

Understanding the Challenges of Aging in a Nordic Welfare State:

Micro-Level Investigations from a Life Course Perspective

PhD Dissertation
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Across the more developed countries, societies are facing aging populations. The PhD dissertation focuses on the challenges that this demographic development poses to modern welfare states.

The dissertation consists of six self-contained research articles. Through a life course perspective on aging, with empirical investigations at the micro-level, each article contributes to furthering our understanding of the challenges of aging in the context of the Nordic welfare state model. Utilizing the richness of linked survey and register data from Denmark, the dissertation combines novel panel data techniques, allowing for both descriptive and causal longitudinal analyses.

With departure in the life course perspective, each article sheds light on important transitions and events, from mid-life to old age, which shape the individual aging process. In combination, the six articles advance our understanding of the aging process at the micro-level, as well as the role of the Danish welfare state in shaping the opportunities and outcomes of its citizens in later life.

Together, the six empirical micro-level studies included in the dissertation make three broad contributions. First, their findings provide evidence on the role of the state and the family in providing care and support for older individuals. Second, they enhance our understanding of the circumstances which shape the needs and behaviors of a growing user group in society consisting of older citizens with health needs. Third, this dissertation both builds on and adds to the evolving body of aging research that uses longitudinal data to study the aging process from a life course perspective.

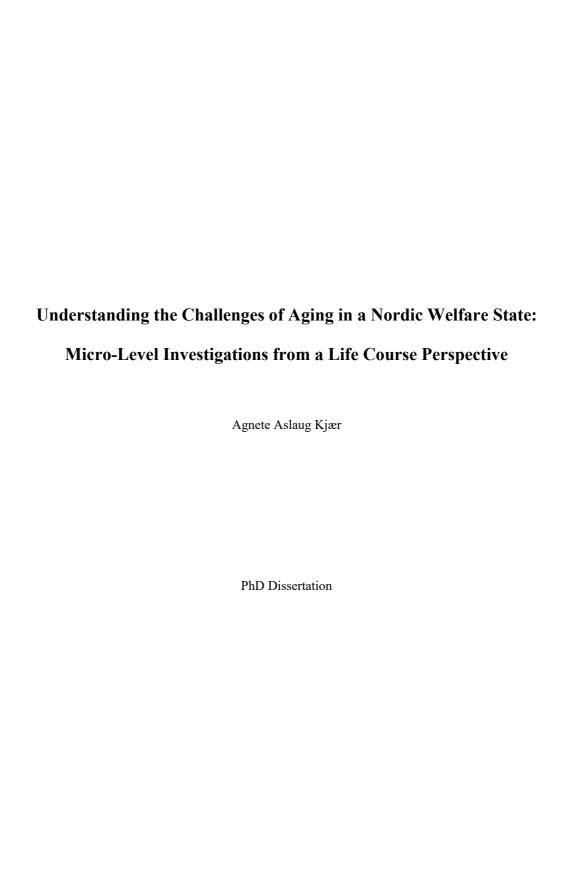


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Writing this PhD dissertation has been a journey. I would not have been able to reach the end of this journey without the guidance and support of a number of people to whom I am eternally grateful. Most importantly, I want to thank my primary supervisor from the Department of Political Science, Asmus Leth Olsen, for being – despite this being his first PhD project to supervise – an experienced, encouraging, and engaged supervisor. The guidance I have received from Asmus with regards to how to actually "do" a PhD, his encouragement in applying for a research stay abroad and subsequently mentoring me over Skype every second week for 10 months, and his inspirational guidance throughout the process of submitting my research to academic journals (including handling the resulting feedback from reviewers) is simply admirable. Nevertheless, my dissertation is a multidisciplinary endeavor, and while Asmus has oriented me through the process of conducting quantitative research for the PhD, my secondary supervisor, Anu Siren from the Danish Center for Social Science Research (VIVE), has played a central role in introducing me to the academic field of Social Gerontology. I would like to thank Anu for including me in VIVE's research group on aging, and for integrating my research into her MATURE research project (Meeting the Challenges in Population Aging through Innovation and Cultural Adaptation of Welfare Society). Lastly, I would like to thank Head of Department at VIVE, Kræn Blume Jensen, for encouraging me to apply for a PhD position at VIVE in the first place, and for helping me find the necessary funding. Furthermore, a number of individuals deserve special acknowledgment for their feedback on the six research articles included in this dissertation, whom I cannot all mention here. A special thanks however to Tine Rostgaard, Karsten Vrangbæk, and Mogens Jin Pedersen for providing detailed feedback and valuable comments on the dissertation in its entirety.

This PhD project is co-funded by two institutions: the Department of Political Science at University of Copenhagen, and VIVE. This arrangement has meant that throughout the past three years, I have been rooted in two very different scholarly environments that have inspired me to adopt distinctive approaches to conducting research about topics of relevance to the welfare state. I believe that this is evident throughout the dissertation, where both theoretical and more applied approaches to research can be identified.

The journey of writing this PhD has brought me to many wonderful places, including conferences around the world where I have presented my research, PhD courses in various research institutions where I have had the opportunity to learn from some of the foremost scholars in the field,

and Yale University, where I enjoyed the opportunity to spend 10 months conducting research. I would like to acknowledge the Fox International Fellowship and the late Mr. Fox, from whom I received generous funding for my research stay at Yale. In addition to the professional doors that this exchange opened for me, it also opened my world to a wonderful group of people consisting of the other 18 Fox International Fellows in the program, who in so many ways contributed to making my stay in New Haven a great experience.

Writing a PhD is a journey, and naturally all journeys have bumps along the way. In my case, personal health issues have meant that I have had to restructure my life in important ways in order to balance health, work, and a social life. I am forever grateful to my family and friends who have supported me through these difficult times. Particularly I am thankful to my wife, Tinne, who has encouraged me throughout the process of writing this PhD in several ways: by encouraging me to pursue my career ambitions of going to the USA for one year, which meant placing her own career on a temporary halt while traveling with me to New Haven (where she pursued a different "career" as a hobby-ceramicist); as well as by reminding me that even the busiest times in the PhD process should leave some space for prioritizing what is actually important in life, such as planning and celebrating our wedding, and spending time with family and friends.

Finally, I would like to thank my colleagues at University of Copenhagen and at VIVE with whom I have shared my everyday work and discussed the ups and downs of PhD life over lunch and coffee breaks throughout the past three years. Special thanks to my wonderful office mates in both institutions: Wiebke Marie Junk, Heidi Hesselberg Lauritzen, and Theresa Dyrvig Henriksen.

Copenhagen, 02/13/2019

Agnete Aslaug Kjær

SUMMARY (ENGLISH)

Across the more developed countries, societies are facing aging populations. This dissertation focuses on the challenges that this demographic development poses to modern welfare states. The dissertation consists of six self-contained research articles. Through a life course perspective on aging, with empirical investigations at the micro-level, each article contributes to furthering our understanding of the challenges of aging in the context of the Nordic welfare state model. Utilizing the richness of linked survey and register data from Denmark, the dissertation combines novel panel data techniques, allowing for both descriptive and causal longitudinal analyses. With departure in the life course perspective, each article sheds light on important transitions and events, from mid-life to old age, which shape the individual aging process. In combination, the six articles advance our understanding of the aging process at the micro-level, as well as the role of the Danish welfare state in shaping the opportunities and outcomes of its citizens in later life. The following section provides an overview of the main results.

Article I asks how and why the Scandinavian countries have increased their female labor market participation at older ages. My findings point to major qualitative developments in older women's employment patterns across cohorts. I explain this development, which is largely attributable to improvements in women's educational attainment and cumulative work experience across cohorts. My results from a Scandinavian dual-worker economy demonstrate the massive societal potential associated with women's employment throughout the life course.

Article II asks whether older citizens are worse off under choice-based models of public service provision. My findings from the hospital sector in Denmark reveal a negative age gradient, according to which citizens of advanced age and declining health possess lower levels of user capacity. I explain this age gradient, which is largely attributable to cohort differences in educational attainment. My results from the Danish health sector, influenced by choice-based policies, show that while the current generation of older service users may constitute a vulnerable group, this challenge is likely to diminish in the future.

Article III asks whether and under what conditions older adults without children are at risk of facing insufficient support in later life. Our results reveal that in the context of a comprehensive welfare state, childlessness in itself is no disadvantage for tangible support. However, we show that particularly widowed, divorced, and never-married older men without children enjoy lower levels of support. Detailed analyses of the conditions under which childlessness may become a disadvantage point to

the importance of adult children as a source of support when advanced health needs arise. Our findings shed light on the societal consequences that may follow from the current demographic developments projecting an increase in the number of childless older adults in the future.

Article IV asks when and why older adults rely on different sources of care. Our results highlight four qualitatively distinct patterns of care utilization that differ with regards to the utilization and combination of formal services and informal care. Together, pre-disposing factors, needs factors, and enabling factors determine individual patterns of care utilization in later life. Our results direct attention to subgroups who may become affected in the future when the reforms of Nordic care policies are likely to shift the balance between state, market, and family.

Article V asks whether spousal bereavement affects loneliness in both the short and longer run. Based on a causal design, my results reveal a substantial increase in loneliness immediately following the loss, and a lasting effect even into the fifth year following bereavement. The short-term response is gendered, with widowers experiencing a substantially larger increase in loneliness than widows. My results point to the death of a partner as an adverse life event that puts older individuals at considerable risk of loneliness both in the short and longer run, and I show that men are particularly vulnerable after this life event.

Article VI introduces the main data source of the dissertation by describing five waves of the Danish Longitudinal Study of Aging (DLSA) and making clear to the reader the study's advantages and limitations. One aim is to make the DLSA data set accessible to international researchers, thereby facilitating possibilities for comparative research in the future. Contributing to the design of the DLSA's fifth wave questionnaire – for which data were collected in 2017 by the Danish Center for Social Science Research (VIVE) – and working with the dissemination of the results constitute key contributions of this PhD project.

Together, the empirical micro-level studies included in this dissertation make three broad contributions. First, my findings provide evidence on the role of the state and the family in providing care and support for older individuals. Second, they enhance our understanding of the circumstances which shape the needs and behaviors of a growing user group in society consisting of older citizens with health needs. Third, this dissertation both builds on and adds to the evolving body of aging research that uses longitudinal data to study the aging process from a life course perspective. In conclusion, the findings of this dissertation enhance our understanding of how the challenges of aging unfold in the context of a Nordic welfare state.

RESUMÉ (DANISH)

Denne afhandling beskæftiger sig med de samfundsmæssige udfordringer, som den aldrende befolkning skaber for den moderne velfærdsstat. Afhandlingen består af seks selvstændige bidrag i form af forskningsartikler. Med udgangspunkt i et livsforløbsperspektiv på aldring, og med afsæt i empiriske undersøgelser på individniveau, bidrager hver artikel til en øget forståelse for aldringens udfordringer i en nordisk velfærdsstat. Undersøgelsen kombinerer danske spørgeskema- og registerdata til et rigt datasæt, som giver mulighed for dynamiske undersøgelser med både deskriptive og kausale metoder. Med afsæt livsforløbsperspektivet sætter hver artikel fokus på vigtige transitioner og livsbegivenheder, som former det individuelle aldringsforløb fra midt i livet til sent i alderdommen. Tilsammen belyser artiklerne de vigtigste aspekter af aldringens udfordringer fra et borgerperspektiv. Samtidig belyser artiklerne, hvordan velfærdsstaten former borgernes muligheder gennem livsløbet. Det følgende afsnit giver et kort overblik over de enkelte artiklers hovedresultater.

Artikel I undersøger, hvad der ligger til grund for, at de skandinaviske lande på få årtier har formået at øge deltagelsen blandt ældre kvinder på arbejdsmarkedet. Resultaterne peger i retning af massive forandringer i ældre kvinders arbejdsmønstre på tværs af årgange. Undersøgelsen viser, at denne udvikling primært kan henføres til forbedringer i kvinders uddannelsesniveau og deres øgede erhvervserfaring gennem livsløbet. Resultaterne fra den skandinaviske kontekst fremhæver det store samfundsmæssige potentiale, som følger af kvinders øgede deltagelse på arbejdsmarkedet gennem livet.

Artikel II undersøger, hvorvidt ældre borgere udgør en sårbar brugergruppe i de servicesektorer, hvor der er indført fritvalgspolitikker. Resultaterne fra den danske sundhedssektor viser en negativ aldersgradient, hvor ældre brugere med dårligt helbred udviser et relativt lavt niveau af handlingskapacitet sammenlignet med yngre. Undersøgelsen viser dog ligeledes, at en del af denne aldersgradient kan tilskrives forskelle i uddannelsesniveau mellem ældre og yngre årgange. Fundene indikerer, at selvom den nuværende generation af ældre kan siges at udgøre en sårbar brugergruppe, så vil denne udfordring sandsynligvis mindskes i fremtiden.

Artikel III undersøger, hvorvidt og under hvilke betingelser barnløse ældre risikerer at stå uden støtte i alderdommen. Resultaterne peger på, at barnløshed i sig selv ikke er nogen hindring for håndgribelig støtte i en nordisk velfærdsstat som den danske. Samtidig finder vi, at enlige ældre – og særligt mænd – risikerer at mangle støtte, hvis de ikke har børn. Ydermere viser vi, at vigtigheden af børn som en kilde til støtte i alderdommen stiger, i takt med at den ældres helbred forværres. Disse fund kaster lys

over de potentielle samfundsmæssige konsekvenser af den nuværende demografiske udvikling, som forudsiger en stigning i antallet af enlige og barnløse ældre i fremtiden.

Artikel IV undersøger brugen af formelle og uformelle omsorgsydelser blandt ældre danskere, der bor i eget hjem. I studiet identificeres en række distinkte plejemønstre, som varierer i forhold til brugen og sammensætningen af henholdsvis kommunale hjemmeplejeydelser og omsorg fra familien. Vores resultater viser, at disse plejemønstre afhænger af individuelle karakteristika, herunder disponerende faktorer såsom socioøkonomisk status, behovet for pleje samt muligheden for støtte fra det sociale netværk. Disse fund retter opmærksomhed mod bestemte grupper af ældre, som i særlig grad vil blive påvirket, såfremt fremtidige reformer af den danske plejesektor omfordeler ansvaret for ældreomsorg mellem staten, markedet og familien.

Artikel V undersøger betydningen af enkestand for ensomhed sent i livet på både kort og lang sigt. Resultaterne, som baserer sig på et kausalt design, viser en betydelig stigning i ensomhed umiddelbart efter denne livsbegivenhed. Selvom effekten af enkestand aftager med tiden, viser resultaterne en langsigtet effekt i form af øget ensomhed helt op til fem år efter partnerens død. Den kortsigtede effekt relaterer sig til kønnet, idet enkemænd oplever en større stigning i ensomhed end enker. De kausale fund fremhæver betydningen af enkestand som en vigtig livsbegivenhed, der påvirker trivsel blandt ældre på både kort og lang sigt, og viser, at enkemænd er særligt sårbare i perioden efter partnerens død.

Artikel VI præsenterer Ældredatabasens fem første bølger, som udgør det primære datagrundlag for afhandlingen. Artiklens formål er at gøre Ældredatabasen tilgængelig for internationale forskere og derved åbne op for komparativ ældreforskning på tværs af landegrænser i fremtiden. En stor del af dette ph.d.-projekt har bestået af – i samarbejde med forskere fra VIVE – at bidrage til forberedelse og resultatformidling af Ældredatabasens femte bølge, som blev indsamlet i 2017.

Tilsammen giver artiklerne anledning til en række forskningsmæssige konklusioner og perspektiver. For det første bidrager fundene til en øget forståelse for samspillet mellem stat og familie i organiseringen af samfundets ældreomsorg. Dernæst belyser resultaterne behov og adfærd i en voksende brugergruppe i velfærdssamfundet, som udgøres af ældre med plejebehov. Endelig tilfører afhandlingens studier ny empirisk viden til livsforløbslitteraturen om aldring. Tilsammen bidrager konklusionerne til en øget forståelse for, hvordan aldringens udfordringer udspiller sig i den danske velfærdsstat.

LIST OF ORIGINAL RESEARCH ARTICLES

- I Kjær, Agnete Aslaug: "Changing Employment Patterns of Women in Later Life: A Cohort Analysis Using Danish Register Data." Working Paper to be presented at the Society of Longitudinal and Life Course Studies 2019 International Conference.
- II Kjær, Agnete Aslaug (2019): "Choice and Vulnerability in Aging Societies: Understanding the Impact of Age on User Capacity." *Published in Public Administration*.
- III Kjær, Agnete Aslaug, & Siren, Anu: "Aging Without Children: The Impact of Parental Status on Tangible Support." *Under review in Journal of Marriage and Family*.
- IV Kjær, Agnete Aslaug, & Siren, Anu: "Formal and Informal Care: Trajectories of Home Care Use among Danish Older Adults." *Invited for resubmission in Ageing & Society*.
- V Kjær, Agnete Aslaug: "A Long-Lived Response? Estimating the Short- and Long-Term Effect of Spousal Bereavement on Loneliness in Later Life." Working Paper to be presented at the International Association of Gerontology and Geriatrics European Region Congress 2019.
- VI Kjær, Agnete Aslaug, Siren, Anu, Seestedt, Marie Heldgaard, Fridberg, Torben, & Casier, Freya (2019): "Cohort Profile: The Danish Longitudinal Study of Ageing (DLSA)." *Published in International Journal of Epidemiology*.

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1. Introduction

1.1 Population aging and the welfare state

Across the more developed countries, societies are facing aging populations, with an increasing share of the population aged 65 and above (see Figure 1; Organisation for Economic Co-operation and Development, 2019). In the broader picture, this demographic development can be deemed an immense success story (Rosling, Rosling, & Rönnlund, 2018). Increasing life expectancies and lower death rates result from people living longer and healthier lives today than in the past, and relatively low birth rates are primarily explained by advances in women's role in society (Esping-Andersen, 2009a; Korenjak-Černe, Kejžar, & Batagelj, 2015). However, in spite of these medical and societal achievements, citizens are constantly exposed to concerning projections from experts, politicians, and the mass media (Barusch, 2013). "The burden of the elderly" and "The grey tsunami" are the types of headlines that are presented on the front pages of newspapers when describing future challenges (see e.g., *The Economist* or *Forbes*; Reneeta, 2015; Schumpeter, 2010). One factor behind this widespread concern is a fear that the relative and absolute increase in the number of older individuals in society will challenge the sustainability of welfare states in the future.

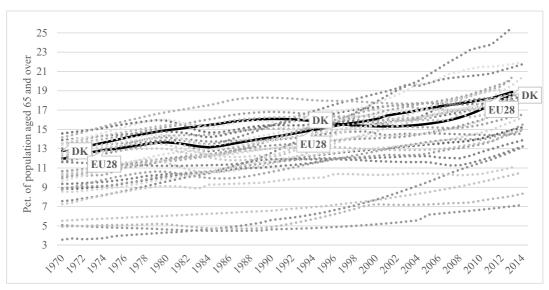


Figure 1. Development in the percentage of the population aged 65+ in OECD countries.

Figure note: Percent of population aged 65+ across OECD countries from 1970 to 2014. Denmark and EU28 highlighted. Data source: OECD (2019).

In public debates, the challenges of population aging are generally discussed at the macro-level. Population projections for the more developed regions of the world forecast an increasing old-age dependency ratio (see Figure 2; United Nations, 2017), implying fewer working-age tax payers to finance welfare for an increasing number of older citizens. This shift in the shape of the population pyramid exerts pressure on public expenditures and threatens the sustainability of welfare state economies. As a result, the aging population has been categorized as one of the most important challenges to the modern welfare state (Taylor-Gooby, 2004), alongside phenomena such as the globalized economy, migration, shifting family demographics, and economic crises, which introduce 'new risks' (Bengtsson, Frederiksen, & Larsen, 2015) and potentially place welfare states in a 'crisis' in terms of rising demand and restricted resources (Taylor-Gooby, 2004). In the process of adapting policies and institutions to such challenges, welfare states (as we know them) are being transformed.

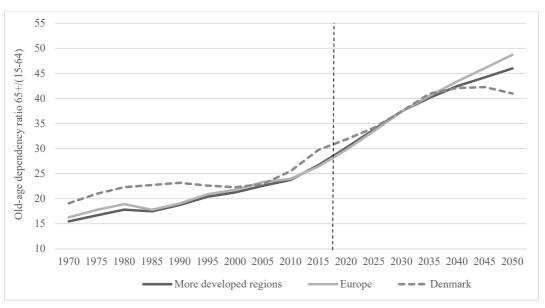


Figure 2. Development in the old-age dependency ratio in 'more developed regions'.

Figure note: Old-age dependency ratio (ratio of population aged 65+ per 100 population aged 15-64) for 'more developed regions' (including Europe, North America, Australia/New Zealand, and Japan). Europe and Denmark highlighted. Estimated ratio from 1970 to 2015 and projected ratio (medium variant) from 2020 to 2050. Data source: United Nations (2017).

Across welfare states, governments are seeking to accommodate for their aging populations by altering the design of established retirement schemes and transforming their health and long-term care policies. Particularly in the Nordic countries (Denmark, Norway, Sweden, Finland, and Iceland), which are traditionally characterized by a social democratic welfare regime (Esping-Andersen, 1990), population aging challenges the sustainability of current policy arrangements. On the one hand, the Nordic welfare states are often excluded from discussions regarding new risks because it is assumed that given their generous family and pension policies and near-universal access to health care, they "have already been calibrated to deal with social risks" (Timonen, 2004, p. 83), and can therefore be highlighted as model countries inspiring the transformation of less developed social protection systems. On the other hand, owing to the relatively high level of public spending in these countries, the sustainability of the Nordic model (along with its ideals of universalism and equality) is especially challenged by demographic transitions such as population aging (Timonen, 2004). Population aging thus raises particular challenges in the context of a Nordic welfare state.

1.2 Understanding the challenges of an aging population

In order to respond to the challenges of an aging population, governments (with the assistance of researchers) are seeking to identify specific areas and time points of intervention that may help increase the quality of life of the older population, often with the implicit end goal of increasing productivity and reducing the dependency of their citizens in later life (Kvist, 2015a). However, the initiation and design of such policy interventions rest on more or less established assumptions regarding the behaviors and responses of older individuals in their roles as 'citizens' and 'service users.' In the emerging academic field of Behavioral Public Administration (Grimmelikhuijsen, Jilke, Olsen, & Tummers, 2017) there is growing understanding that the accuracy of these assumptions in predicting citizens' behaviors may precondition the success of interventions in terms of their ability to attain policy goals. This has increasingly moved scholarly focus away from the macro-level toward microlevel questions. Indeed, whereas macro-level research emphasizes the political-administrative environment (including national systems, regulation, and cultures), micro-level research is focused on individual-level interactions of various kinds, including people's intentions, feelings, and beliefs regarding others. Jilke, Olsen, Resh, and Siddiki (forthcoming) argue that the distinctive feature of micro-level research is that it helps open the analytical black-box of aggregate-level outcomes. In this sense, micro-level research may assist in examining the micro-foundations of macro-level phenomena