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Associations of perceived poor societal treatment among the oldest-old

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ABSTRACT

Background: Previous studies of perceived ageism among older people have focused on younger age groups with the respondents' mean age far below 80.**Objective:** To explore the perceptions of poor societal treatment of older people among home-dwelling people aged 75–100+ and how their perceptions are associated with demographic characteristics, health, functioning, and wellbeing.**Methods:** In the Helsinki Aging Study, a random sample of 2,917 home-dwelling people aged 75–104 received a postal questionnaire inquiring about their health, wellbeing and experiences. The response rate was 74%. We asked: 'How in your opinion are older people treated in Finland?' (well/moderately/poorly) and categorized the respondents according to their responses. A multivariable forward stepwise ordered logistic regression model was used to determine the independent associations of the variables on the ordinal level of perceptions of treatment.**Results:** Of the participants, 1,653 responded to the index item. Of these, only 13% thought that older people are treated well in society, and 66% and 21% were of the opinion that older people are treated moderately or poorly in society, respectively. Perceived poor societal treatment was more common among women, the younger respondents, and those with lower incomes, as well as family caregivers and those with lower self-rated health and lower psychological wellbeing. Those who were able to walk outside unassisted and those with a regular hobby perceived poor societal treatment more often.**Conclusions:** Several demographic factors, self-rated health, psychological wellbeing and better functioning were associated with perceptions of poor treatment among the oldest-old.

1. Introduction

An older person's own perception of aging has an essential impact on their psychological adaptability and personal feeling of active agency. Older people's self-perceptions of aging are affected by how old age is generally perceived in society (Levy, 2009). If older people feel like bystanders in society, this can understandably impact their willingness to actively engage in life. According to a classic definition, successful aging comprises, in addition to a low probability of disease and disability, high cognitive and physical function as well as an active engagement in life (Rowe & Kahn, 1997). Older people's own perceptions of their treatment have an important impact on their self-efficacy and how actively they engage in societal activities (Savikko, Routasalo,

Tilvis & Pitkälä, 2010; Urtamo, Jyväkorpi & Strandberg, 2019). In the framework of successful aging, the stereotyping of older people is an essential topic of gerontological research (Angus & Reeve, 2006; Bryant et al., 2012; Officer et al., 2016).

Ageism is defined as prejudice, stereotyping and discrimination on the basis of age (Butler, 1969). In the literature, ageism is said to be pervasive (Angus & Reeve, 2006; Officer et al., 2016). However, the precise prevalence of ageism in today's society is difficult to determine due to the wide range of definitions and scales used in previous studies (Wilson, Errasti-Ibarrondo & Low, 2019). The prevalence of experiences of ageism has varied greatly (3% to 91%) (Palmore, 2004; Rippon, Zaninotto & Steptoe, 2015; Snellman, Nygård & Susanne, 2013).

It has been recognized that ageism also takes place in healthcare

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settings. Lack of access to healthcare and poor acknowledgement of symptoms among older people have been reported in numerous studies (Fairhead & Rothwell, 2006; McBride, Hardoon, Walters, Gilmour & Raine, 2010; Rudd, Hoffman, Down, Pearson & Lowe, 2007; Tate, Nicholson & Cassell, 2010). Older people are often excluded from clinical trials (Bugeja, Kumar & Banerjee, 1997; Konrat et al., 2012; Thake & Lowry, 2017). Furthermore, this evidence gap in part can lead to older people being left without adequate treatment (Usher, Bennett & Feely, 2004). As a recent example of ageism, during the COVID-19 pandemic older people have been portrayed as a homogenous vulnerable group and as a burden to society (Ayalon, 2020; Cohn-Schwartz & Ayalon, 2020). In public discourse, older people have been referred to in a demeaning manner, and it has even been implied that the lives of older adults are less valuable than those of younger people (Fraser et al., 2020; Jimenez-Sotomayor, Gomez-Moreno & Soto-Perez-de-Celis, 2020; Lichtenstein, 2020).

Older people's own perception of their treatment is important. Most studies on ageism among older people have investigated the respondents' personal experiences of ageism (Jackson, Hackett & Steptoe, 2019; Kim, Noh & Chun, 2016; Palmore, 2004; Stokes & Moorman, 2020; Sutin, Stephan, Carretta & Terracciano, 2015; Vogt Yuan, 2007) as opposed to fewer studies examining the subjects' perceptions of societal ageism (Snellman et al., 2013). It is recognized that ageism occurs at both an individual level and a societal level and it has been suggested that research should also focus on ageism at a societal level (Ayalon & Tesch-Römer, 2018).

In previous studies, demographic characteristics associated with perceptions of ageism have varied in terms of gender, age and education (Han & Richardson, 2015; Jackson et al., 2019; Kim et al., 2016; Rippon et al., 2015; Rippon, Kneale, de Oliveira, Demakakos & Steptoe, 2014; Stokes & Moorman, 2020; van den Heuvel & van Santvoort, 2011; Vogt Yuan, 2007). However, studies have shown consistent results regarding lower income being associated with higher levels of experienced ageism (Jackson et al., 2019; Rippon et al., 2015; Stokes & Moorman, 2020; van den Heuvel & van Santvoort, 2011; Vogt Yuan, 2007). Furthermore, experienced ageism has been associated with chronic diseases, poor self-rated health, and disabilities (Jackson et al., 2019; Stokes & Moorman, 2020; Sutin et al., 2015), as well as poor psychological wellbeing (PWB) (Han & Richardson, 2015; Jackson et al., 2019; Kim et al., 2016; Sutin et al., 2015; Vogt Yuan, 2007).

The population is aging, and life expectancy is improving worldwide. By 2050, the number of people aged 80+ is predicted to nearly triple worldwide (United Nations, 2019). However, the majority of respondents in previous ageism studies have been well under 80 years of age (Han & Richardson, 2015; Jackson et al., 2019; Rippon et al., 2015; Stokes & Moorman, 2020; Sutin et al., 2015; Vogt Yuan, 2007). For example, in the study conducted by Jackson et al. (2019) the mean age of the respondents was 67 years, and in the study by Stokes and Moorman (2020) 52 years. To our knowledge, studies focusing on ageism among the oldest-old are lacking. As ageism concerns the oldest-old, it is important to give voice to them.

In this study, we aimed to explore the perceptions of treatment of older people at societal level among home-dwelling older people aged 75–104, and the way in which these perceptions were associated with the respondents' demographic characteristics, health, functioning and wellbeing.

2. Methods

2.1. Participants

The Helsinki Aging Study (1989–present) is a longitudinal cohort study examining the health and wellbeing of the community-dwelling older population in Helsinki at various time points (Karppinen, Pitkälä & Kautiainen, 2017). Since 1989, its postal questionnaire has been repeated every 10 years. The current study examined questionnaire data

from the 2019 Helsinki Aging Study sample. Age cohorts were retrieved from the Finnish Population Information System: a random sample of 600 people from each age cohort aged 75, 80, 85 and 90 were invited to participate in the study. In addition, all people aged 95 and 100+ living in the urban Helsinki area were included in the sample (total $N = 2917$). The approximate response rate was 74%, based on estimates of how many survey recipients had died, moved away, or been institutionalized between the most recent Helsinki population census and the questionnaires. The Helsinki University Hospital Ethics Committee approved the study design.

2.2. Measures

2.2.1. Perceived treatment of aged people

The questionnaire elicited the respondents' perceptions of how older people are treated in general in society by asking: 'How in your opinion are older people treated in Finland?' (well/moderately/poorly), and 'How well in your opinion do older people in Finland receive medical care?' (well/moderately/poorly). Furthermore, we investigated the respondents' perceptions of their personal treatment as older people by asking: 'How have you been treated as an older person?' (well/moderately/poorly), and 'How well have you received medical care as an older person?' (well/moderately/poorly).

Our main interest lay in studying the respondents' perceptions of poor treatment of older people at societal level. Hence, for our analyses we used the responses provided to the first question inquiring about general treatment of older people in Finland. Based on the responses, we formed three categories: those who felt older people are generally treated well in society, those who felt the treatment is moderate, and those who felt it to be poor.

2.2.2. Demographics

We determined the respondents' age, sex, marital status (married or cohabiting/single/divorced or separated/widowed) and level of income (good/moderate/poor). We divided their education into three categories: less than 8 years, 8–12 years and more than 12 years of education. The questionnaire also inquired about being a family caregiver ('Do you take care of an impaired family member?' yes/no).

2.2.3. Health and functioning

The questionnaire listed 19 common medical conditions (yes/no) and respondents were asked to state if they had been diagnosed with any other long-term illness not listed in the questionnaire. Based on these responses, we calculated the Charlson comorbidity index, which is a weighted index that takes into account the number and seriousness of comorbid illnesses (Charlson, Pompeii, Ales & Mackenzie, 1987). We assessed self-rated health (SRH) by asking 'How is your state of health?' with response options: 'I consider myself healthy/moderately healthy/moderately unhealthy/unhealthy'. We formed two categories, good SRH (healthy or moderately healthy) and poor SRH (moderately unhealthy/unhealthy) (Jylhä, 2009; Karppinen et al., 2017).

To evaluate physical functioning, we asked the respondents: 'Does your general state of health allow you to walk outside easily?' (Yes/ No, I need an assistive device/No, I need the help of another person/No, I cannot walk outside). We then categorized the respondents into two groups, those who were able to walk outside unassisted and those who were not. We hypothesized that those needing assistance or assistive devices when walking would be more likely to have experienced being considered frail by society and would duly perceive society as being more ageist. The respondents were asked whether they were able to lift or carry heavy (5 kg) groceries and categorized into two groups, those who could do so without limitations and those who experienced limitations to some extent. In addition, we inquired whether they were in the habit of exercising at least weekly (yes/no).

The respondents were asked whether they had a family doctor ('Do you have a family doctor that you see regularly?' yes/no).

2.2.4. Psychological wellbeing and active engagement

To assess PWB, we used a validated PWB scale (PWB score) (Routasalo, Tilvis, Kautiainen & Pitkala, 2009), which was calculated on the basis of six questions: 'Are you satisfied with your life?' (yes/no), 'Do you feel useful?' (yes/no), 'Do you have a zest for life?' (yes/no), and 'Do you have plans for the future?' (yes/no). For the fifth and sixth questions, 'Do you feel depressed?' and 'Do you suffer from loneliness?', the response options were 'rarely or never'/'sometimes'/'often or always'. From the yes/no answers, yes yielded 1 point and no yielded 0 points. The two latter three-step questions gave either 0 points, 0.5 points or 1 point so that a more positive answer yielded a greater score. The raw points of each question were totaled, and the sum of the raw points was then divided by the number of questions answered, providing a score between 0 and 1, with a greater score indicating better PWB, as suggested in the original scale (Routasalo et al., 2009).

We then included additional questions in order to more thoroughly assess wellbeing, adaptability in later life, and active engagement. The responses to the question 'How is your general attitude toward life?' generated two categories: optimistic and other (pessimistic/indecisive). This is referred to as 'optimistic life attitude' in Table 2. The responses to the question 'How happy or unhappy do you feel at the moment?' generated two categories: happy (very happy/quite happy) and other (quite unhappy/very unhappy/indecisive). We refer to the prior as 'feels happy' in Table 2. Answers to the question 'Are you satisfied with your close relationships?' formed categories of satisfied (very or quite satisfied), and other (neutral/quite or very unsatisfied), and the group feeling satisfied is referred to as 'satisfied with close relationships' in Table 2.

Active engagement in life was elicited using the following items: 'Do you have a regular hobby?' (yes/no) and 'Do you meet your friends at least weekly?' (yes/no). We asked whether the respondents used a computer ('yes, daily'/'yes, weekly'/'yes, less than weekly'/'no, never'), and focused on those who reported using a computer at least weekly. In terms of staying connected, we asked 'Do you use the internet?' (yes/no) and 'Do you use a smartphone?' (yes/no).

2.3. Statistics

The characteristics are presented as means with standard deviation (SD) for continuous variables and as frequencies with percentages for categorical variables. The linearity across the three level groups of perceptions of treatment was evaluated using the Cochran-Armitage test (chi-square test for trend), ordered logistic regression and analysis of variance with an appropriate contrast (orthogonal). The bootstrap method was used when the theoretical distribution of the test statistics was unknown, or in the case of violation of the assumptions (e.g. non-normality). We used a multivariable forward stepwise ordered logistic regression model to determine (probability for entry ≤ 0.05 ; probability for removal ≥ 0.10) the independent effects of the variables on the ordinal level of perceptions of treatment. The concordance between the personal and group perception of treatment was determined by the kappa statistic (κ) with ordinal weights (Marasini, Quatto & Ripamonti, 2016). Hommel's adjustment was applied to correct levels of significance for multiple testing (Hommel, 1988). Hommel's adjustment was used because it is more powerful than alternative procedures, including the Bonferroni, Holm's, and Hochberg's procedures (Wright, 1992). The normality of variables was evaluated graphically and using the Shapiro-Wilk test. All reported p values are two sided, and statistical significance (α level) was set at 0.05 for all tests. All analyses were performed using STATA software, version 16.1 (StataCorp LP, College Station, TX).

3. Results

A total of 1653 participants responded to the item of perceived poor treatment of older people in society and were included in the analyses.

Table 1

Characteristics of participants according to perceptions of treatment of older people.

	Good treatment, N = 220	Moderate treatment, N = 1086	Poor treatment, N = 347	p-value linearity [Hommel's adjustment ¹]
Demographics				
Female, n (%)	128 (58)	698 (64)	247 (71)	0.001 [0.008]
Age, mean (SD)	84 (7)	83 (7)	81 (7)	<0.001 [0.001]
Widowed, n (%)	99 (46)	397 (37)	115 (34)	0.006 [0.038]
Education, n (%)				0.002 [0.012]
< 8 years	40 (19)	275 (26)	95 (28)	
8–12 years	110 (51)	539 (50)	179 (52)	
>12 years	65 (30)	261 (24)	67 (20)	
Income, n (%)				<0.001 [0.001]
good	113 (52)	385 (36)	91 (27)	
moderate	103 (47)	655 (61)	220 (64)	
poor	3 (1)	35 (3)	31 (9)	
Family caregiver, n (%)	10 (5)	53 (5)	29 (9)	0.027 [0.11]
Health				
Healthy, n (%)	47 (21)	139 (13)	57 (17)	0.001 [0.004]
Moderately healthy, n (%)	153 (70)	730 (68)	200 (59)	
Moderately unhealthy, n (%)	20 (9)	182 (17)	73 (22)	
Unhealthy, n (%)	0 (0)	23 (2)	9 (3)	
Charlson ² , mean (SD)	1.7 (1.5)	1.6 (1.6)	1.7 (1.7)	0.70 [0.98]
Functioning				
Walks outside without any help or assistive device, n (%)	124 (57)	675 (62)	227 (66)	0.032 [0.13]
Carries heavy groceries easily, n (%)	89 (43)	455 (43)	133 (39)	0.30 [0.90]
Exercises at least weekly, n (%)	138 (64)	751 (70)	222 (65)	0.98 [0.98]

¹Hommel et al. 1998 (Hommel, 1988) ²Charlson et al. 1987 (Charlson et al., 1987).

Table 1 presents the characteristics of respondents. According to 13% of the respondents ($n = 220$), older people are treated well in society, whereas 66% ($n = 1086$) felt that older people are treated moderately, and 21% ($n = 347$) that they are treated poorly. Men perceived better treatment of older people than women. Of women, 12% perceived good treatment, 65% moderate treatment, and 23% poor treatment. The respective figures for men were 15%, 67% and 17% (p for linearity < 0.001 for both). The mean age of the respondents was highest in the group that reported good treatment and lowest in the group that reported poor treatment. Widowhood was less common among those who reported poor treatment. Socioeconomic status declined along with perceived poor treatment. A lower level of education and a lower income were associated with perceived poor treatment. Those who were family caregivers more commonly reported poor treatment of older people in society.

Perceived poor treatment of older people was associated with poorer SRH. However, according to Charlson, the number and seriousness of comorbidities was not associated with perceived poor treatment. Being able to walk outside unassisted was linearly associated with perceived poor treatment. There was no association between the ability to carry heavy grocery bags or the habit of exercising weekly and perception of poor treatment in society.

Table 2 presents the respondents' perceptions of their personal treatment and how healthcare treats older people in general, as well as how they have experienced their personal treatment in healthcare. It also presents respondents' wellbeing, attitudes toward life, satisfaction

Table 2
Perceived treatment, wellbeing, attitudes toward life and engagement in life.

	Good treatment, N = 220	Moderate treatment, N = 1086	Poor treatment, N = 347	p-value linearity [Hommel's adjustment ¹]
Treatment				
Own treatment, n (%)	212 (97)	603 (56)	93 (27)	<0.001 [<0.001]
– good	7 (3)	467 (43)	197 (57)	
– moderate	0 (0)	10 (1)	53 (15)	
– poor				
Older people's healthcare, n (%)	144 (67)	209 (20)	19 (6)	<0.001 [<0.001]
– good	67 (31)	746 (71)	157 (46)	
– moderate	5 (2)	103 (10)	165 (48)	
– poor				
Your healthcare, n (%)	192 (88)	632 (59)	128 (38)	<0.001 [<0.001]
– good	24 (11)	402 (38)	168 (49)	
– moderate	3 (1)	32 (3)	45 (13)	
– poor				
Has a family doctor, n (%)	114 (53)	475 (45)	131 (39)	<0.001 [0.005]
Wellbeing, attitudes toward life and satisfaction with social relationships				
PWB, mean (SD)	0.81 (0.21)	0.78 (0.24)	0.72 (0.29)	<0.001 [<0.001]
Optimistic life attitude, n (%)	186 (85)	844 (78)	250 (72)	<0.001 [0.003]
Feels happy, n (%)	188 (87)	865 (81)	251 (74)	<0.001 [<0.001]
Satisfied with close relationships, n (%)	212 (98)	969 (91)	296 (86)	<0.001 [<0.001]
Active engagement in life				
Has hobbies, n (%)	107 (53)	633 (61)	202 (61)	0.11 [0.22]
Meets friends weekly, n (%)	131 (61)	640 (60)	221 (65)	0.24 [0.24]
Uses computer at least weekly, n (%)	84 (39)	495 (46)	173 (50)	0.009 [0.036]
Uses internet, n (%)	93 (50)	505 (54)	179 (59)	0.038 [0.11]
Uses smartphone, n (%)	83 (38)	412 (39)	163 (48)	0.009 [0.036]

¹ Hommel et al. 1998 (Hommel, 1988).

with social relationships and how actively they engage in life. It was more common for the respondents to report overall poor treatment of older people in society than to have encountered poor treatment themselves. Furthermore, those who reported poor treatment of older people in society expressed more dissatisfaction in the questions on healthcare. Again, it was more common for the respondents to report that older people generally received poor medical care than to have received poor medical care themselves. Having a family doctor was associated with less perceived poor treatment of older people.

Better PWB, as well as an overall positive life attitude, feelings of happiness, and satisfaction with close relationships were all associated with better perceived treatment of older people in society. Having hobbies and meeting friends were not associated with perceived poor societal treatment. However, using a computer at least weekly, using the internet and using a smartphone were all linearly associated with perceived poor treatment.

Fig. 1 shows how different variables were associated with perceived poor treatment of older people in society in the multivariable forward

stepwise logistic regression model. Male sex was associated with less perceived poor treatment (OR 0.75, 95% CI 0.60–0.95), as was higher age (OR 0.77, 95% CI 0.67–0.87). Lower income was associated with perceived poor treatment of older people: moderate income OR 1.61 (95% CI 1.27–2.04), poor income OR 2.80 (95% CI 1.55–5.06). Lower SRH was associated with perceived poor treatment: among those moderately healthy OR 0.97 (95% CI 0.70–1.35), moderately unhealthy OR 1.73 (95% CI 1.11–2.69), very unhealthy OR 1.97 (95% CI 0.85–4.56). Being able to walk outside unassisted was associated with perceived poor treatment (OR 1.51, 95% CI 1.13–2.01). The respondents with higher PWB less frequently reported poor treatment of older people (OR 0.77, 95% CI 0.68–0.88). Being a family caregiver was associated with perceived poor treatment (OR 1.73, 95% CI 1.09–2.76), as was having a regular hobby (OR 1.40, 95% CI 1.10–1.77).

4. Discussion

Poor treatment of older people in society was reported by 21% of the oldest-old, whereas only 13% felt that older people are generally treated well. Perceived poor treatment of older people at societal level was associated with female sex, younger age, poorer income, lower SRH, and lower PWB. Being a family caregiver was also associated with perceived poor treatment at societal level. Being able to walk outside unassisted and having a regular hobby were also associated with greater perceived poor treatment in society. It was more common for the respondents to report overall poor treatment of older people in society or poor general treatment of older people in healthcare than to have encountered poor treatment themselves.

The strength of this study lies in its large representative sample of home-dwelling older adults, of whom the oldest were well over 100. To our knowledge, this is the first time the oldest-old have been asked about their perceptions of how older people are treated in society. We used validated measures for both SRH and PWB. However, our study was cross-sectional in nature, making it impossible to assess causality in our results. The item of perceived poor treatment posed another limitation to our study since our assessment of perceived ageism at societal level was based solely on one general question on the treatment of older people in society rather than validated ageism scales. Although the response rate was high, there was probably selection bias. Those with better health and functioning are more likely to respond than those with poor health. Although our respondents may well represent home-dwelling older people in a large city in Finland, we cannot say how they represent attitudes in rural areas or in other cultures. A previous study states that older people in urban environments experience more ageism than those living in rural areas (Kim et al., 2016).

In our study, the prevalence of perceived poor treatment of older people in society was 21%. It is challenging to compare prevalence numbers with those from prior ageism studies that have asked respondents about their personal experiences of ageist treatment as opposed to the general treatment of or attitudes toward older people (Jackson et al., 2019; Kim et al., 2016; Palmore, 2004; Stokes & Moorman, 2020; Sutin et al., 2015; Vogt Yuan, 2007). Snellman et al. (2013) asked their participants about their personal experiences of ageism as well as attitudes toward older people in society, but did not present prevalence numbers for perceived attitudes toward older people.

Younger age was associated with perceived poor treatment of older people in society. Compared to previous studies, Rippon et al. (2015, 2014), for instance, found that the likelihood of age discrimination increased with age in the lower age groups, but decreased or remained at the same level among the oldest-old. The respondents in our study were significantly older, with almost half being 85+. According to a previous study, although the likelihood of being discriminated against on the basis of age should increase with age, it also seems that among older people, the oldest-old are less likely to report age discrimination (Vogt Yuan, 2007). In line with some previous studies, perceived poor treatment was more common among women (Han & Richardson, 2015;

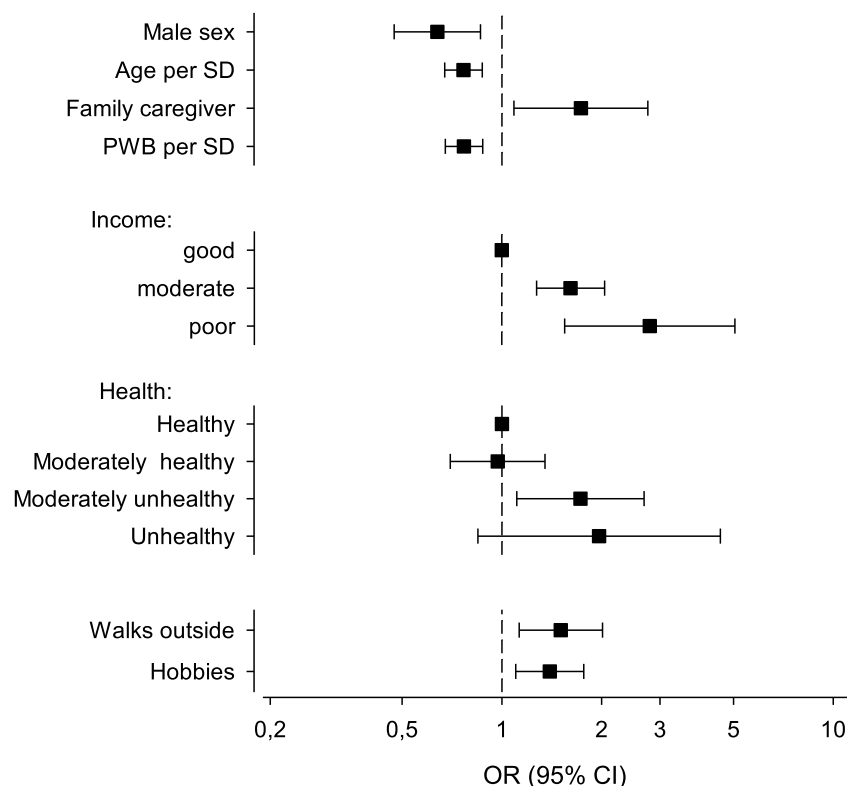


Fig. 1. Ordered multivariable forward stepwise logistic regression model of how different variables were associated with perceived poor treatment of older people in society.

Stokes & Moorman, 2020; van den Heuvel & van Santvoort, 2011), although a few studies have reported contrary findings (Jackson et al., 2019; Rippon et al., 2015, 2014). A previous study that explored European citizens' attitudes toward older people and predictors of those attitudes found that women perceive ageism as a more serious matter (Abrams, Vaclair & Swift, 2011).

In line with previous studies, perceived poor treatment was more common among those with lower incomes (Jackson et al., 2019; Rippon et al., 2015; Stokes & Moorman, 2020; van den Heuvel & van Santvoort, 2011; Vogt Yuan, 2007). In our study, a lower level of education was associated with a higher prevalence of perceived poor societal treatment. van den Heuvel and van Santvoort (2011) reported similar findings, while many studies also reported contradictory findings (Kim et al., 2016; Rippon et al., 2015, 2014; Vogt Yuan, 2007). It has been hypothesized that those with higher education may be more prone to acknowledge the inequalities in society (Rippon et al., 2015, 2014). However, in line with our study, poor income has been consistently associated with greater perceived ageism. Education and wealth are the two measures of socioeconomic status and they have a strong association with each other, which could explain our findings.

Other studies have found associations between ageism and both SRH and comorbidities (Jackson et al., 2019; Stokes & Moorman, 2020; Sutin et al., 2015); in our study perceived poor treatment was only associated with SRH. The Charlson Comorbidity Index may be fairly insensitive to associate with the experience of poor treatment as it does not include all comorbidities associated with symptoms and discomfort. The relationship between health and poor treatment may be bidirectional. If a person feels that they are in worse health and more frail, they could be more susceptible to perceiving poor treatment. The subjectivity of this could offer an explanation for our findings of only SRH being associated with perceived poor treatment.

In line with previous studies, perception of poor treatment of older people was associated with diminished PWB (Jackson et al., 2019; Stokes & Moorman, 2020; Sutin et al., 2015). A previous longitudinal

study suggested that perceived age discrimination predicted depressive symptoms (Jackson et al., 2019), whereas another prior study suggested that lower PWB predicted perceived discrimination (Phinney, Madden & Santos, 1998). In line with a previous study, those possessing an optimistic attitude toward life perceived less poor treatment (Stokes & Moorman, 2020). In our study, those who were satisfied with their social relationships reported less perceived poor treatment, which is in line with the findings of a previous study (Santini, Koyanagi, Tyrovolas, Haro & Koushede, 2019). Another study highlighting the protective effect of social contacts showed that during the COVID-19 pandemic, those living with children and having contact with family less often perceived older adults as a burden (Cohn-Schwartz & Ayalon, 2020).

Reporting poor treatment of older people in society was more common among those able to walk outside unassisted, which is contradictory to our hypothesis and previous findings (Stokes & Moorman, 2020). Similar counterintuitive findings in our study relate to those having a regular hobby – and perhaps more self-efficacy – reporting poor treatment more than those without a hobby. Ageism is pervasive and, in comparison to other types of discrimination, far more condoned (Angus & Reeve, 2006; Officer et al., 2016). According to the stereotype embodiment theory (Levy, 2009), negative age stereotypes perceived in society are internalized, leading to more negative self-perceptions of aging. Perhaps those who are fitter, and who actively engage in society, more readily perceive the surrounding inequalities.

Reporting general poor treatment of older people in society was more common than having personally encountered poor treatment. The findings in our study could be explained by personal/group discrimination discrepancy, a term describing the tendency of the members of a disadvantaged group to report higher levels of discrimination directed toward their group than toward them personally as members of this group. This has been reported as occurring in various disadvantaged groups (Taylor, Wright, Moghaddam & Lalonde, 1990).

Being a family caregiver was associated with a greater likelihood of reporting poor treatment of older people. To our knowledge, this is the

first study to show such an association. It is well reported in the literature that those who act as family caregivers are at risk of feeling overburdened and suffer from more emotional distress, anxiety and depression (Schoenmakers, Buntinx & De Lepeleire, 2009; Schulz, O'Brien, Bookwala & Fleissner, 1995). Depression in turn was shown in a previous study to predispose a person to perceived age discrimination (Ayalon, 2018) as was low PWB (Phinney et al., 1998). This offers one explanation for this association in our study.

5. Conclusions

As the population is aging, the significance of our results is that they show how perceived treatment of older people at societal level affects the oldest-old. Beyond mere survival, the quality of life in one's declining years has become increasingly important. The fact that one in five of the respondents reported poor treatment of older people in our society means a great deal remains to be done when it comes to promoting the wellbeing of older people. The most vulnerable appear to be the most affected: the poor, the uneducated, and those caring for an impaired relative.

Authors' contribution

Mia Knuutila: Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review and editing.

Tuuli Lehti: Conceptualization, Methodology, Writing – review and editing.

Helena Karppinen: Methodology, Writing – review and editing.

Hannu Kautiainen: Data curation, Formal analysis, Methodology, Software, Writing – review and editing.

Timo Strandberg: Conceptualization, Funding acquisition, Methodology, Writing – review and editing.

Kaisu Pitkala: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Software, Supervision, Writing – original draft, Writing – review and editing.

Declaration of Competing Interest

Dr. Strandberg reports educational cooperation with Servier, Orion and Novartis outside the submitted work. Dr. Strandberg reports membership of European Geriatric Medicine Society (EuGMS) and its special interest groups of Cardiovascular medicine in older people and Diabetes in older people. The other authors declare no conflicts of interest.

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