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## ORIGINAL ARTICLE

# Changes in active ageing in a Nordic regional context: Results based on the GERDA study in 2005 and 2016

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**Abstract**

The study examined changes in active ageing among 65/66- and 75/76-year-olds in northern Sweden and western Finland. Data were retrieved from a repeated cross-sectional survey conducted in 2005 and 2016. Logistic regression was used to estimate the probability of ageing actively in terms of employment, social and political participation, confidence in healthcare, economic situation, self-rated health and social contacts. The results showed no significant changes in employment, social participation or economic situation. However, the level of political participation and self-rated good health was significantly higher in 2016 compared with 2005, whereas confidence in healthcare and social contacts was lower. Considering that the implementation of active ageing policies relies heavily on municipal and/or regional level in our study region, our results could be used as a framework for regional policymaking.

**KEYWORDS**

active ageing, changes, comparative study, Finland, population-based study, regional study, Sweden

## INTRODUCTION

Active ageing has been used in the policy and social gerontology discourse for many decades and can be traced to the development of the activity theory in the 1940s and 1950s (Boudiny, 2013). The active ageing discourse emphasises the ongoing participation of older people in society and is seen today as the leading global policy response to demographic transition and population ageing (Walker & Maltby, 2012). Active ageing has been implemented in the work of the World Health Organization (WHO, 2002) and introduced in the EU policy agenda (Foster & Walker, 2015) and the national policy agendas of its member states (e.g. Ministry of Social Affairs and Health, 2011; Socialdepartementet, 2003).

The WHO (2002) uses a holistic definition of active ageing and defines it as the 'process of optimising opportunities for health, participation and security to enhance quality of life as people age' (WHO, 2002, p. 12). Although active ageing is the most prevalent concept used in Europe to denote the full potential of ageing, in the United States successful ageing has been the primary focus in policy and research (Foster & Walker, 2015). In addition, active ageing is often used interchangeably with other concepts such as positive ageing (Gergen & Gergen, 2001), healthy ageing (WHO 2015) and productive ageing (Butler & Gleason, 1985). Nonetheless, these concepts are closely related, but not identical (Foster & Walker, 2015). In this study, we aim to analyse the active ageing situation over time in regions of Finland and Sweden to

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monitor the change in different subgroups of older peoples' lives and participation in society.

There has been an interest in developing a measurement of the broad concept of active ageing (e.g. Amado et al., 2016; Barslund et al., 2019; Bousquet et al., 2015; Fritzell et al., 2020). Recently, the Active Ageing Index (AAI) was introduced, based on the WHO definition, as a tool to monitor active ageing outcomes at the national level and to describe the potential of older people to participate actively in economic and social life (Zaidi et al., 2013). Four domains were identified for the construction of the AAI: (a) *employment*; (b) *participation in society*; (c) *independent, healthy and secure living*; and (d) *capacity and enabling environment for active ageing*. In 2018, Sweden ranked first and Finland fifth on the AAI-EU scale, whereas other European countries, and Eastern European countries in particular, ranked lower (Lamura & Principi, 2019).

Based on AAI-EU results of active ageing between 2008 and 2016, there was a positive overall active ageing trend in Finland as well as in Sweden (Lamura & Principi, 2019). A positive trend was observed in the employment, participation in society and capacity and enabling environment for active ageing domains, whereas a negative trend was noted in the independent, healthy and secure living domain, mainly due to deterioration in access to dental care. The results show differences across educational groups so that older people with lower educational level reported lower active ageing outcomes. Still, how the extent of active ageing varies across other social categorisations within a country remains relatively unknown (Barslund et al., 2019).

The AAI-EU was developed as a tool to understand the challenges of ageing to be used as a framework in policymaking (Zaidi et al., 2013). However, it has also been criticised for measuring achievements rather than capturing preferred activities and needs of older people (De São José et al., 2017), thereby emphasising individual responsibility in choosing the right activities to 'age well'. Active ageing is also clearly more feasible when young-old and less dependent on care and support from others (Fritzell et al., 2020). Furthermore, although the AAI-EU analyses country-level data from several data sources, allowing comparison between countries, there is limited possibilities to assess active ageing across sociodemographic subgroups within a country. Finally, considering the implementation of active ageing policies relies heavily on the municipalities in Finland and both regional authorities and municipalities in Sweden, we argue that there is a need for addressing active ageing also from a regional perspective. In addition to being a structural concern for national policymaking, the implementation of active ageing policies is more of a practical concern for regional and local actors.

To a limited extent, the AAI has been applied at the subnational level to be used potentially for regional policymaking

### Key Practitioner Message

- Regional active ageing evidence is needed for regional policy making.
- Active ageing is linked to sociodemographic factors that should be acknowledged when developing policy recommendations.
- For any intervention to be effective, it is important to understand the reason behind changes in various domains of active ageing.

(Lamura & Principi, 2019). For example, results from recent studies conducted in Spain and Germany have shown substantial within-country differences that need further attention in improving active ageing outcomes (Bacigalupe et al., 2018; Rodriguez-Rodriguez et al., 2017). Especially regions with a lower socioeconomic status and a higher rural population tend to score lower on the index. In this study, we contribute to this line of research and add to the understanding by disaggregating the AAI-EU domains to a Nordic and regional level, which in turn may have important implications for future policymaking in each region. We compare regions in Finland and Sweden, two countries that have often been affiliated to the Nordic welfare regime (Esping-Andersen, 1990). We scrutinise a mix of active ageing indicators across four sociodemographic groups including age, gender, educational level and marital status, which are important sources of active ageing differentiation among older people (Fritzell et al., 2020; Ilinca et al., 2016; Zaidi et al., 2013). Finally, we focus on two time points considering that the Nordic welfare regime has been in a state of transformation due to changing social risks, an ageing population and economic challenges, which could potentially affect active ageing outcomes. These changes are discussed in more detail below.

Finland and Sweden have a long common history of mutual contacts across the countries and, notably, the regions studied here (Österbotten and Pohjanmaa in Finland and Västerbotten in Sweden) also have a lot in common when it comes to welfare-state institutions and policy legacies (Esping-Andersen, 1990; Nygård, 2020). For instance, both welfare states rely heavily on a tax-financed public sector, especially municipalities in Finland and both regional authorities and municipalities in Sweden, as the main provider of health and social services. Thus, in both countries, governance structure is heavily decentralised, with the responsibility of social and healthcare provision resting on regional or municipality level, albeit under the rule of centralised regulations, supervision and coordination (Magnussen et al., 2009). Regional authorities in Sweden and the municipalities in Finland hold the major responsibility for healthcare, whereas the municipality governs the social care including

elderly care in both countries (Szebehely & Meagher, 2018). Additionally, in Finland, the forthcoming health and social service reform (SOTE-reform) will transfer the services from 310 municipalities to 22 regional authorities, in an effort to cut costs and ensure equal access to services (see <https://soteuudistus.fi/>). In Sweden, a resembling type of structural reform is ongoing (SFS 2019: 834).

Since the 1990s, European welfare states, including countries clustered in the Nordic regime, have been in a state of transformation (Kvist et al. 2012; Nygård, 2020; Sjøgaard, 2018). Similar to other Western countries, Finland and Sweden experience an ageing population (United Nations, 2019). In Finland, the percentage of older people aged 65 and over in 2000 was 15% and has increased to 21.9 in 2018. The number is projected to increase to 26% in 2030 (Official Statistics of Finland [OSF], n.d.). In Sweden, resembling changes are observed and in 2018 those aged 65 and over represented 20% of the population (Statistics Sweden, 2018). Furthermore, life expectancy in Sweden and Finland is among the highest in the world (Eurostat, 2019), which also has implications for organising sustainable welfare services and the evolving active ageing policies.

Furthermore, both Finland and Sweden experienced a severe recession in the early 1990s. Unemployment rates increased in Finland from 3% to 16% and led to a negative growth of gross domestic product. A similar recession took place in Sweden, although in a less severe manner than in Finland. In Finland and Sweden, cutbacks were made to balance public spending during the recession and as a consequence the universality of benefits weakened, net replacements of benefits were reduced and the role of means/needs testing was strengthened (Kautto et al., 1999; Korkman & Suvanto, 2015). As a consequence of these, for the organisation of eldercare in particular, the extent of marketisation, i.e. privatisation, commercialisation and liberalisation, increased in the 1990s and is considerably more tangible in Finland as well as in Sweden as compared with the other Nordic countries (Szebehely & Meagher, 2018). According to recent research, this has weakened the principle of universalism and also threatened the assumption of class- and gender-equalising potential of the Nordic regime (Anttonen & Häikiö, 2011; Mathew Puthenparambil et al., 2017).

As the concept of active ageing is rooted in demographic transition and economic challenges (Foster & Walker, 2015), one of the core issues is the ageing workforce and the need of ageing people to stay longer in employment. In Finland and Sweden, major pension reforms were conducted, first in Sweden between 1994 and 1999 and later also in Finland (2005 and 2016). The aim of the 2005 reform in Finland was to postpone the average effective retirement age by 2–3 years and to adjust the pension scheme to the average increase in life expectancy. This was followed up by another and similar reform in 2016. The Swedish pension reforms during the 1990s

included a shift towards a pension system partly based on working life payments to market-based pension funds (Kangas et al., 2010). Reforms in Sweden are also currently negotiated aiming to gradually increase retirement age adjusting the pension scheme to increased longevity. The average retirement age has been increased in both countries, and Sweden has among the highest average retirement age, i.e. 64 years within EU (Carneck et al., 2017), whereas the retirement age in Finland is somewhat above 61 years (Finnish Centre for Pensions, 2020).

When it comes to social risks, Sweden and Finland are characterised by high social capital (Rothstein & Stolle, 2003), low levels of loneliness (Nyqvist, Nygård, & Scharf, 2019; Yang & Victor, 2011), relatively good self-reported health status (Eurostat, 2019), as well as low inequality and low poverty rates (Fritzell et al., 2012). However, there are no clear trends in these features over time. For example, political and social participation and trust and confidence show no clear increasing or decreasing trends in the general population (Bäck et al., 2016; Holmberg & Weibull, 2017). Loneliness levels have been relatively stable in older people across time in both Finland and Sweden (Dahlberg et al., 2018; Eloranta et al., 2015; Nyqvist et al., 2017). Previous research suggest that the proportion of older people reporting good self-rated health in Sweden has increased during the last decades (Johansson et al., 2015), whereas no clear improvements are reported for older people in Finland (Koponen et al., 2017; Vaarama et al., 2014). A relatively equal distribution of income and comparatively low poverty has long been regarded as central dimensions of the Nordic welfare model. Nonetheless, there has been increasing poverty in older people especially in Sweden as compared with the other Nordic countries (Sjøgaard, 2018), which could have implications on the ability to age actively in society.

To sum up, although societal changes point to diverging trends in active ageing in old people, there is no clear picture of active ageing features over time in various social groups. Moreover, empirical active ageing studies from a regional perspective remain rare. Although national policies and legislation shape the possibilities for active ageing, the municipalities in Finland retain the main responsibility for the provision of social and healthcare services, at least, until the ongoing SOTE-reform is implemented. Sweden differs slightly from Finland in this sense, because both regional authorities and municipalities have the responsibility to organise social- and healthcare for older people. In both countries, these configurations might affect active ageing on an individual level, especially if reforms mean that services become more distanced, for example in the case of elderly living in the rural countryside.

Our study takes place in regional contexts in Västerbotten, Sweden and in bilingual Österbotten/Pohjanmaa, Finland. Österbotten and Pohjanmaa are, despite belonging to the same geographical Finnish region, treated here as two separate regions based on language group affiliation. Previous research on older people in this region has identified social- and

health-related differences in the two language groups, so that Swedish speakers in Finland tend to be more embedded socially and politically (Nyqvist & Nygård, 2013; Nyqvist et al., 2012) and also report slightly better health as compared with Finnish speakers (Nyqvist & Martelin, 2007; Reini & Saarela, 2017), supporting the division of our Finnish study population.

Therefore, the aim of this study is to investigate changes in levels of active ageing based on data collected in northern Sweden and western parts of Finland in 2005 and 2016. The following two research questions were posed: (a) Have levels of active ageing, in terms of four different active ageing domains, changed between 2005 and 2016 among older people in northern Sweden, Västerbotten, and among Swedish speakers (henceforth Österbotten) and Finnish speakers (henceforth Pohjanmaa) in western Finland? (b) How is active ageing distributed according to different sociodemographic groups such as age, gender, educational level and marital status in 2005 and 2016?

## DATA AND METHODS

### Data

A repeated cross-sectional design was used to compare active ageing patterns between 2005 and 2016. Data were retrieved from the research project Gerontological Regional Database (GERDA) conducted in western parts of Finland and northern parts of Sweden. The aim of the project is to map health and living conditions of older people residing in the Bothnia region, i.e. both sides of the Gulf of Bothnia, in Västerbotten, Sweden and in Österbotten/Pohjanmaa, Finland. The region of Finland is bilingual with about 52% Swedish- and 48% Finnish-speakers. Swedish-speaking participants were coded as belonging to Österbotten, and those with Finnish as their mother tongue were coded as belonging to Pohjanmaa.

The GERDA project was initiated in the early 2000s, and it consists of a three-wave survey targeting younger older people (GERDA database also comprises data from a large number of home visits to people aged 85 years and above). In this study, we use data from the first wave conducted in 2005 and third wave in 2016. The participants were selected from the National Tax Board in Sweden and the Population Register Centre in Finland. In 2005, a postal questionnaire was sent out to every 65- and 75-year-olds (born in 1930 and 1940) living in rural areas, while to every second living in the city of Vaasa (Finland) and every third in the City of Umeå and in the city of Skellefteå (Sweden). The questionnaire was answered by 1825 participants in Västerbotten, Sweden, and 926 in Österbotten and 621 in Pohjanmaa, Finland, resulting in a response rate of 71, 66.7 and 66.8%, respectively. In Finland, the questionnaires were sent out in either

Swedish or Finnish according to the registered language of the respondent.

In 2016, the questionnaire was sent out to every 66-, 71-, 76-, 81- and 86-year-olds (born in 1950, 1945, 1940, 1935 and 1930) living in the rural areas and in the city of Seinäjoki (Finland), while to every second living in the city of Vaasa (Finland) and every third in the cities of Umeå and Skellefteå (Sweden). The questionnaire was answered by 4375 participants in Västerbotten, Sweden, and 2296 in Österbotten and 2715 in Pohjanmaa, Finland, resulting in a response rate of 70.8%, 61.7% and 54.9%, respectively. For comparative reasons, in our analyses we selected only those born in 1930 and 1940 in 2005 and in 1940 and 1950 in 2016, that is those aged 65/66 and 75/76. The final sample in 2005 and 2016 consisted therefore of 3372 and 3814 participants, respectively.

### Active ageing domains and indicators

Similar to the AAI-EU (Lamura & Principi, 2019), our study covered four domains of active ageing including employment; participation in society; independent, healthy and secure living and capacity and enabling environment for active ageing. We selected indicators in the GERDA survey that were closely related to those used in the AAI-EU (Nyqvist, Nygård, & Snellman, 2019).

### Employment

*Employment* was assessed with the question: ‘Are you still in paid work?’ The response alternatives were ‘yes’ or ‘no’.

### Participation in society

*Social participation* was assessed by two questions. One assessed membership in a voluntary organisation. These organisations were, for example, sports or outdoor organisations, political parties, religious organisations, as well as social or health organisations. For each of the nine organisations, the respondents were given three response options: ‘active member, passive member and not a member’. We counted the number of organisations the respondents said they were an active member of. If the respondents were active in any of the nine organisation or responded positively to the questions ‘Do you take part in voluntary, unpaid work for any association?’ he or she was categorised as socially active.

*Political participation* was assessed with the question: ‘Have you during the last 5 years: contacted a politician or an official, appealed against a decision, wrote a letter to the press, signed a petition, participated in a demonstration, participated in a boycott?’. If the respondent replied yes to

any of the activities, he or she was considered as politically active.

## Independent, healthy and secure living

*Confidence in healthcare* was measured by assessing the confidence in healthcare provided in the municipality. The four response alternatives being: 'much, neither much nor little, little, cannot say'. These response alternatives were dichotomised with the first response alternative indicating higher confidence in healthcare and the latter three indicating lower confidence.

*Getting by economically* was assessed with the question: 'In your economic situation, is it possible to make ends meet?' We grouped the response alternatives so that those reporting 'without difficulty or with some difficulty' were categorised as 'getting by economically', whereas those reporting 'difficult or very difficult' were considered as 'not getting by economically'.

## Capacity and enabling environment for active ageing

*Self-rated health* was assessed with the question: 'In general, how would you say your health is' on a five-point scale (excellent, very good, good, fair or poor). This variable was dichotomised into good health (excellent, very good or good) and poor health (fair or poor).

*Social contacts* were measured by using the frequency of social contacts with children, grandchildren, siblings, parents, other relatives, friends or neighbours. For this study the response alternative 'several times a week' was coded as 'frequent social contact' and 'several times a month', 'few times a year', 'never' and 'does not exist' were combined and coded as 'infrequent social contact'. If the respondent reported frequent social contact with any of the seven contacts, he or she was categorised as socially connected.

## Sociodemographic variables

We included *age* (65/66, 75/76), *gender* (male/female), *educational level* (lower secondary/upper secondary), *marital status* (single/in a relationship) as sociodemographic variables. In addition, we included *region* (Västerbotten, Österbotten, Pohjanmaa).

## ANALYSES

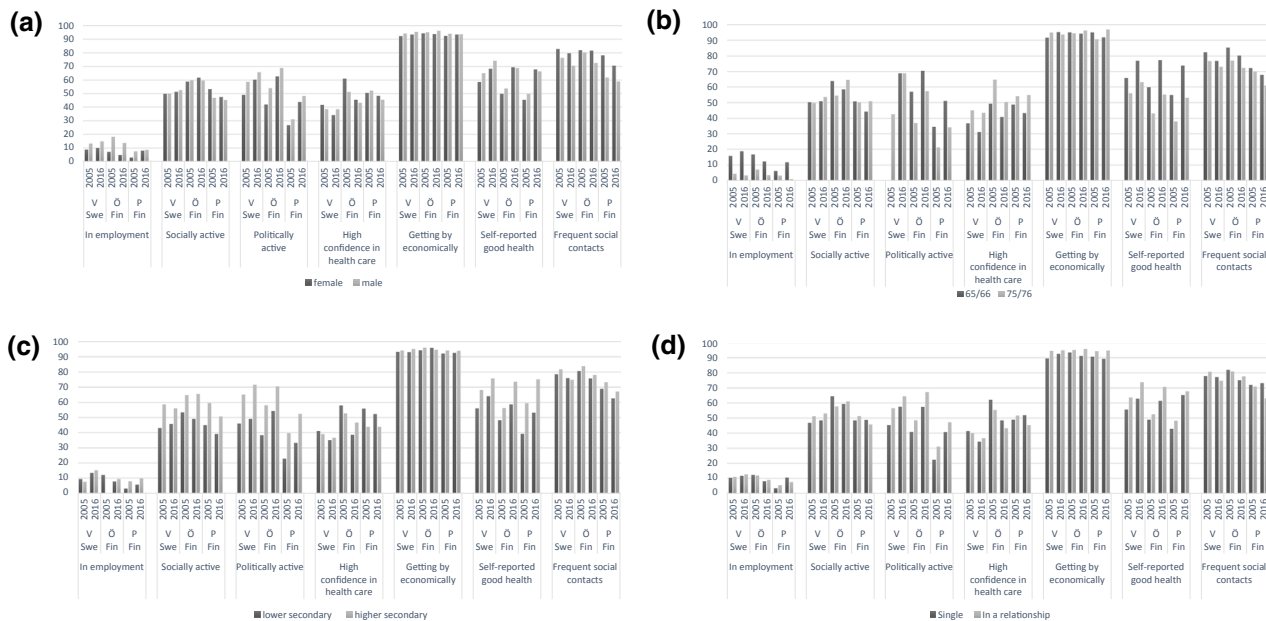
The distribution (%) of active ageing indicators was calculated by region and study period (Table 1). Next, the active ageing indicators were analysed using Pearson's chi-square test to analyse active ageing according to the sociodemographic variables, separated by study period and region (Figure 1a–d, Appendix). Logistic regressions were used to analyse changes in active ageing between 2005 and 2016 (Table 2). The model also included region and the sociodemographic variables, and the results are presented as odds ratios (ORs) and their 95% confidence intervals (CIs). The analyses were made using the total sample from the two study periods. The statistical program IBM SPSS statistics, version 24, was used for the analyses.

## RESULTS

Table 1 gives the active ageing domain indicators of the study population by study period and region. The proportion of employed older people has increased in Pohjanmaa and in Västerbotten since 2005, whereas we saw an opposite change in Österbotten. In the second domain, participation in society, we observed divergent changes. No major changes could be observed for social participation in Västerbotten and Österbotten, whereas a decrease was noticed for Pohjanmaa. A consistently positive change was, however, reported for political participation in all three regions. In domain three, independent, healthy and secure living, a negative change was

TABLE 1 Domain characteristics of cross-sectional samples of 65/66- and 75/76-year-olds by study period and region

|          |                               | Sweden: Västerbotten |                    | Finland: Österbotten |                    | Pohjanmaa         |                   |
|----------|-------------------------------|----------------------|--------------------|----------------------|--------------------|-------------------|-------------------|
|          |                               | 2005<br>(n = 1818)   | 2016<br>(n = 2071) | 2005<br>(n = 917)    | 2016<br>(n = 1010) | 2005<br>(n = 621) | 2016<br>(n = 733) |
| Domain 1 | In employment                 | 10.6                 | 12.3               | 11.9                 | 9.0                | 4.8               | 8.3               |
| Domain 2 | Socially active               | 49.8                 | 51.9               | 59.1                 | 60.7               | 50.4              | 46.4              |
|          | Politically active            | 53.1                 | 62.9               | 47                   | 65.6               | 28.7              | 45.7              |
| Domain 3 | High confidence in healthcare | 40.4                 | 36.2               | 56.9                 | 44.3               | 51.0              | 47.0              |
|          | Getting by economically       | 93.2                 | 94.4               | 94.7                 | 94.9               | 93.0              | 93.5              |
| Domain 4 | Self-reported good health     | 61.3                 | 71.1               | 51.6                 | 69.0               | 47.2              | 67.1              |
|          | Frequent social contacts      | 79.9                 | 75.2               | 81.2                 | 77.3               | 71.2              | 65.6              |



**FIGURE 1** (a) The prevalence of active ageing by gender in Västerbotten, Sweden (V, Swe) and in Österbotten (Ö, Fin) and Pohjanmaa, Finland (P, Fin) in 2005 and 2016. (b) The prevalence of active ageing by age in Västerbotten, Sweden (V, Swe) and in Österbotten (Ö, Fin) and Pohjanmaa, Finland (P, Fin) in 2005 and 2016. (c) The prevalence of active ageing by educational level in Västerbotten, Sweden (V, Swe) and in Österbotten (Ö, Fin) and Pohjanmaa, Finland (P, Fin) in 2005 and 2016. (d) The prevalence of active ageing by marital status in Västerbotten, Sweden (V, Swe) and in Österbotten (Ö, Fin) and Pohjanmaa, Finland (P, Fin) in 2005 and 2016

reported for confidence in healthcare in all regions, whereas a very high proportion of older people reported that they were getting by economically in both study periods. Finally, in the domain assessing capacity and enabling environment for ageing, a larger proportion of older people reported good health in 2016 as compared with 2005. The proportion of older people reporting frequent social contacts was lower in 2016.

Figure 1a–d shows the distribution of active ageing indicators for the sociodemographic groups by study period and region. Detailed results are reported in the Appendix (Table A1–A3).

In all three regions rather similar trends in active ageing across sociodemographic groups were observed in 2005 and 2016, so that male gender, 65/66-year-olds, those with higher educational level, and those in a relationship seemed to age more actively. An exception was social contacts where women reported more frequent social contacts than men. Also, 75/76-year-olds reported higher confidence in healthcare as opposed to 65/66-year-olds. Regarding social participation in Österbotten, 65/66-year-olds were more socially active in 2005 whereas in 2016 the 75/76-year-olds reported higher levels of social activities. In Österbotten and Pohjanmaa in 2016, people living in a relationship were getting by economically to a higher degree than single older people. Similar results were reported in Västerbotten.

Differences, as well as similarities, were observed between Österbotten and Pohjanmaa, that is between Swedish and Finnish speakers living in the same geographical region.

Men were more active politically in Österbotten in 2005 and 2016, whereas no statistical gender difference was evident for Pohjanmaa. A higher proportion of older people with higher educational level reported being employed in Pohjanmaa in 2005 and 2016, although this was not statistically significant in 2016. A difference in educational level and confidence in healthcare was shown for the regions in Finland in 2016, so that older people with a higher educational level in Österbotten reported higher confidence in healthcare, whereas older people with lower educational level in Pohjanmaa reported higher confidence in healthcare. In Österbotten, those being in a relationship were more likely to report good self-rated health in 2016 than in 2005. No corresponding statistical difference was reported for Pohjanmaa. In Pohjanmaa, a higher proportion of older people in a relationship reported frequent social contacts. In Österbotten, these differences were not statistically significant.

The next step in our analytical design was to assess changes in active ageing over time while controlling for region and the sociodemographic variables. Table 2 provides the results from the multivariate logistic regression of indicators of active ageing.

We estimated changes in active ageing between study periods (2005 as reference category) across the active ageing indicators for the total sample. We found significant changes as to political participation, self-reported health and confidence in healthcare and social contacts, so that the odds were higher in 2016 for political participation and good self-rated

TABLE 2 Odds ratios (OR) and 95% confidence intervals (CI) for active ageing indicators by study year, region, gender, age group, educational level and marital status ( $n = 7170$ )

|                          | In employment |             | Socially active <sup>a</sup> |             | Politically active <sup>a</sup> |             | High confidence in healthcare <sup>a</sup> |             | Getting by economically <sup>a</sup> |             | Self-reported good health <sup>a</sup> |             | Frequent social contacts <sup>a</sup> |             |
|--------------------------|---------------|-------------|------------------------------|-------------|---------------------------------|-------------|--|-------------|--------------------------------------|-------------|--|-------------|---------------------------------------|-------------|
|                          | OR            | 95% CI      | OR                           | 95% CI      | OR                              | 95% CI      | OR   | 95% CI      | OR                                   | 95% CI      | OR                                     | 95% CI      | OR                                    | 95% CI      |
| <i>Study year</i>        |               |             |                              |             |                                 |             |  |             |                                      |             |  |             |                                       |             |
| 2005                     | 1             |             | 1                            |             | 1                               |             | 1  |             | 1                                    |             | 1                                      |             | 1                                     |             |
| 2016                     | 0.96          | (0.88–1.04) | 0.96                         | (0.92–1.01) | <b>1.19</b>                     | (1.13–1.25) | <b>0.90</b>                                | (0.85–0.94) | 1.01                                 | (0.91–1.12) | <b>1.27</b>                            | (1.21–1.34) | <b>0.86</b>                           | (0.81–0.91) |
| <i>Region</i>            |               |             |                              |             |                                 |             |  |             |                                      |             |  |             |                                       |             |
| Pohjanmaa                | 1             |             | 1                            |             | 1                               |             | 1  |             | 1                                    |             | 1                                      |             | 1                                     |             |
| Österbotten              | <b>1.60</b>   | (1.22–2.09) | <b>1.53</b>                  | (1.32–1.76) | <b>2.20</b>                     | (1.89–2.57) | 0.99                                       | (0.86–1.15) | 1.28                                 | (0.94–1.76) | 1.10                                   | (0.95–1.29) | <b>1.92</b>                           | (1.63–2.27) |
| Västerbotten             | <b>1.90</b>   | (1.50–2.41) | 1.11                         | (0.98–1.27) | <b>2.52</b>                     | (2.20–2.89) | <b>0.64</b>                                | (0.55–0.71) | 1.11                                 | (0.85–1.44) | <b>1.50</b>                            | (1.31–1.72) | <b>1.71</b>                           | (1.48–1.97) |
| <i>Gender</i>            |               |             |                              |             |                                 |             |  |             |                                      |             |  |             |                                       |             |
| Female                   | 1             |             | 1                            |             | 1                               |             | 1  |             | 1                                    |             | 1                                      |             | 1                                     |             |
| Male                     | <b>1.81</b>   | (1.54–2.13) | 1.01                         | (0.91–1.11) | <b>1.36</b>                     | (1.22–1.50) | 0.95                                       | (0.86–1.05) | <b>1.31</b>                          | (1.06–1.63) | <b>1.15</b>                            | (1.04–1.28) | <b>0.62</b>                           | (0.55–0.70) |
| <i>Age group</i>         |               |             |                              |             |                                 |             |  |             |                                      |             |  |             |                                       |             |
| 65/66                    | <b>4.45</b>   | (3.57–5.30) | <b>0.84</b>                  | (0.76–0.93) | <b>1.64</b>                     | (1.48–1.82) | <b>0.64</b>                                | (0.57–0.71) | <b>0.74</b>                          | (0.59–0.92) | <b>1.77</b>                            | (1.59–1.97) | <b>1.37</b>                           | (1.22–1.54) |
| 75/76                    | 1             |             | 1                            |             | 1                               |             | 1  |             | 1                                    |             | 1                                      |             | 1                                     |             |
| <i>Educational level</i> |               |             |                              |             |                                 |             |  |             |                                      |             |  |             |                                       |             |
| Lower secondary          | 1             |             | 1                            |             | 1                               |             | 1  |             | 1                                    |             | 1                                      |             | 1                                     |             |
| Upper secondary          | <b>1.34</b>   | (1.25–1.60) | <b>1.75</b>                  | (1.58–1.94) | <b>2.14</b>                     | (1.93–2.38) | 1.03                                       | (0.93–1.14) | <b>1.31</b>                          | (1.06–1.63) | <b>1.67</b>                            | (1.50–1.86) | 1.04                                  | (0.92–1.17) |
| <i>Marital status</i>    |               |             |                              |             |                                 |             |  |             |                                      |             |  |             |                                       |             |
| Single                   | 1             |             | 1                            |             | 1                               |             | 1  |             | 1                                    |             | 1                                      |             | 1                                     |             |
| In a relationship        | <b>0.77</b>   | (0.63–0.94) | 1.07                         | (0.95–1.20) | <b>1.23</b>                     | (1.09–1.39) | 1.02                                       | (0.90–1.15) | <b>1.74</b>                          | (1.39–2.19) | <b>1.23</b>                            | (1.09–1.39) | 0.97                                  | (0.85–1.12) |

Note: Bold values indicate statistical significance ( $p < 0.05$ ).

<sup>a</sup>Based on a model including study year, region, gender, age group, educational level and marital status.



health and lower for confidence in healthcare and frequent social contacts.

Regional differences were observed for all active ageing indicators, an exception being getting by economically. The odds for being employed were higher in Österbotten and Västerbotten compared with Pohjanmaa. Further older people in Österbotten and Västerbotten had higher odds for social contacts and being engaged in political activities, whereas the odds were lower in Västerbotten for confidence in healthcare. The results also showed that the odds for self-reported good health was significantly higher in Västerbotten and higher in Österbotten when it came to social participation.

The likelihood for being employed, politically active, getting by economically and reporting self-rated good health was higher among men, whereas the odds were lower for men for social contacts. The results showed further that the odds for being employed, politically active, reporting self-rated good health were greater for 65/66-year-olds. However, the odds were lower for younger older people for social participation, confidence in healthcare and getting by economically. Older people with higher educational level had higher odds for being employed, socially and politically active, getting by economically and reporting good self-reported health. Finally, being in a relationship increased the odds for being politically active, getting by economically and report good self-rated health, whereas the odds were lower for being employed.

## DISCUSSION

This study aimed to assess changes in active ageing on a population level among older people in a Nordic regional context in 2005 and 2016. Our results revealed an overall improvement in self-rated health and an increase in political participation, whereas a decline in high confidence for healthcare and frequent social contacts across the regions was observed. A rather stable response pattern was observed for our only indicator measuring the economic situation and also for social participation. Furthermore, our results showed active ageing diversity in gender, age, educational level and marital status.

Our starting point for this study was that even if Finland and Sweden belong to the same Nordic welfare regime characterised by a high degree of state involvement in social welfare, demographic transformation and the financial crisis have led to policy changes such as pension reforms, social and healthcare reforms and cutbacks in social and healthcare that might affect active ageing outcomes. Arguably, due to the pension reforms implemented in both countries in the 1990s in Sweden and in 2005 in Finland and due to improved health status, the retirement age has increased and this might have changed the number of employed people in our regions, at least for the 65/66-year-olds. The results showed

an increase in Västerbotten and Pohjanmaa between 2005 and 2016, whereas the proportion of older people in employment was relatively high in Österbotten already in 2005, and the number slightly decreased in 2016. The fact that employment in the lower age group is in line with the ambitions and recommendations of the AAI-EU and can be seen as a probable outcome of policies aimed at increasing the average retirement age in both countries. However, this age group was also more likely to experience economic strain. To what extent this was due to low incomes from employment or low pensions remains unclear due to data insufficiencies.

The results in our regression analysis demonstrated that reports of frequent social contacts have declined significantly between 2005 and 2016 (OR 0.86). Correspondingly, levels of self-reports of good health have increased generally in the studied population (OR 1.27) as well as political participation (OR 1.19). This pattern was observed in Västerbotten, Österbotten as well as Pohjanmaa. One plausible explanation to the higher level of political participation in 2016 is the use of Internet, as this cuts the costs of participation between elections (e.g. contacting politicians). Internet use and online social contacts could also arguably be one contributing factor to the observed decline in social contacts. Unfortunately, the data did not allow an empirical test of these suppositions. What can tentatively be made of these empirical results in relation to the encouragement of active ageing policies on both a European as well as national Finnish and Swedish level, considering in parallel the empirically demonstrated decline in confidence for healthcare between 2005 and 2016?

One feasible interpretation is that older people (in our case represented by people 65/66 and 75/76 years of age) might be allocating their time for other activities than previously. More time is devoted to other activities (arguably physical) that influence better reports of self-rated health at the expense of engaging in social activities. Perhaps this, to some extent, is signalling that active ageing policies across Europe have had an impact on an individual level so that people are taking more responsibility for their own health and are more aware of the challenges posed by an ageing society. At the same time realising that the welfare state, as the older generation has experienced it, with both periods of expansion and retrenchment (Kuisma & Nygård, 2015; Kvist et al., 2012; Sjøgaard, 2018) no longer can be viewed as a safeguard for their health and welfare. This might be reflected in our study by lower levels of confidence in the healthcare system and interpreted as a change towards weaker principles of universalism (Szebehely & Meagher, 2018). Welfare state resources have to be channelled to other groups of older people, i.e. to those in a life situation characterised by multiple illnesses and frailty that starkly rule out most of the possibilities of ageing actively. In this vein, we can perhaps talk about a Nordic welfare state remodelling insofar as younger older adults in good

health are engaged in taking more responsibility for the employment burden and fulfilling important tasks such as informal caregiving to relatives and family members.

Although the main focus of this study was on changes in active ageing across two different time points, our findings also corroborate previous research showing that active ageing is closely related to socioeconomic resource such as higher educational level (Barslund et al., 2019; Lamura & Principi, 2019). Further, in line with AAI-EU results (Lamura & Principi, 2019), older adults in northern Sweden reported higher levels on several active ageing indicators, including employment, political participation and self-reported good health as compared with western parts of Finland. Swedish speakers in Finland were, however, more engaged in various social activities as compared with Finnish speakers as well as older adults in Sweden, which is in line with previous research arguing that Swedish speakers in Finland are embedded in higher levels of social capital (Nyqvist et al., 2012).

Moreover, in line with previous report (Eurostat, 2019), men reported better self-rated health and were also more engaged in political activities. Men were also employed and were getting by economically to a higher degree as compared with women. Women, on the other hand, were more socially connected, which also corroborates previous reports (Lamura & Principi, 2019). Being married or in a relationship was related to self-rated good health and as could be expected, affect one's economic situation. In poverty research, being an older woman, having lower education and being divorced, separated or widowed are linked to poverty risks (Foster & Walker, 2013; Søggaard, 2018). Younger older age was associated with several of the studied indicators such as in employment, self-rated good health and social contacts, whereas 75/76-year olds reported more often high confidence in healthcare, social participation and better economic situation, which underlines the complexity of ageing and the plurality of the ageing experience that might be related to cohort as well as ageing effects.

This study was based on a representative sample of older people in northern Sweden and western Finland and contributes to a better understanding of unequal levels of active ageing among younger older adults. However, there are a few points that need to be considered when interpreting our results. In line with the AAI-EU methodology, we distinguished older adults reporting high levels of active ageing, indicating that the reference category included heterogeneous responses such as in the case of the indicator measuring *confidence in healthcare* (much vs. neither much nor little, little, cannot say). The choice of indicators were driven by the data available, thus limiting the comparability with national AAI-EU results. Although *confidence in healthcare* was not included in the AAI-EU, we argue that institutional trust is one central asset for an ageing society (Rothstein & Stolle, 2003) and could, therefore, be seen as an enabling aspect for

active ageing. We built our active ageing framework on the AAI-EU; however, we studied separate indicators and not a summary of AAI as measured in the AAI-EU (Zaidi et al., 2013). This could be developed in future regional studies (Nyqvist, Nygård, & Snellman, 2019). Although the AAI-EU analyses country-level data from several data sources, our study enabled dispersion across individuals and subgroups. Furthermore, our analyses revealed that part of the explanation for individual-level variations in active ageing is dependent on region. However, based on our analyses, we cannot say how much of the variation is explained by the context. Although the response rate was relatively high, there is a risk of non-response bias, especially in Pohjanmaa with the lowest response rate in 2016.

## CONCLUSION

To conclude, in the 1990s as well as during the financial crisis of 2008 the governments of Sweden and Finland faced increasing financial pressure that put stress on the state budget that might have undermined the economic and social security among older people and the possibility to age actively. However, our findings suggest positive changes (self-rated health, political participation) as well as negative changes (confidence in healthcare, social contacts) in active ageing between 2005 and 2016 in our studied regions. Active ageing is linked to sociodemographic factors that should be acknowledged when developing policy recommendations. Considering that the implementation of active ageing policies relies heavily on municipal and/or regional level in our study region, our results could be used as a framework for regional policymaking.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the GERDA research group upon request.

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## APPENDIX A

TABLE A1 Prevalence of active ageing by sociodemographic characteristics in Västerbotten, Sweden in 2005 ( $n = 1818$ ) and 2016 ( $n = 2071$ )

|                          | In employment |        | Socially active |        | Politically active |        | High confidence in healthcare |        | Getting by economically |       | Self-reported good health |        | Frequent social contacts |        |
|--------------------------|---------------|--------|-----------------|--------|--------------------|--------|-------------------------------|--------|-------------------------|-------|---------------------------|--------|--------------------------|--------|
|                          | 2005          | 2016   | 2005            | 2016   | 2005               | 2016   | 2005                          | 2016   | 2005                    | 2016  | 2005                      | 2016   | 2005                     | 2016   |
| <i>Gender</i>            |               |        |                 |        |                    |        |                               |        |                         |       |                           |        |                          |        |
| Female                   | 8.8           | 10     | 49.8            | 51.3   | 49                 | 60.3   | 41.6                          | 34.2   | 92.2                    | 93.4  | 58.6                      | 68.2   | 82.9                     | 79.7   |
| Male                     | 13.1          | 14.7   | 49.9            | 52.5   | 58.7               | 65.6   | 38.4                          | 38.3   | 94.2                    | 95.4  | 64.9                      | 74.1   | 76.3                     | 70.5   |
| <i>p</i>                 | 0.003         | 0.001  | 0.990           | 0.585  | <0.000             | 0.013  | 0.178                         | 0.058  | 0.108                   | 0.051 | 0.007                     | 0.003  | 0.001                    | <0.000 |
| <i>Age group</i>         |               |        |                 |        |                    |        |                               |        |                         |       |                           |        |                          |        |
| 65/66                    | 15.8          | 18.7   | 50.1            | 50.8   | 61.9               | 68.8   | 36.7                          | 31.1   | 91.6                    | 94.9  | 65.8                      | 76.9   | 82.4                     | 76.8   |
| 75/76                    | 4.4           | 3.3    | 49.7            | 53.5   | 42.6               | 54.5   | 45.1                          | 43.5   | 95.2                    | 93.6  | 55.9                      | 63.1   | 76.7                     | 73     |
| <i>p</i>                 | <0.000        | <0.000 | 0.880           | 0.233  | <0.000             | <0.000 | <0.000                        | <0.000 | 0.004                   | 0.213 | <0.000                    | <0.000 | 0.003                    | 0.047  |
| <i>Educational level</i> |               |        |                 |        |                    |        |                               |        |                         |       |                           |        |                          |        |
| Lower secondary          | 9.4           | 7.7    | 43.1            | 45.8   | 46.1               | 49.2   | 41.1                          | 35     | 93.2                    | 93    | 56                        | 64.1   | 78.5                     | 75.9   |
| Upper secondary          | 13.4          | 15.2   | 58.6            | 56     | 65.2               | 71.5   | 39                            | 36.6   | 94.1                    | 95.1  | 68.2                      | 75.7   | 81.8                     | 74.8   |
| <i>p</i>                 | 0.014         | <0.000 | <0.000          | <0.000 | <0.000             | <0.000 | 0.469                         | 0.474  | 0.469                   | 0.042 | <0.000                    | <0.000 | 0.109                    | 0.589  |
| <i>Marital status</i>    |               |        |                 |        |                    |        |                               |        |                         |       |                           |        |                          |        |
| Single                   | 10.3          | 11.6   | 46.9            | 48.5   | 45.4               | 57.5   | 41.4                          | 34.3   | 89.6                    | 92.5  | 55.6                      | 62.9   | 77.8                     | 77.1   |
| In a relationship        | 10.9          | 12.6   | 51.1            | 53     | 56.5               | 64.5   | 40                            | 36.6   | 94.5                    | 94.9  | 63.7                      | 73.7   | 80.7                     | 74.7   |
| <i>p</i>                 | 0.704         | 0.612  | 0.111           | 0.088  | <0.000             | 0.006  | 0.595                         | 0.354  | <0.000                  | 0.052 | 0.002                     | <0.000 | 0.163                    | 0.291  |

TABLE A2 Prevalence of active ageing by sociodemographic characteristics in Österbotten, Finland in 2005 (*n* = 917) and 2016 (*n* = 1010)

|                          | In employment |        | Socially active |        | Politically active |        | High confidence in healthcare |       | Getting by economically |       | Self-reported good health |        | Frequent social contacts |       |
|--------------------------|---------------|--------|-----------------|--------|--------------------|--------|-------------------------------|-------|-------------------------|-------|---------------------------|--------|--------------------------|-------|
|                          | 2005          | 2016   | 2005            | 2016   | 2005               | 2016   | 2005                          | 2016  | 2005                    | 2016  | 2005                      | 2016   | 2005                     | 2016  |
| <i>Gender</i>            |               |        |                 |        |                    |        |                               |       |                         |       |                           |        |                          |       |
| Female                   | 7.1           | 4.8    | 58.9            | 61.8   | 41.9               | 62.5   | 61.1                          | 45.4  | 94.3                    | 93.7  | 49.8                      | 69.3   | 82                       | 81.7  |
| Male                     | 18.1          | 13.5   | 59.8            | 59.6   | 54                 | 68.8   | 51.2                          | 43.1  | 95.1                    | 96.2  | 53.8                      | 68.7   | 80.4                     | 72.5  |
| <i>p</i>                 | 0.000         | <0.000 | 0.781           | 0.481  | <0.000             | 0.037  | 0.004                         | 0.479 | 0.595                   | 0.075 | 0.235                     | 0.813  | 0.551                    | 0.001 |
| <i>Age group</i>         |               |        |                 |        |                    |        |                               |       |                         |       |                           |        |                          |       |
| 65/66                    | 16.6          | 12.3   | 63.8            | 58.4   | 56.9               | 70.4   | 49.4                          | 40.8  | 95                      | 94.2  | 59.8                      | 77.3   | 85.2                     | 80.3  |
| 75/76                    | 7.1           | 3.5    | 54.4            | 64.6   | 36.9               | 57.2   | 64.7                          | 50.3  | 94.4                    | 96.2  | 43.1                      | 55.1   | 77                       | 72.3  |
| <i>p</i>                 | <0.000        | <0.000 | 0.004           | 0.050  | <0.000             | <0.000 | <0.000                        | 0.004 | 0.719                   | 0.171 | <0.000                    | <0.000 | 0.002                    | 0.003 |
| <i>Educational level</i> |               |        |                 |        |                    |        |                               |       |                         |       |                           |        |                          |       |
| Lower secondary          | 12            | 7.9    | 53.3            | 49.2   | 38.3               | 54.2   | 57.9                          | 38.6  | 94.2                    | 95.9  | 48.3                      | 58.6   | 80.6                     | 75.7  |
| Upper secondary          | 12.0          | 9.4    | 64.8            | 65.6   | 58                 | 70.4   | 52.6                          | 46.7  | 96                      | 94.6  | 56.2                      | 73.5   | 83.9                     | 78    |
| <i>p</i>                 | 0.979         | 0.471  | 0.001           | <0.000 | <0.000             | <0.000 | 0.244                         | 0.018 | 0.244                   | 0.385 | 0.025                     | <0.000 | 0.256                    | 0.413 |
| <i>Marital status</i>    |               |        |                 |        |                    |        |                               |       |                         |       |                           |        |                          |       |
| Single                   | 12.2          | 8.2    | 64.5            | 59.3   | 40.8               | 57.4   | 62.2                          | 48.5  | 93.4                    | 91.1  | 49                        | 61.4   | 82                       | 75    |
| In a relationship        | 11.8          | 9.1    | 57.7            | 61.1   | 48.6               | 67.3   | 55.3                          | 43.3  | 95.1                    | 95.8  | 52.4                      | 70.6   | 80.9                     | 77.6  |
| <i>p</i>                 | 0.857         | 0.716  | 0.086           | 0.655  | 0.054              | 0.014  | 0.095                         | 0.213 | 0.370                   | 0.011 | 0.401                     | 0.017  | 0.734                    | 0.457 |

TABLE A3 Prevalence of active ageing by sociodemographic characteristics in Pohjanmaa, Finland in 2005 (*n* = 621) and 2016 (*n* = 733)

|                          | In employment |        | Socially active |       | Politically active |        | High confidence in healthcare |       | Getting by economically |       | Self-reported good health |        | Frequent social contacts |       |
|--------------------------|---------------|--------|-----------------|-------|--------------------|--------|-------------------------------|-------|-------------------------|-------|---------------------------|--------|--------------------------|-------|
|                          | 2005          | 2016   | 2005            | 2016  | 2005               | 2016   | 2005                          | 2016  | 2005                    | 2016  | 2005                      | 2016   | 2005                     | 2016  |
| <i>Gender</i>            |               |        |                 |       |                    |        |                               |       |                         |       |                           |        |                          |       |
| Female                   | 2.9           | 8.0    | 53.3            | 47.4  | 26.7               | 43.7   | 50.5                          | 48.3  | 92.4                    | 93.4  | 45.3                      | 67.7   | 78.2                     | 70.5  |
| Male                     | 7.5           | 8.6    | 46.8            | 45.2  | 31.1               | 48.2   | 52.2                          | 45.4  | 94                      | 93.6  | 49.8                      | 66.2   | 61.9                     | 59    |
| <i>p</i>                 | 0.009         | 0.751  | 0.109           | 0.567 | 0.248              | 0.230  | 0.677                         | 0.442 | 0.448                   | 0.913 | 0.274                     | 0.676  | <0.000                   | 0.001 |
| <i>Age group</i>         |               |        |                 |       |                    |        |                               |       |                         |       |                           |        |                          |       |
| 65/66                    | 6.2           | 11.8   | 50.7            | 44.3  | 34.5               | 51     | 48.8                          | 43.3  | 95                      | 91.8  | 54.8                      | 73.8   | 72.2                     | 67.8  |
| 75/76                    | 3.2           | 0.9    | 50              | 50.8  | 21.2               | 34.1   | 54                            | 54.8  | 90.6                    | 96.9  | 37.9                      | 53     | 69.9                     | 60.9  |
| <i>p</i>                 | 0.089         | <0.000 | 0.855           | 0.099 | <0.000             | <0.000 | 0.215                         | 0.004 | 0.037                   | 0.010 | <0.000                    | <0.000 | 0.534                    | 0.064 |
| <i>Educational level</i> |               |        |                 |       |                    |        |                               |       |                         |       |                           |        |                          |       |
| Lower secondary          | 3.2           | 5.8    | 45              | 39.1  | 22.9               | 33.2   | 55.8                          | 52.2  | 92.1                    | 92.5  | 39.2                      | 53.1   | 69                       | 62.6  |
| Upper secondary          | 8             | 9.7    | 59.5            | 50.6  | 39.7               | 52.3   | 43.9                          | 43.9  | 94.1                    | 93.9  | 59.4                      | 75.1   | 73.2                     | 67.2  |
| <i>p</i>                 | 0.010         | 0.067  | 0.001           | 0.003 | <0.000             | <0.000 | 0.370                         | 0.034 | 0.370                   | 0.472 | <0.000                    | <0.000 | 0.304                    | 0.22  |
| <i>Marital status</i>    |               |        |                 |       |                    |        |                               |       |                         |       |                           |        |                          |       |
| Single                   | 3.5           | 10.4   | 48.5            | 48.9  | 22.4               | 40.7   | 49                            | 51.8  | 90.6                    | 89.4  | 42.9                      | 65.3   | 71.9                     | 73.1  |
| In a relationship        | 5.5           | 7.6    | 51.2            | 45.8  | 31                 | 47.3   | 51.6                          | 45.4  | 94.3                    | 94.7  | 48.3                      | 67.8   | 70.8                     | 63.1  |
| <i>p</i>                 | 0.311         | 0.241  | 0.561           | 0.477 | 0.04               | 0.129  | 0.589                         | 0.147 | 0.121                   | 0.015 | 0.229                     | 0.552  | 0.803                    | 0.015 |