

Individual risk factors of feelings of unsafety in later life

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Abstract The aim of this contribution is twofold: on one hand to examine the individual risk factors regarding feelings of unsafety among older people and on the other hand to investigate whether they differ between third-age adults (aged 60–79) and fourth-age adults (aged 80+). This study seeks to identify the relationship between demographic variables, lack of economic resources, well-being and perceived ageism on the one side and feelings of unsafety on the other. On the basis of data from the Belgian Ageing Studies ($N = 26,116$), it was found that fourth-age adults experienced higher levels of feelings of unsafety than third-age adults. Furthermore, hierarchical regression models indicated that gender, number of children and perceived ageism were significantly related to feelings of unsafety across the third and fourth ages. However, several individual characteristics were found to be specific to the different age groups. Conclusively, practical implications and research issues are critically discussed by emphasising the importance of tackling structural inequalities among older persons to reduce their feelings of unsafety.

Keywords Fear of crime · Older adults · Vulnerability · Inequality · Well-being

Introduction

Feeling safe is a key issue in ensuring older people's independence, social participation and social inclusion (WHO 2007). However, a large number of older adults report distressing levels of feelings of unsafety (Acierno et al. 2004) that negatively affect their life satisfaction (Adams and Serpe 2000). The majority of research on this topic has focused on the impact of crime (Lee 2007; Ziegler and Mitchell 2003). Older people were seen to be less at risk of victimisation but nonetheless they expressed higher levels of feelings of unsafety. This phenomenon has been coined the 'fear of victimisation paradox' (Hough and Mayhew 1983).

Conversely, it has recently been acknowledged that feelings of unsafety are not only related to crime but also to issues of vulnerability and daily insecurities (Elchardus et al. 2008; Lee 2007). Several researchers suggest linkages between people's concerns about vulnerability in the life course and feelings of unsafety (e.g., Taylor-Gooby 2005). The level of feeling unsafe is conditional on older people's level and amount of deprivation (Powell and Wahidin 2007). Nevertheless, despite these acknowledgements, vulnerability is usually measured only by gender, age or physical characteristics (e.g., Killias and Clerici 2000). Studies have so far failed to consider the broader indicators of individual vulnerability, which could explain the variation in feelings of unsafety among older people (Acierno et al. 2004; Franklin et al. 2008).

Furthermore, in the literature on fear of crime and feelings of unsafety, older people are generally treated as

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one group. Older adults are often assigned to the category of ‘the aged’ or ‘the elderly’ from 55, 60 or 65 years old (e.g. Acierno et al. 2004; Chadee and Ditton 2003; Ziegler and Mitchell 2003). However, within gerontological literature, it is acknowledged that the older population is widely heterogeneous (Nelson and Dannefer 1992). Although it is emphasised that important differences exist between third-age and fourth-age adults in terms of vulnerability (Baltes and Smith 1999; Laslett 1994), little is known about such differences regarding the levels of feelings of unsafety.

Against this background, this study investigates the relations between a broad range of individual aspects of vulnerability and feelings of unsafety and whether these vary between third-age and fourth-age adults.

Feelings of unsafety in later life and individual vulnerability

As noted above, studies have often considered feelings of unsafety as a consequence of people’s risk perception, directly related to obvious safety-related issues (e.g., crime, terrorism, and so on) (Hale 1996). The dominant theoretical perspective when examining individual differences in fear of crime is the vulnerability model (Hale 1996; Liu et al. 2009). In the search for explanations for fear of crime among older people, their disproportionate fear levels are mainly interpreted as a consequence of their greater vulnerability to becoming victims of crime (Elchardus et al. 2008; Jackson 2009; Killias and Clerici 2000). For example, older citizens may experience a greater lack of control over the risk of becoming a victim, because they feel physically weaker (e.g., less physical strength and deteriorating sight). They may also feel less capable of resisting a perpetrator, suggesting that the consequences might be more severe for older people (Killias 1990; Killias and Clerici 2000).

More recently, authors have adopted a broader view on feelings of unsafety and interpreted them as a consequence of general feelings of malaise. For example, in addition to crime, older people may feel unsafe because of illness, financial unsafety, social exclusion or social inequalities (e.g., Elchardus et al. 2008; Pain 2000; Waters and Neale 2010). While the aforementioned vulnerability hypothesis only considers vulnerability as the perceived susceptibility to crime or as risk perception (Jackson 2009), research on feelings of unsafety should seek to identify vulnerability from a broader perspective.

Especially in the context of population ageing, a broader conceptualisation of vulnerability is required. Old age may entail greater risks of facing specific challenges and a reduced ability to cope successfully (Grundy 2006).

Furthermore, through the theory of cumulative inequalities, it may become clear that variations in feelings of unsafety in later life are stratified because of multiple deprivations (Ferraro et al. 2009; Powell and Wahidin 2007). The question arises of what sorts of resources are available, how they influence the experience of ageing and how this affects feelings of unsafety (Hendricks 2008).

Several studies have examined the individual risk factors of feelings of unsafety. This overview devotes attention to demographic variables, lack of economic resources, health and well-being and perceived ageism.

In terms of demographic factors, most research suggests that feelings of unsafety increase with *age*. It is often demonstrated that older people feel more insecure than their younger counterparts (e.g., Killias and Clerici 2000; Pantazis 2000). Some recent empirical studies show more nuanced and contradictory results: Older people are not found to have the highest levels of fear of crime and their victimisation appears to be more hidden (e.g., Chadee and Ditton 2003; Ziegler and Mitchell 2003). To obtain a solid understanding of the influence of developmental stages on feelings of unsafety, it is also important to consider different stages of later adult development (Powell and Wahidin 2007). Baltes and Smith (1999) emphasise the need to differentiate a third from a fourth age, referring to several differences in their psychological and social functioning: Fourth-age adults experience a loss of positive well-being, a decrease in social participation, a higher level of vulnerability, etc. Although the concepts of the third and fourth ages are not related explicitly to chronological age but more to function and activity, the third age approximately refers to older people up to the age of 79 and the fourth age from 80 years and older (Adams et al. 2011). The use of these age groups is, however, just an approximation.

A second often-mentioned characteristic of vulnerability is *gender*. Nearly every piece of research reports more feelings of unsafety among women (e.g., De Donder et al. 2005; Killias and Clerici 2000; McCoy et al. 1996; Pantazis 2000; Tulloch 2000). Nevertheless, this ‘obvious’ finding (women feeling more unsafe than men) is called into question in ageing research because the gender effect on fear may interact with or be conditioned by other variables. For example, men have shorter lives and women have a higher prevalence of a number of problems, particularly those that influence their health (Kaneda et al. 2009).

Third, Hale (1996) reports that when studies incorporate *marital status* or family composition, they nearly all conclude that living without a partner, especially in later life, heightens people’s feelings of unsafety. In addition, most researchers observe that people with children at home feel more unsafe (e.g., Oh and Kim 2009). Other authors, such as Schafer et al. (2006), do not find any support for the

influence of having children on feelings of unsafety. None of these studies, however, focus on older people.

When studying the lack of economic resources, most research reveals that older people living in poor households are more likely to experience higher levels of feelings of unsafety (Acierno et al. 2004; De Donder et al. 2005; Pantazis 2000). Although a lack of economic resources is traditionally measured in terms of income, recent debates have explored the extent to which other factors contribute. In particular, *homeownership* or social housing tenure can be used as a poverty indicator. Homeownership reinforces the existing social inequalities and exclusion because a broad range of the poorest households are denied access to owner occupation (Somerville 1998). People renting on the social housing market are about twice as likely as homeowners to experience fear, even given that the individuals are similar with respect to other features (Carcach et al. 1995). Verté et al. (2007) suggest that homeownership is not always a good indicator of wealth. Belgium is a typical ‘nation of homeowners’, with an ownership rate of greater than 75 % among the older population. Most Belgian older people are house-rich, but cash-poor due to low public pensions. Housing costs take up most of their income, leaving people with a house (house-rich) but not the money to maintain it (cash-poor). Therefore, the *quality of the residence* could possibly be seen as a better indicator of wealth. Dissatisfaction with housing is reported to correlate positively with feelings of unsafety (McCoy et al. 1996).

A third area of relevant consideration is health and well-being. Research on feelings of unsafety has generally found that poor general health exerts significant effects: Older people who perceive their health to be bad feel more unsafe than those who perceive their *physical health* to be good (Killias and Clerici 2000; McCoy et al. 1996; Ross 1993). Stiles et al. (2003), however, insist on using extra measures of physical health. Furthermore, some studies report that *mental health problems* or psychological distress are related to greater feelings of unsafety (Ross 1993; Whitley and Prince 2005). Pain (2000) acknowledges the importance of mental health and states that there is little knowledge about the feelings of unsafety of mentally ill people: This theme is generally excluded from research. Finally, there has been relatively little analysis of the influence of *loneliness* or social isolation on feelings of unsafety. Studies that do incorporate these variables highlight their importance, and their findings indicate that social isolation or subjective feelings of loneliness heighten the feelings of unsafety among older people (Acierno et al. 2004).

Finally, Pain (1997) points to the importance of ageism or age prejudice and stereotypes based on age. The way in which society views ageing, as an image of decline and loss, influences the social identity of older people (Baars 2010; Elchardus et al. 2008). Personal vulnerability

operates alongside such processes of social perception (Vanderveen 2006). This influence of perceived ageism, however, has not yet been empirically tested.

As demonstrated in this literature review, several studies have investigated the influence of individual determinants on feelings of unsafety. However, several limitations of the existing literature can be acknowledged. First, in general, gender, age, race, income and marital status are incorporated as individual risk factors into research on feelings of unsafety (Schafer et al. 2006). Franklin and colleagues (2008) state that they also use these predictors but only because the authors lack more direct measures of vulnerability. These variables are included in the analysis as proxy measures of individual vulnerability but fail to capture its complexity. Other features of vulnerability have only been researched sporadically. Second, when predictors have been addressed previously, it only occurred separately and never comprehensively in one study.

Research goal

The first aim of the analyses is to examine whether older people in the fourth age feel more unsafe in comparison with those in the third age? Second, what are the individual determinants of feelings of unsafety among older people, and which characteristics add most to explaining feelings of unsafety in third age and fourth age?

Data and method

Data collection

The data used in this study originate from the research project ‘Belgian Ageing Studies’, which assessed the quality of life and living conditions of older people. By use of a structured questionnaire, information was collected on several topics, such as feelings of unsafety, housing conditions, psychological well-being, civic participation and various neighbourhood characteristics. The Belgian Ageing Studies made use of a participatory methodology, namely, peer research. Older people were not merely the research target group, but they also adopted the role of expert researchers. Interviews were conducted by older volunteers who were trained and monitored by an older supervisor and a professional working in the municipality. The questionnaire was meant to be self-administered, although volunteers were allowed to clarify the meaning of questions, if requested. The respondents were assured of the voluntary nature of their participation, their right to refuse to answer and the privacy of their responses. Neither the respondents nor the volunteers received any remuneration for taking part.

Participants

The scope of the survey consisted of community-dwelling elderly people, aged 60 and over. This study is based on the data gathered in 99 municipalities in the Dutch-speaking part of Belgium (Flanders). These municipalities were not selected randomly. Each municipality could freely decide to participate in the research project or not. The municipalities that participated in the Belgian Ageing Studies were somewhat larger than average ($M = 30,624$ vs. $M = 20,298$ inhabitants). In terms of income, the residents from the participating municipalities have an average income of 15,292 euro a year, while the average of all the Flemish municipalities is 15,663 euro a year (Study Service of the Flemish Government 2011). In each municipality, we applied the same sampling design. The local government drew three random samples from the census records, applying a stratified quota of which the proportion of features such as gender and age (60–69, 70–79 and 80 years and over) were identical to the underlying population. The sampling fraction depended on the size of the municipality, varying between $N = 182$ and $N = 1,592$. Consequently, this data set was not representative at a national level, but every sample was representative of the specific municipality.

Depending on the municipality, between 65 and 85 % of those contacted were willing to participate. Working with replacement addresses, in the same stratum from the second or third sample, ensured that the intended sample size was obtained. In these analyses, we excluded cases with missing responses to the main measures (described in greater detail in the next section), leaving a final working sample of 26,116 respondents (third age: $N = 22,010$; fourth age: $N = 4,106$; Table 1).

Our sample approximated the population of Flemish residents across several key characteristics. Approximately, 49.1 % were male, varying between 51.1 % in the third age

and 37.6 % in the fourth age. The mean age of the respondents was 70.7 years (min = 60; max = 99). Considering marital status, 20.6 % of the total sample were widowed. In the fourth age, the figure was 52.8 %. Regarding education, 37 % of the respondents' highest education level was primary school. Among third-age adults, this number was 33.2 % and among fourth-age respondents it was 58.4 %.

Measurement of variables

Feelings of unsafety

Elchardus and Smits (2003) developed a questionnaire that measures general feelings of unsafety. This questionnaire contains eight items and is regularly used in policy and academic research in Belgium (Elchardus and Smits 2003). The psychometric properties of the scale have been examined for adults living in Flanders (Belgium): Confirmatory factor analyses support a one-factor model and provide good fit measures (Elchardus and Smits 2003). Subsequently, an adapted version was developed for older people. In the study at hand, we use this Elders' Feelings of Unsafety (EFU) scale:

- You have to be extra careful when you are out on the streets at night.
- These days, it is not safe to be out on the streets at night.
- These last 10 years, the streets have become less safe.
- After nightfall, I don't open the door when someone rings.
- These days, it is not safe to let children out on the streets without supervision.
- I seldom go out alone because I am afraid of being mugged.
- These days an alarm system is more than just a gadget.
- When I go away on holiday, I don't dare to leave my house unwatched.

The answer categories range from 1 (*completely disagree*) to 5 (*completely agree*). This eight-item scale was considered appropriate for older people: The EFU scale was validated among older adults using confirmatory factor analyses ($\chi^2(18) = 116.63$, $p < .001$; goodness of fit estimates: GFI = .97, TLI = .96, CFI = .97 and RMSEA = .074 with a 90 % interval between .062 and .087). CFA produced factor loadings ranging from .59 to .82. Based on these measures of overall fit, there is evidence that the hypothesised model of feelings of unsafety is a well-fitting model. The one-factor model proved to be internally consistent, with a Cronbach's alpha of .89. The EFU scale is a 5-point scale, ranging from 1 (*feeling completely safe*) to 5 (*feeling completely unsafe*).

Table 1 Sample description ($N = 26,116$)

| Characteristics | Third age | Fourth age | Total |
|---------------------------|------------|------------|-------------|
| Age in years M (SD) | 68.3 (5.5) | 83.9 (3.7) | 70.61 (7.7) |
| Gender (%) | | | |
| Male | 51.1 | 37.6 | 49.1 |
| Female | 48.9 | 62.4 | 50.9 |
| Marital status (%) | | | |
| Not widowed | 85.1 | 47.2 | 79.4 |
| Widowed | 14.9 | 52.8 | 20.6 |
| Educational level (%) | | | |
| Low education | 33.2 | 58.4 | 37.0 |
| Secondary education | 50.9 | 35.1 | 48.5 |
| Higher education | 15.9 | 6.4 | 14.4 |
| Number of children M (SD) | 2.3 (1.4) | 2.7 (1.9) | 2.4 (1.5) |

Individual characteristics

The first set consisted of several *demographic features*. The basic respondents' characteristics, such as gender (0 = men; 1 = women), age, the number of children and marital status, were used in the first block of the regression analysis. A preliminary analysis indicated that marital status should be recoded as not widowed (including married, never married, cohabiting and divorced people) (0) or widowed (1).

Second, monthly household income, homeownership and poor housing quality were used as indicators of a *lack of economic resources*. Household income was divided into five categories: €500–999, €1,000–1,499, €1,500–1,999, €2,000–2,499 and €2,500 and more per month; homeownership was recoded as being a social tenant (0) versus not being a social tenant (1); and housing quality was measured by asking the respondents the extent to which they agreed with 12 items regarding the possible characteristics of their residence: size, basic comfort, obstacles (stairs, thresholds and so forth), sound insulation, security against theft, the possibility of warming the residence, etc. The reliability of the instrument was easily acceptable (Cronbach's $\alpha = .86$), with higher scores signifying poorer housing quality.

Health and well-being formed the third set of variables. The index of general physical health (Cronbach's $\alpha = .89$) was developed in accordance with the manual of the 'MOS Short-Form General Health Survey'. The scale ranged from 1 (*physically restricted*) to 2 (*physically healthy*) (Kempen et al. 1995). Furthermore, the respondents were asked how many times they had fallen during the past year (none, once or more than once) and whether they needed assistance with everyday mobility (yes or no). Mental health problems were assessed by combining three items of the Rand Mental Health Inventory (Rand Health 2011) and two items of the Affect Balance Scale (Bradburn 1969). This combination generated the highest reliability index (Cronbach's $\alpha = .87$). The participants were asked the extent to which they agreed with items related to mood disorders: feeling bored, feeling upset, feeling nervous, feeling so low nothing could cheer them up, etc. A higher score on the scale indicated more mental health problems or more psychological distress. The scale of loneliness (Cronbach's $\alpha = .87$) contained six items from the manual of the Loneliness Scale (De Jong and van Tilburg 1999). Higher scores on the loneliness scale reflected stronger feelings of loneliness (range 1–5).

Finally, to measure how the respondents perceived the degree of ageism in society (Cronbach's $\alpha = .87$), we developed a scale with ten items that participants were required to rate on a 1–5 Likert scale from 'completely disagree' to 'completely agree'. For example, the following propositions were put forward: 'Some people act as though

I don't have anything left to contribute to society now that I'm older' and 'I have the feeling that the aged are often considered less important or treated unfairly compared to other groups of people'. The higher the score, the higher the perceived ageism was.

Additionally, two objective area-level indicators were used as control variables in the study: population size and crime rate (measured as the number of crimes per 1,000 residents). All the indicators were measured on the level of municipalities (Study Service of the Flemish Government 2011).

Statistical analysis

First, a description of all the variables is presented in percentages and means. The differences between third-age and fourth-age adults were assessed using Chi-square analyses and independent samples *t* tests. In the following analysis, Pearson's correlations were used to evaluate the associations between the feelings of unsafety and the vulnerability indicators by identifying significant relationships at the bivariate level. Next, the collinearity diagnostics were assessed to reveal whether a high correlation existed among the independent variables. The cut-off criterion was set at VIF >2.0, indicating a multicollinearity problem (Field 2006).

To predict the feelings of unsafety in the third age and the fourth age, a multiple linear regression model was used to identify the predictors of feelings of unsafety and to determine the relative contribution of each. Linear regression is used when the dependent variable is a continuous variable (i.e., feelings of unsafety). It also presupposes that the independent variables (or predictors) are continuous interval data, though it is common to use ordinal data in linear regression, by using dummy variables in the regression (i.e., gender, marital status, home ownership and the need for mobility assistance). The linear regression analyses were executed by entering each group of variables at a different step in the analysis. The predicting blocks were entered in the following order: (1) demographic variables and objective area-level indicators, (2) lack of economic resources, (3) health and well-being and (4) perceived ageism. The enter procedure was used: All the variables of interest were included in the block at the same time (Field 2006).

To calculate each independent variable's importance in predicting the dependent variable, several parameters can be used. Because the variables were measured in different units, standardised beta coefficients are presented. Additionally, the strength of the relation or the extent to which a dependent variable is explained by the regression equation was measured by the adjusted R^2 (Field 2006). The same hierarchical regression analysis was performed for the third age and the fourth age. Given the large sample size, statistical significance was set at $p < .01$ for all the analyses.

Results

Table 2 presents the response frequencies for all the variables and the differences between the third-age adults and the fourth-age adults. The third-age respondents scored an average of 3.4 (SD = 0.88) on the EFU scale. This is significantly lower than the fourth-age adults (M = 3.64, SD = 0.86). The fourth-age adults felt more unsafe than the third-age adults. Furthermore, the results demonstrate additional differences. The fourth-age adults in general had at their disposal a lower monthly household income, rented on the social housing market more often and reported poorer housing quality. In terms of physical health, they scored worse and reported the need for assistance for mobility and transportation more often (56.3 vs. 12.9 %). Finally, fourth-age adults were lonelier, experienced mental health problems more often and perceived more ageism in society.

The bivariate correlations for feelings of unsafety and all the independent variables are displayed in Table 3. The feelings of unsafety of the respondents in the third age were significantly related to all the independent variables, with the exception of the crime rate of the municipality. Similarly, the crime rate was not significantly related to the feelings of

unsafety in the fourth age. Additionally, homeownership and housing quality did not correlate with the feelings of unsafety of participants aged 80 years or older. Therefore, these variables were excluded from the linear regressions.

Table 4 presents the results of the multiple regression analyses, which provide a fuller understanding of the relations between feelings of unsafety and aspects of vulnerability across the third and fourth ages. Because the tolerance and VIF values indicated no multicollinearity between any of the independent variables, the regression table could be interpreted.

Across both the age groups, three variables remained significant: gender, number of children and perceived ageism. The role of gender was unmistakable: women felt more unsafe than men. When controlling for other variables, the number of children remained significant: The more children older people had, the fewer feelings of unsafety they experienced. Finally, the perceived ageism was prominently linked to higher levels of feelings of unsafety. Respondents who experienced that society had a negative perception of older people and discriminated against them felt more unsafe. The strongest predictors of feelings of unsafety were perceived ageism and gender.

Table 2 Descriptive statistics for independent and dependent variables ($N = 26,116$)

| Characteristics | Third age | | Fourth age | | Total | |
|---------------------------------|-----------|-----------------|------------|-----------------|--------|-----------------|
| | % | M (SD) | % | M (SD) | % | M (SD) |
| Population size of municipality | | 30,738 (40,584) | | 29,984 (40,399) | | 30,624 (40,556) |
| Crime rate of municipality | | 65.67 (175.78) | | 70.06 (186.42) | | 66.33 (177.43) |
| Lack of economic resources | | | | | | |
| Household income | | | | | | |
| €500–999 | 19.3 | | 39.5 | | 22.4** | |
| €1,000–1,499 | 35.5 | | 36.4 | | 35.7** | |
| €1,500–1,999 | 23.5 | | 15.2 | | 22.2** | |
| €2,000–2,499 | 11.0 | | 5.4 | | 10.2** | |
| €2,500 and more | 10.7 | | 3.5 | | 9.6** | |
| Homeownership | | | | | | |
| Social tenant | 3.5 | | 5.0 | | 3.8** | |
| Not a social tenant | 96.6 | | 95.0 | | 96.2** | |
| Poor housing quality | | 1.61 (0.67) | | 1.70 (0.70) | | 1.62 (0.68)** |
| Health and well-being | | | | | | |
| General physical health (MOS) | | 1.71 (0.34) | | 1.39 (0.37) | | 1.66 (0.36)** |
| Need for mobility assistance | | | | | | |
| Yes | 12.9 | | 56.3 | | 19.5** | |
| No | 87.1 | | 43.7 | | 80.5** | |
| Loneliness | | 1.98 (0.87) | | 2.27 (0.97) | | 2.03 (0.91)** |
| Mental health problems | | 1.79 (0.83) | | 2.05 (0.92) | | 1.83 (0.85)** |
| Perceived ageism | | 3.09 (0.75) | | 3.21 (0.76) | | 3.11 (0.75)** |
| Feelings of unsafety | | 3.4 (0.88) | | 3.64 (0.86) | | 3.5 (0.88)** |

* $p < .01$, ** $p < .001$

Table 3 Bivariate correlations (Pearson ρ) for the regression variables in the third age ($N = 22,010$) below the diagonal and fourth age ($N = 4,106$) above the diagonal

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. Feelings of unsafety | 1 | .037** | .134** | .077** | -.062** | .096** | -.016 | -.083** | -.025 | .018 | -.133** | -.133** | .125** | .121** | .221** |
| 2. Age | .110** | 1 | .039* | .195** | .028 | .002 | -.003 | -.084** | -.005 | .014 | -.191** | -.243** | .032 | .040* | .015** |
| 3. Gender | .199** | .040** | 1 | .377** | -.009 | .005 | .017 | -.208** | -.056** | .030 | -.190** | -.318** | .079** | .073** | -.007 |
| 4. Marital status (widowed or not) | .087** | .239** | .234** | 1 | .046* | -.005 | .029 | -.292** | -.077** | .037 | -.138** | -.256** | .076** | .157** | .001 |
| 5. Number of children | -.050** | .146** | .044** | .067** | 1 | -.053** | .002 | -.028 | -.019 | -.010 | -.029 | -.056** | -.036 | -.038* | -.055** |
| 6. Population size | .069** | .002 | .004 | .000 | -.013 | 1 | -.151** | .050* | -.089** | -.030 | .027 | .040* | .039* | .041* | .045* |
| 7. Crime rate | .004 | .007 | .009 | .027** | -.002 | -.146** | 1 | -.024 | -.023 | .023 | -.012 | -.022 | .032 | .017 | .023 |
| 8. Household income | -.132** | -.216** | -.129** | -.262** | -.062** | .028** | -.024** | 1 | .086** | -.101** | .153** | .209** | -.092** | -.113** | -.065** |
| 9. Social tenant | -.052** | -.014 | -.023** | -.052** | -.064** | -.095** | -.025** | .109** | 1 | -.001 | .040* | .027 | .001 | .007 | .004 |
| 10. Poor housing quality | .085** | .024** | .014 | .044** | .024** | .012 | .004 | -.102** | -.084** | 1 | -.098** | -.096** | .198** | .191** | .126** |
| 11. Physical health | -.140** | -.250** | -.110** | -.109** | -.055** | -.003 | -.020* | .162** | .071** | -.102** | 1 | .491** | -.283** | -.232** | -.156** |
| 12. Need for mobility assistance | -.115** | -.231** | -.202** | -.177** | -.062** | .019* | -.020* | .154** | .064** | -.086** | .416** | 1 | -.199** | -.170** | -.052** |
| 13. Mental health problems | .163** | .093** | .088** | .112** | -.009 | .022** | -.005 | -.129** | -.071** | .196** | -.278** | -.206** | 1 | .644** | .261** |
| 14. Loneliness | .163** | .077** | .084** | .181** | -.026** | .025** | -.002 | -.138** | -.063** | .201** | -.198** | -.151** | .622** | 1 | .291** |
| 15. Perceived ageism | .289** | .073** | .035** | .037** | -.040** | .003 | .005 | -.124** | -.054** | .130** | -.164** | -.089** | .260** | .283** | 1 |

* $p < .01$, ** $p < .001$

Additionally, in each age group, specific predictors of feelings of unsafety emerged. Those with higher levels of feeling unsafe in the third age were more likely to be older, female, living in a house that is not appropriate for older people and experiencing loneliness or mental health problems. There was no statistical association with marital status, homeownership or the need for mobility assistance.

A linear regression analysis of the fourth-age respondents demonstrated the need for mobility assistance as an extra indicator of feelings of unsafety. Older people needing assistance for mobility aspects experienced greater feelings of unsafety. When other aspects of vulnerability were taken into consideration, marital status, lack of economic resources, general physical health, loneliness and mental health problems did not contribute to the model.

The regression model explained a moderate 15 % of the variation in feelings of unsafety among third-age respondents and 9 % for citizens aged 80 and over. The significant effects ranged from moderate to modest. In both age groups, adding perceived ageism added most of the explained variance to the model.

Discussion and conclusion

This study explores the role of a broad range of individual determinants in interpreting feelings of unsafety in later life. The study indicates that feelings of unsafety are higher among fourth-age than among third-age adults. Feelings of unsafety in later life can be related to demographic variables, a lack of economic resources, health and well-being and perceived ageism. The study illustrates that in coping with feelings of unsafety, different risk factors are important in the third age and the fourth age. First, the variables relating to feelings of unsafety that are significant in both groups are summarised. Afterwards, the specific determinants of each age group are discussed.

Three predictors appear to be significantly related to feelings of unsafety in both age groups. In order of importance, these are high feelings of perceived ageism, being a woman and having more children. To our knowledge, *perceived ageism* has never been linked to feelings of unsafety. Nevertheless, this variable is the most important in the regression analysis. Older people who experience negative attitudes towards the older population in our society feel more unsafe. Pain (1997) suggests that stereotypes can be internalised by elderly people: older people could adopt this vulnerable attitude and consequently may exhibit higher levels of feelings of unsafety. Another potential explanation for this finding may be that ageism leads to separation and exclusion (Hagestad and Uhlenberg 2005). For example, older people often remain excluded from policy-making processes due to underlying ageism

Table 4 Hierarchical linear regression coefficients of individual risk factors of feelings of unsafety ($N = 26,116$)

| Characteristics | Block 1 | | Block 2 | | Block 3 | | Block 4 | |
|--------------------------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| | Third age | Fourth age | Third age | Fourth age | Third age | Fourth age | Third age | Fourth age |
| Control variables | | | | | | | | |
| Population size | .066** | .090** | .065** | .092** | .063** | .092** | .064** | .086** |
| Demographic variables | | | | | | | | |
| Age | .109** | .028 | .095** | .026 | .074** | .004 | .067** | .004 |
| Gender (1 = women) | .194** | .125** | .187** | .119** | .174** | .093** | .173** | .099** |
| Marital status (1 = widowed) | .022* | .034 | .000 | .022 | -.014 | .008 | -.004 | .016 |
| Number of children | -.076** | -.055** | -.081** | -.056** | -.076** | -.054** | -.064** | -.046* |
| Lack of economical resources | | | | | | | | |
| Household income | | | -.084** | -.051* | -.069** | -.033 | -.052** | -.024 |
| Social tenant (1 = no social tenant) | | | -.029** | - | -.021** | - | -.016 | - |
| Poor housing quality | | | .072** | - | .043** | - | .029** | - |
| Health and well-being | | | | | | | | |
| General physical health | | | | | -.057** | -.061** | -.037** | -.042 |
| Need for mobility assistance | | | | | -.009 | -.054* | -.011 | -.062** |
| Loneliness | | | | | .056** | .054* | .032** | .022 |
| Mental health problems | | | | | .076** | -.044 | .032** | .016 |
| Perceived ageism | | | | | | | .240** | .191** |
| Adjusted R^2 | .06 | .03 | .08 | .03 | .09 | .05 | .15 | .09 |

* $p < .01$, ** $p < .001$

(Riseborough and Sribjlanin 2000). Conversely, feelings of unsafety might also lead to perceptions of ageism.

Next, the results of the regression analysis support the previous research by recognising the importance of *gender*. Women feel more unsafe than men. Scott (2003) attributes women's higher level of fear to their negative experiences with strangers. This 'stranger danger' indicates that women feel more unsafe when there are unknown men nearby. Another explanation often given for women's greater feelings of unsafety is their greater physical vulnerability (Stiles et al. 2003). However, even after controlling for diverse indicators of physical health, gender remains a significant predictor of feelings of unsafety. Furthermore, the bulk of studies conclude that people with more *children* have the highest levels of feelings of unsafety. This study, however, indicates the opposite: Older people with more children feel safer. There may be an age-related explanation for this because research mainly investigates adult parents with young children living with them. For them, children are a reason for concern and worry (Koskela and Pain 2000; Oh and Kim 2009). For older people, on the contrary, children may be understood as an important source of social support. Having someone reliable to turn to with any concern can decrease elderly people's feelings of unsafety.

Next to the general results, this research shows several differences between third-age and fourth-age adults. Several individual predictors are significant in the third age but no longer so in the fourth age, and vice versa. For the third-

age group, lower household income, ageing, poor housing quality, worse physical health, feeling lonely and mental health problems contribute to greater feelings of unsafety. The first result supports the view that some population groups, because of their economic position, may feel less safe than others. A lower income level is often associated with a whole range of insecurities that are not crime-related, such as potential illness, loss of housing and social exclusion, and that can heighten the feeling of being unsafe (Pantazis 2000). Next, the results for poor housing quality point to the challenges of home modifications and anticipating housing problems for third-age adults. Furthermore, the results emphasise the significance of physical health. This finding is in line with the previous research, indicating that people who feel physically restricted experience higher levels of feelings of unsafety (Killias and Clerici 2000; McCoy et al. 1996; Ross 1993). Although mental health is often neglected in research on feelings of unsafety, it appears to have a significant relation with feelings of unsafety for third-age citizens. Furthermore, this study provides support for including loneliness in future research.

General physical health is no longer an indicator of feelings of unsafety for *fourth-age respondents*. Instead, in the fourth age, older people experience a growing need for mobility assistance because of difficulties in leaving their homes. Not being able to go outdoors increases their feelings of unsafety. A concrete policy response could be to facilitate outgoing mobility and support fourth-age adults

with transportation problems by providing adapted transportation (e.g., taxis for less mobile people or dial-a-ride) (Christiaens et al. 2009).

The findings of this study support the need to extend the vulnerability model. The influence of vulnerability on feelings of unsafety is more than merely the susceptibility of becoming a victim of crime (Elchardus et al. 2008; Jackson 2009; Killias and Clerici 2000). Furthermore, because physical vulnerability contributed the least explained variance to the model, this study shares the view of the need for a broad conceptualisation of vulnerability: Vulnerability resulting in feelings of unsafety in later life comprises more than physical frailty. For example, while perceived ageism has improved the model substantially, this aspect is most often neglected in research and practice. This finding could incite researchers to include perceived ageism more often when researching feelings of unsafety.

Limitations and future research

Our study has some limitations. First, whether these outcomes are due to cohort differences or wider cultural differences remains a question to be addressed. Longitudinal research can offer additional insights here and could also provide more elaborate evidence on the matter of causality. As with most studies to date, this one is limited because it is cross-sectional in nature. Consequently, the causal direction of the relationship between individual features and feelings of unsafety cannot be determined here. Individual features might cause feelings of unsafety, but the other way around is also possible. For example, feelings of unsafety might cause ageism or mental health problems.

A following important limitation concerns the rather modest levels of explained variance. Especially for fourth-age adults, the explained variance is low. This clearly points to the fact that understanding feelings of unsafety among older people requires more than just individual predictors as investigated in this study. Vulnerability is not only inherent in personal characteristics and therefore concentration only on risk groups is insufficient. A single focus on the individual level denies the importance of environmental forces: individuals who live in different settings age differently (Pain 2000). Pain (1997) suggests including space, place and time as important sources of the extent to which older people perceive themselves as vulnerable.

Third, this study has identified the aspects of individual vulnerability that are related to feelings of unsafety. However, several components of vulnerability and deprivation are related to each other. For example, physical health is related in complex ways to psychological functioning (Thogersen-Ntoumani et al. 2011), or people's negative beliefs regarding older people may be detrimental to their mental health (Levy et al. 2002). Further research needs to continue to investigate

the likely dynamics or possible alternative dynamics involved. What are the influence and the interrelatedness of the components, besides the influence of the separate items, and how do they affect feelings of unsafety?

Implications

The findings indicate a number of principal implications. First, in terms of developing strategies to tackle feelings of unsafety, it is crucial to pay attention to non-criminal approaches. Such initiatives should target the social deprivation and structural inequalities of older people and focus on each of the different sources of vulnerability. Second, it should be noted that even while this study only addresses feelings of unsafety in later life, initiatives tackling social exclusion should not only aim at older people. Multiple inequalities accumulate during the course of a lifetime (Ferraro et al. 2009). Consequently, strategies to combat social exclusion need a lifetime perspective and need to pay attention to intergenerational cycles of disadvantage, inequality and social exclusion. Third, the different sets of predictors for third-age and fourth-age adults underscore the need to develop different strategies for different age groups. Policy makers and practitioners need to take into account these differences when developing and implementing services for older populations (e.g., Jang et al. 2008).

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