important. The personal qualities are, however, described as innate and unlearnable, detaching them from other elements of education and experience. This provided less prominent positions for the gender minority and other students with previous experience, like vocational training. In nautical science, coherence implied gender inclusion, however creating distinctions along other lines. The difference in valuation is interpreted as an embedded feature of the two contexts, shaping and constraining the views and vocabularies on what constitutes valuable and suitable knowledge and skills. Moreover, it illuminates how gendered choices and a sense of professional suitability is an ongoing process, influenced by the competence ideals in specific educational programmes.

Notes

1. I here make use of a broad definition of competence, defined as all sorts of knowledge, skills and personal qualities that explicitly and implicitly are made relevant in the educational and professional context (Solheim 2002).
2. <https://utdanning.no> is a government funded online information site about educational opportunities in Norway.
3. Military medical service, where the students have a minimum of three weeks classroom medical training and extensive practical training.
4. Norway employs a weak form of mandatory initial military service where one third of the eligible men and women at the age of 19 are conscripted. No one is forced to serve; only those motivated for service are recruited.
5. Simulations with live models.
6. The procedures are the given approaches and methods for how to perform relevant treatments, as presented in the curriculum.

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