

Older and Feeling Unsafe?

In the loving memory of my grandparents,

Stanislav Ivanovich Golovchanov

and

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Örebro Studies in Psychology 46



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**Older and Feeling Unsafe?
Unravelling the Role of Perceived Unsafety in the Well-being of
Older Adults Residing in Senior Apartments**

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Title: Older and Feeling Unsafe? Unravelling the Role of Perceived Unsafety in Well-being of Older Adults Residing in Senior Apartments.

Publisher: Örebro University 2022

www.oru.se/publikationer

Print: Örebro University, Repro 12/2022

ISSN 1651-1328

ISBN 978-91-7529-479-7

Abstract

Nadezhda Golovchanova (2023): Older and Feeling Unsafe? Unravelling the Role of Perceived Unsafety in the Well-being of Older Adults Residing in Senior Apartments. *Örebro Studies in Psychology* 46.

Feeling safe in one's place of residence is important for the well-being of older adults when ageing in place; in contrast, feeling unsafe is likely to have negative consequences for well-being while ageing. Although substantial knowledge of perceived unsafety has been accumulated within various disciplines, there are certain knowledge gaps related to perceived unsafety in older age. What perceived reasons for feeling unsafe are the most central to older adults? Can emotion regulation strengthen or buffer the negative effects of perceived unsafety on the well-being of older people? What differences exist among older adults regarding why they feel unsafe?

This dissertation aimed to address these questions while investigating perceived unsafety and its associations with well-being in the context of ageing, focusing on senior apartment residents. This dissertation adopted an interdisciplinary approach integrating knowledge of perceived unsafety from psychology, gerontology, and criminology. The findings suggest that perceived unsafety in advanced age is a multifaceted phenomenon. Specifically, perceived unsafety could be explained by different perceived reasons (i.e., fear of crime, unattractive social climate in the neighbourhood, and inconvenient infrastructure at home; Study I). Furthermore, maladaptive cognitive emotion regulation strategies were associated with fear of crime and strengthened its negative association with life satisfaction (Study II). Moreover, distinct profiles of older adults could be identified based on compromises in their key life domains. Older adults belonging to different profiles differed in their perceived unsafety and well-being (Study III).

Overall, this dissertation findings indicate that feeling unsafe is associated with being less satisfied with life, experiencing more anxiety and depressive feelings, and relying on more maladaptive emotion regulation strategies. Therefore, safety-promotion efforts are considered an important investment in the quality of life of older adults living in senior apartments.

Keywords: perceived unsafety, fear of crime, well-being, life satisfaction, mental health, emotion regulation, vulnerability, older adults, advanced age.

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Äldre och otrygg? Kopplingen mellan upplevd otrygghet och välmående hos äldre i seniorboenden

Att känna sig trygg i sin boendemiljö är en förutsättning för välmående hos äldre som åldras i hemmet. Motsatsen, upplevelsen av otrygghet, kan däremot inverka negativt under åldrandet. Trots att olika vetenskapliga discipliner har bidragit med betydelsefull kunskap om äldres otrygghet finns fortfarande ett antal kunskapsluckor inom forskningsfältet. Vilka centrala orsaker till otrygghet uppger äldre? Kan känsloreglering stärka eller buffra negativa effekter av upplevd otrygghet på äldres välmående? Vilka skillnader finns bland äldre när det gäller orsaker till upplevd otrygghet?

Syftet med denna avhandling var att undersöka upplevd otrygghet och dess samband med välmående i relation till åldrande bland äldre i seniorboenden. Avhandlingen har en tvärvetenskaplig utgångspunkt och integrerar kunskap om upplevd otrygghet från psykologi, gerontologi och kriminologi. Resultaten tyder på att äldres upplevda otrygghet är ett mångfacetterat fenomen. Flera olika förklaringar framträdde till varför äldre upplever otrygghet, närmare bestämt rädsla för brott, oattraktivt socialt klimat i bostadsområdet och bristfällig infrastruktur i hemmet (Studie I). Vidare framkom att maladaptiva kognitiva känsloregleringsstrategier var kopplade till rädsla för brott, och förstärkte sambandet med bristande livstillfredsställelse (Studie II). Vidare kunde ett antal distinkta profiler av äldre identifieras, baserade på sårbarhetsfaktorer inom viktiga livsområden. Profilerna skiljde sig åt gällande upplevd otrygghet och välmående (Studie III).

Sammantaget indikerar denna avhandling att upplevd otrygghet är förknippat med lägre livstillfredsställelse, ökad ångest och depressiva symptom och att i högre utsträckning förlita sig på maladaptiva känsloregleringsstrategier. Trygghetsfrämjande insatser kan således anses vara en viktig satsning för att öka livskvaliteten hos äldre i seniorboenden.

Nyckelord: upplevd otrygghet, rädsla för brott, välmående, livstillfredsställelse, mental hälsa, känsloreglering, sårbarhet, äldre vuxna, åldrande.

Acknowledgements

When does an academic journey begin? I remember discovering my father's books being two or three years old, and curiously 'reading' the mysterious lines of letters and words, imitating him. I remember studying in Yaroslavl, being an exchange student in the USA, becoming a lecturer in psychology at Yaroslavl State University, and enjoying my research time at Radboud University in the Netherlands. I also remember the moment of decision to follow an international academic path and moving to Belgium in 2016 to start my research master's at KU Leuven, which I completed in 2018.

All these led to me beginning the doctoral program in 2018 in Örebro, as a part of the Newbreed Successful ageing doctoral school (the project that has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 754285). During my time as doktorand, I have been lucky to have many meaningful encounters. I am grateful to my supervisors for their support and collaboration. Katja, for inspiration, engagement, for sharing your views and knowledge, for our discussions and reflections, and for giving me a shield of support during all this time. Karin, for all your efforts from the idea of the project to its finish, and your kind approach in everything. Henrik, for your input in running the 65+ and Safe Study.

I have been also lucky to have been a part of the Newbreed cohort of doctoral students. Thank you all for being a great company these years, for sharing your knowledge and experiences, for broadening my horizons, and just being fun to be around! Carmen, Christiana, and Maja, for friendship and sharing the daily PhD student life. Miles and Anette, for surrounding us with your kind attention, including barbeques and kanelbullar!

I would like to thank all my colleagues in psychology and criminology units for being a part of my PhD journey. Anna, for making my start in Örebro easy and fun, for being there in cases of millions of questions, from how to fill in the ISP to where to buy a good bike. Ida, for welcoming me to psychology unit and for your sincere support and understanding of the reality of being an international PhD student. All fellow PhD students in psychology and criminology – Johannes, CJ, Pernilla, Tor, Elin, Sara, Rebecca, Maria, Sofi, Frida, Amanda and Pinar – for walking

together along the same path. Jonas, for creating opportunities. Selma, Maria, and Terese, for teaching together and allowing me to learn from you. Joakim Petterson, for your attention to my work and good advice. Darun, for your confidence and leading by example. Brittany, for our nice collaboration and being an inspiring researcher. Martien, Xiang, Hugo, Joakim, Sofia, Sevgi, Metin, Sammyh, Sara, Linnea and all the rest for making both CHAMP and LEADER corridors a nice place to be. I would also like to say a special thanks to Kristina Lexell and all research administration team who made all administrative process around the PhD studies smooth and uncomplicated.

While being a PhD student, my learning process was supported by the Swedish National Graduate School on Ageing and Health (SWEAH) funded by the Swedish Research Council. I've been happy to be a part of SWEAH and feel grateful to my fellow PhD students for our meetings and discussions, and to SWEAH administration for skillfully navigating through the online format. My gratitude also goes to the Meaning and Existence Research Center at KU Leuven for my fruitful secondment.

I would like to thank all 65+ and Safe Study participants for their time in responding to the survey. I am also grateful to all people who allowed me to observe different shades of later years – in Rockesholm, in Nora, in Örebro.

I am grateful to my family for being there through the ups and downs of these years. My husband Jort, my endless source of inspiration, for always keeping the fire on in our house, and for making even the coldest and darkest pandemic days warm and gezellig. My parents, Sergei and Elena, for your support, patience, and courage, near and far. Jan and Hanneke, for your encouragement and curiosity, for our times together in Rockesholm and in Wiesel, and for the solid supply of stroopwafels in our kitchen. Thor and Shannon, for staying close despite the distance.

When does an academic journey end? I hope that my academic journey continues, along with or independently from academic titles earned or positions taken, and that learning, thinking, discussing, asking questions, looking for answers, curiosity, and the joy of discovering will stay with me for the rest of my life.

Finally, the year 2022 brutally reminded us that academic work in a safe environment is a privilege that cannot be taken for granted. My sincere wish is that academicians in the world enjoy their research and teaching in safety and peace.

List of studies

The dissertation includes the following studies which hereafter will be referred to by their Roman numerals:

- I. Golovchanova, N., Andershed, H., Boersma, K., & Hellfeldt, K. (2022). Perceived reasons of unsafety among independently living older adults in Sweden. *Nordic Journal of Criminology*, 23(1), 44-60. <https://doi.org/10.1080/2578983X.2021.1920756>
- II. Golovchanova, N., Boersma, K., Andershed, H., & Hellfeldt, K. (2021). Affective fear of crime and its association with depressive feelings and life satisfaction in advanced age: cognitive emotion regulation as a moderator? *International journal of environmental research and public health*, 18(9), 4727. <https://doi.org/10.3390/ijerph18094727>
- III. Golovchanova, N., Evans, B., Hellfeldt, K., Andershed, H., & Boersma, K. Older and feeling unsafe? Differences in underlying vulnerability, anxiety, and life satisfaction among older adults. Submitted.

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Introduction

Being older is a wonderful time in your life, if you can adapt yourself and if your environment adapts as well. Be considerate of each other.

*A focus group participant
(van Hoof et al., 2022, p. 12)*

Worldwide population ageing has resulted in various demographic and societal consequences. One such consequence is an increase in the chronological age range of what is considered ‘advanced age’. A prominent societal trend that has developed in various countries in response to this demographic change is ‘aging in place’ (Wahl & Gitlin, 2019). Ageing in place refers to continuing to live in a familiar community supported by the availability of necessary resources for an autonomous and safe life and can be contrasted with relocating to institutional settings (Bigonnesse & Chaudhury, 2019; Choi, 2022; Fonseca, 2020). In Sweden, the ageing in place trend developed in parallel with a movement towards deinstitutionalization and the emergence of such housing alternatives as senior apartments (Henning et al., 2009; Lindahl et al., 2017).

Older adults spending an increasing amount of time in the community has prompted new questions about how to maintain their safety and well-being. Feeling safe in one’s place of residence is described by older adults as an important aspect of ageing in place (Wiles et al., 2012). In contrast, perceived unsafety in one’s environment is likely to result in negative consequences for well-being while ageing. Although substantial knowledge of perceived unsafety and its negative association with well-being has been accumulated, certain research gaps and questions specific to advanced age remain. What perceived reasons for feeling unsafe are the most central to older adults? Can emotion regulation strengthen or buffer the negative effects of perceived unsafety on the well-being of older people? What differences exist among older adults regarding perceived unsafety and the predisposition to experience it? This dissertation aims to address these questions while investigating perceived unsafety and its associations with well-being in the context of ageing.

The perceived unsafety of older adults has been studied by various disciplines, including psychology, gerontology, and criminology. This

dissertation is situated at the intersection of these disciplines and draws on their theoretical propositions. First, this dissertation adopts a psychological understanding of perceived unsafety as a subjective experience associated with the well-being of older adults, including a focus on vulnerability and emotion regulation as factors relevant to understanding perceived unsafety. Second, because the project is focused on older adults, environmental gerontology and its views of physical and social vulnerability factors when ageing in place are taken into account. Finally, these perspectives are complemented by knowledge of individual vulnerability to perceived unsafety and fear of crime accumulated within criminology. Taken together, these perspectives provide a comprehensive understanding of perceived unsafety and its interrelation with the well-being of older adults ageing in place.

Definitions

Advanced age

This dissertation is focused on the contribution of perceived unsafety to well-being in the context of ageing. Specifically, older adults 65 years old and older are the focus of study. While defining ageing in terms of chronological age entails certain limitations (Li et al., 2020), additional descriptions of the third, fourth, and fifth ages have been introduced to describe the ageing process qualitatively (Diehl & Wahl, 2020; Tesch-Romer & Wahl, 2017). The third age refers to an active period of life with generally good health and low disease burden. The fourth age refers to ageing while experiencing substantial health decline, which is often accompanied by additional care needs. The fifth age refers to the time approaching death and is referred to as the terminal life stage (Diehl & Wahl, 2020). This dissertation concentrates on older adults in their third age and those individuals in their fourth age who can continue living in non-institutional settings with some assistance. The terms *older people*, *older adults*, *advanced age*, and *late life* will be used in this dissertation to characterize individuals in these life stages.

Perceived unsafety

Given the interdisciplinarity of approaches to studying perceived unsafety, various terms have been used to refer to perceived unsafety and its specific aspects. For instance, such terms as ‘feelings of unsafety’, ‘feelings of insecurity’, ‘existential insecurity’, and ‘fear of crime’ have been used

interchangeably in the literature (e.g., De Donder et al., 2009; De Donder et al., 2012; Elchardus et al., 2008; Kullberg et al., 2009), while other researchers differentiate ‘feelings of unsafety’ from ‘fear of crime’ (e.g., Visser et al., 2013). Such discrepancy in terminology calls for clarification of the definition and operationalization of the terms used.

In this dissertation, ‘perceived unsafety’ is used as an umbrella term for subjectively felt unsafety potentially experienced by older adults for various reasons. To operationalize this further, perceived unsafety in the neighbourhood, perceived unsafety at home, and fear of crime are considered. *Perceived unsafety in the neighbourhood* refers to the frequency of feeling unsafe when out in one’s area of residence. *Perceived unsafety at home* refers to the frequency of feeling unsafe when inside one’s home. It is important to note that perceived unsafety in the neighbourhood and at home experienced by older people can originate for various reasons, criminal and non-criminal in nature. *Fear of crime* is a specific aspect of perceived unsafety that generally refers to an emotional response to a threat associated with crime or the symbols of crime (Henson & Reyns, 2015). In this dissertation, the focus is on worry about crime, which is also referred to as the affective aspect of the fear of crime in the criminological literature (Greve, 1998; Kappes et al., 2013).

Well-being

Well-being in advanced age has been described as a complex multidimensional phenomenon (Steptoe et al., 2015; Steverink, 2019). This dissertation aligns with the approach to well-being articulating that positive well-being is not merely an absence of negative well-being indicators or mental health problems (Gerritsen & Steverink, 2017; Ryan & Deci, 2001). Both positive mental health and mental health problems are important for better understanding well-being in older adults because they might differentially contribute to overall well-being in advanced age. Therefore, in this dissertation, well-being is approached as an overarching concept that comprises both positive well-being (operationalized as *life satisfaction*) and mental health problems (operationalized as *depressive feelings* and *anxiety*).

Explaining perceived unsafety in the context of ageing

Specific aspects of perceived unsafety relevant to older adults have been addressed by previous research within several disciplines. Older age per se and diminishing physical fitness have been considered a compromise that predisposes people for perceived unsafety (Brosschot et al., 2018). The role of one's physical and social environments in perceived safety has been addressed (Wahl & Gitlin, 2019). Furthermore, fear of crime and vulnerability factors relevant to older adults have been extensively studied (Greve, 1998; Hanslmaier et al., 2018; Olofsson et al., 2012). In the following sections, the reader will be guided through these perspectives on perceived unsafety and through their relevance to the ageing context and to this dissertation.

Compromised life domains

This dissertation is guided by the theoretical explanation of perceived unsafety arising from compromised life domains developed within the evolutionary neurobiological approach to stress (Brosschot et al., 2016, 2017, 2018; Thayer et al., 2021). The Generalized Unsafety Theory of Stress (GUTS) explains perceived unsafety in the context of the environments, the physiological stress response that follows perceiving the context as unsafe, and disease outcome (Figure 1).

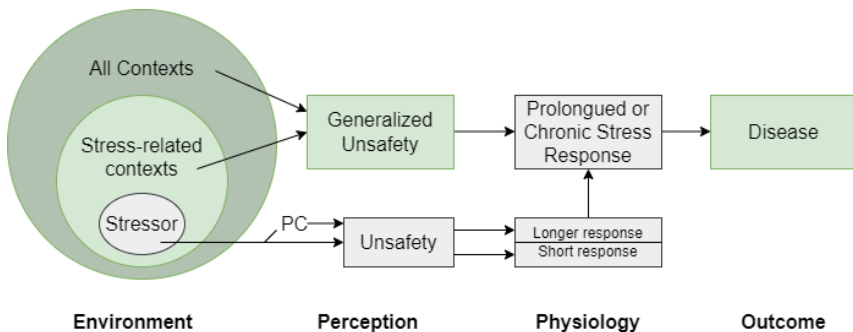


Figure 1. Generalized perceived unsafety as explained by the generalized unsafety theory of stress (adapted from Brosschot et al., 2017, p. 29). Parts of the model addressed in this dissertation are highlighted in colour. PC = perseverative cognition.

In this dissertation, perceived generalized unsafety is considered a psychological phenomenon resulting from the stress-related context. In terms of the disease outcome, this dissertation focuses on mental health problems and diminished well-being but does not address somatic health. Moreover, this dissertation does not address the physiological stress response, nor does it study the perceived unsafety provoked by a specific acute stressor.

From the perspective of the GUTS theory, perceived generalized unsafety is a default mode of human functioning (Brosschot et al., 2017, 2018). Such perceived generalized unsafety is deactivated when safety signals are perceived. However, when safety signals are absent or when there is no safety information about the environment, the generalized unsafety response stays activated. Perceived generalized unsafety is assumed to be a prolonged dysregulation that does not require a specific stressor (Brosschot et al., 2017, 2018; Thayer et al., 2021). Rather, limited or absent perceived safety is the condition that maintains such a generalized unsafety response. This prolonged absence of perceived safety originates from disruptions in functioning in the key life domains, which are referred to as the compromised body, compromised social networks, or overall compromised context (Brosschot et al., 2016, 2017, 2018).

According to the theory, *compromised body* refers to any deficits that reduce the physical fitness and alertness of the body. Examples of such conditions are mobility problems, overweight, pain, fatigue, sleep problems, and other health limitations (Brosschot et al., 2018). All such states reduce the perception of physical safety, leading to perceived unsafety remaining activated (Brosschot et al., 2017, 2018). *Compromised social networks* refer to deficits in the social domain, for instance, feeling lonely or isolated, experiencing social losses, discrimination, or belonging to a group of low social status. Individuals experiencing such deficits lack social safety indicators, and this lack is assumed to result in perceived unsafety (Brosschot et al., 2017, 2018). *Compromised context* refers to perceived environmental deficits, including situations in which no actual stressors are present, but the environment is perceived as unsafe based on previous experience of a threat in the given environment (Brosschot et al., 2017).

Regarding older adults, the GUTS theory considers older age a vulnerability factor for generalized unsafety: older age per se illustrates a compromised body situation (Brosschot et al., 2017, 2018). A loss of bodily fitness and slower reaction times, the theory authors argue, weaken

the potential of an older individual to respond to external threats. Such a bodily state would prevent one from perceiving the outside world as safe and signal perceived unsafety even when no specific threats are present (Brosschot et al., 2018). Due to these bodily changes, perceived unsafety might increase with increasing age.

Furthermore, considering biological, psychosocial, and environmental challenges that are common in advanced age, possible compromises in all outlined life domains could be discussed. Physiological and functional decline, which is well documented with increasing age, is likely to result in compromises in the body domain. At the same time, decrease in social network size with age (Broese van Groenou & van Tilburg, 2017), social changes due to losses (van den Bout & Boelen, 2017), and overall social frailty in advanced age (Bunt et al., 2017) may result in situational or permanent compromises in the social network domain. Moreover, older adults living in disadvantaged or high-crime areas (Köber et al., 2020; Portacolone et al., 2018), in neighbourhoods with poor infrastructure quality (Velasquez et al., 2021), or in areas not adapted for the needs of older people can be considered at risk of having their environmental context compromised. All these physical, social, and environmental compromises that older adults might encounter could result in increased perceived unsafety. Thus, ageing as a life stage could be seen as a period of increased vulnerability to perceived unsafety.

On the one hand, such focus on compromised life domains allows the identification of various underlying reasons for perceived unsafety that are especially relevant in the context of ageing. Following the theory, different underlying reasons for perceived unsafety should be studied simultaneously. However, research considering various perceived reasons for unsafety at the same time is limited. The systematic review of Won et al. (2016) concluded that very few studies considered the multidimensionality of perceived unsafety in advanced age. Nevertheless, the reviewed studies indicated that feeling unsafe for different reasons (e.g., crime and traffic) might be differentially related to various health outcomes (Won et al., 2016). Similarly, Velasquez et al. (2021) found that factors such as criminality and the condition of pedestrian sidewalks contribute differently to the overall perceived unsafety for older adults, depending on their functional limitations. These studies have advanced our understanding of perceived unsafety as a multidimensional construct. However, this research has focused mainly on environmental compromises in relation to unsafety (e.g., crime, traffic, and quality of sidewalks). More

research taking account of physical body and social compromises is needed to identify possible origins of perceived unsafety in older age and their associations with well-being.

On the other hand, knowledge accumulated within gerontology highlights significant heterogeneity in the ageing experience (Dannefer, 2003; Diehl & Wahl, 2020; Ferraro, 2018). Substantial individual differences in the decline rates with age (Li et al., 2020), in resources for coping with challenges (Márquez González et al., 2019), in social network composition (Broese van Groenou & van Tilburg, 2017), and in the overall socio-economic status and living conditions of older adults (Motevasel, 2006) are likely to explain the differences in lifestyle and functioning among older adults. It can be hypothesized that, for certain groups of older adults, the key life domains might remain largely uncompromised, while others might experience substantial decline in one or more domains. This might explain the differences in the presence or absence of perceived unsafety among older adults, which will be further investigated in this dissertation.

Overall, the view of perceived unsafety within the GUTS theory allows us to hypothesize the existence of multiple reasons for perceived unsafety potentially originating from the compromised life domains. At the same time, based on previously documented differences in the functioning of older people in these key life domains, we might expect heterogeneity in perceived unsafety among older adults. Consequently, older adults could be seen as a diverse population that might include different subgroups in terms of their perceived unsafety. Identifying such possible latent subgroups of older adults is important for both advancing our theoretical understanding of perceived unsafety in advanced age and informing safety-promoting interventions.

Physical and social environments

In this dissertation, which focuses on older adults, the view of the compromised life domains articulated within the GUTS framework (Brosschot et al., 2017, 2018) is complemented with knowledge accumulated within environmental gerontology. From the viewpoint of environmental gerontology, various factors in the physical and social environments are important for maintaining perceived safety in advanced age (Oswald et al., 2011; Wahl & Gitlin, 2019). The quality of both the physical and social environments is considered an important contributor to well-being when ageing in place (Oswald et al., 2011). Thus,

environmental gerontology allows us to specify what compromises in physical and social domains might be especially detrimental for older people.

The physical environment refers to the indoor and outdoor settings with which older people interact in their daily lives. Environmental gerontology emphasizes that increasing health limitations make older adults especially susceptible to their physical environment (Oswald et al., 2011). The environmental docility hypothesis states that environmental factors have an especially pronounced influence on those with diminished health and overall resources (Lawton & Simon, 1968; Wahl & Gerstorf, 2020). Considering the overall functioning decline occurring with age, environmental conditions at home and in the neighbourhood become increasingly important for older adults.

At home, such elements of home design as staircases, doorsteps, and furniture can potentially become home hazards for older people with vision problems, instability, mobility limitations, memory insufficiency, and other health limitations (Fonad et al., 2006; Wahl & Gitlin, 2019). In a qualitative study of older adults in Sweden, respondents described their indoor safety as a decisive factor for moving into senior housing, with a special emphasis on fear of falling in housing not adapted for their needs (Fonad et al., 2006). Therefore, various indoor factors are potentially important for older adults in their places of residence.

In the neighbourhood, it has been shown that older adults who are more satisfied with their neighbourhood conditions experience less perceived unsafety (De Donder et al., 2012). Such specific neighbourhood factors as traffic conditions (Lee et al., 2013), quality of sidewalks (Velasquez et al., 2021), and neighbourhood disorder and crime (Portacolone et al., 2018) were found relevant to the perceived unsafety of older adults. Although the role of the neighbourhood in the overall well-being of older adults has received increasing attention in gerontological research (Pruchno, 2018), studies considering multiple factors of perceived unsafety in the neighbourhood are very limited (Won et al., 2016). Considering that the perceived quality of indoor and outdoor environmental conditions is associated with the intention to age in place (Choi, 2022), further understanding the factors contributing to the perceived safety and unsafety of older adults living in community settings is important.

The social environment refers to a variety of social relationships potentially providing opportunities for satisfying social exchange to an

older person (Oswald et al., 2011). Various aspects of the perceived social environment have been shown to be related to perceived safety or unsafety experiences in late life. It has also been shown that involvement in neighbourhood activities (De Donder et al., 2012) and overall social capital (De Donder et al., 2012; Kang & Seo, 2020) are negatively associated with the perceived unsafety of older adults. Moreover, older adults emphasize the social connectedness and familiarity of the neighbourhood as contributing to their feeling safe (Wiles et al., 2012).

To summarize, the environmental gerontology perspective highlights the importance of the physical and social environments in contributing to the perceived safety and well-being of older adults. Both the physical environment adequately meeting the needs of older people and the social environment providing opportunities for meaningful social interactions are important factors affecting ageing well in place (Bigonnesse & Chaudhury, 2019; Choi, 2022; Fonseca, 2020). Therefore, it is important to understand safety-compromising factors in the physical and social environments of older people. In relation to an older person in the physical environment, it can be hypothesized that various health limitations (e.g., impaired vision, instability and fear of falling, and mobility limitations) and inconvenient elements of the indoor and outdoor infrastructure (e.g., staircases, doorsteps, lack of light, and poor sidewalks) could be independent factors influencing perceived unsafety. Similarly, in relation to an older person in the social environment, an overall unattractive social climate in the neighbourhood is hypothesized to be a barrier independently contributing to feeling unsafe in one's place of residence and thus to well-being when ageing in place.

Criminal victimization and fear of crime

Living in an environment in which an older person feels fearful of becoming a victim of crime could be considered an example of a compromised context within the reasoning of the GUTS theory, while fear of crime could be seen as a manifestation of perceived unsafety. Fearing crime in one's daily environment is an important factor undermining the perceived safety and well-being of older adults (Collins & Marrone, 2015). In Sweden, more than 20% of older adults (aged 65–84 years) report feeling unsafe when outside in their neighbourhoods in the evening, which is attributed to fear of crime (BRÅ, 2018, 2020).

An influential approach to explaining fear of crime has been the vulnerability perspective, which suggests that specific vulnerability factors

likely explain being fearful of criminal victimization (Hale, 1996). In relation to fear of crime, this refers to the perception of one's own vulnerability to and lack of control over potential victimization or crime consequences. Such vulnerability might explain why some people or groups of people experience more fear of crime than do others (Jackson, 2009).

Among specific individual vulnerability factors proposed within the vulnerability perspective are older age, female gender, lower socio-economic status, and living alone (Henson & Reynolds, 2015; Killias, 1990; Rader et al., 2012). Additionally, previous victimization has been considered a factor linked to fear of crime (Hale, 1996; Jackson et al., 2007; Olofsson et al., 2012), and psychological vulnerability has been considered a factor explaining fear of crime (Guedes et al., 2018; Jackson, 2009). These factors will be considered to constitute individual vulnerability factors in this dissertation.

Older age

From the vulnerability perspective, older individuals are more susceptible to fear of crime because they are less physically capable of withstanding a perpetrator or because recovery from being victimized might be difficult (Henson & Reynolds, 2015; Killias, 1990). Earlier research on fear of crime reported that older adults were more fearful of crime than were younger adults and proposed the so-called victimization–fear paradox: older adults, especially older women, experience the most fear of crime, whereas, statistically, they are the least likely to become victimized (Hale, 1996; LaGrange & Ferraro, 1987; Yin, 1979). However, further research findings largely challenged the paradox assumptions while highlighting explanatory factors for fear of crime other than age (e.g., Collins, 2016; Fisher et al., 2004; Greve, 1998; Kappes et al., 2013; Ziegler & Mitchell, 2003). Moreover, given that advanced age encompasses an increasingly long time period, less is known about age differences *among* older adults in their fear of crime. Therefore, age remains a relevant research factor in relation to fear of crime and perceived experience of unsafety.

Female gender

A body of research reports greater fear of crime among women than men (e.g., Alper & Chappell, 2012; Bazargan, 1994; Boldis et al., 2018; Collins, 2016; Guedes et al., 2018; Olofsson et al., 2012; Stafford et al., 2007). Physical vulnerability and fear of being physically and/or sexually

victimized by men is thought to explain why women report more such fear (Henson & Reynolds, 2015; Rader et al., 2012). However, some nuances concerning gender and fear of crime should be considered. For instance, studies also revealed that stereotypes of masculinity and femininity were linked to underreporting fear of crime among men and overreporting it among women (Sutton, 2004; Sutton et al., 2011). Moreover, the pathways that evoke fear of crime (e.g., perceiving the consequences of crime as serious) might be more similar than different in both genders (Chataway & Hart, 2019).

In late life, there might be further gender specifics that should be taken into account. For instance, Pain (1995) argued that for older women, threats of abuse and victimization from familiar persons at home might account for some fear of crime. Therefore, potential gender differences in fear of crime and perceived unsafety will be studied in this dissertation in the context of ageing.

Low socio-economic status

Lower education, lower income, and belonging to a lower social class are among the social vulnerability factors associated with fear of crime (Henson & Reynolds, 2015; Rader et al., 2012). On the one hand, those with lower socio-economic status might be more exposed to threats of criminal victimization because of living in disadvantaged neighbourhoods or lacking resources to provide security in everyday life (Hanslmaier et al., 2018; Rader et al., 2012); on the other hand, lack of financial resources might make the consequences of victimization more serious and hinder recovery (Hanslmaier et al., 2018; Killias, 1990). This might be especially applicable in advanced age, since recovery from physical injuries may be more complicated for older adults and might require more medical help than in younger people.

Living alone

It was previously shown that those living alone report higher levels of fear of crime (Donnelly, 1989; Killias & Clerici, 2000). This factor might be especially relevant to older people, since living alone is likely in advanced age. Statistics show that in Sweden almost 35% of older adults aged above 60 years live alone (SCB, 2022). Therefore, a substantial part of older people might be at increased risk of fear of crime.

Previous victimization

Having previously experienced criminal victimization has been considered another factor explaining fear of crime (Hale, 1996; Henson & Reynolds, 2015; Jackson et al., 2007). However, research findings are inconsistent, with some studies establishing a link between previous victimization and fear of crime (e.g., Hansmaier, 2013; Olofsson et al., 2012; Rühls et al., 2017) and others not finding such supporting evidence (for review, Hale, 1996; Jackson et al., 2007). A recent study observed that welfare regimes moderate the relationship between victimization and fear of crime: this relationship was significantly weaker in the Nordic countries compared to other European countries (Ejrnæs & Scherg, 2020). These observations call for further understanding of the role of victimization in fear of crime and perceived unsafety of older adults in Sweden.

Psychological vulnerability

Additionally, an emerging line within fear of crime research addresses factors of individual psychological vulnerability involved in explaining fear of crime. For instance, Guedes et al. (2018) argued that fear as a trait emotion should be considered when explaining fear of crime as a specific manifestation of trait fear. Furthermore, Gabriel and Greve (2003) suggested viewing fear of crime as a personal predisposition or a trait-like characteristic. Interestingly, sociological discourse has long placed fear of crime in the context of such deeply individual characteristics as general anxiety (Hollway & Jefferson, 1997; Hollway & Jefferson, 2000; Walklate, 1998) or ontological security and insecurity (Giddens, 1991). Nevertheless, empirical quantitative research on such psychological vulnerability factors is still limited (Guedes et al., 2018; Jackson, 2009).

Existing studies on psychological vulnerability have demonstrated that fear of crime is associated with various personality traits, such as neuroticism (Guedes et al., 2018; Klama & Egan, 2011), conscientiousness (Klama & Egan, 2011), trait anxiety (Chadee et al., 2008), trait fear (Guedes et al., 2018), as well as with phobic disorders (Lindesay, 1997), and accommodative coping as an emotion regulation strategy (Rühls et al., 2017). These findings point towards the need to further understand the relations between psychological factors and fear of crime. In this dissertation, cognitive emotion regulation as a potential factor of psychological vulnerability is addressed in its associations with fear of crime.

Overall, previous research conducted within the vulnerability approach highlights the importance of physical (e.g., age, gender), social (e.g., lower socio-economic status, and living alone), and psychological (e.g., personality traits and emotion regulation) vulnerability factors as well as previous victimization in explaining fear of crime. At the same time, certain findings regarding these factors are conflicting. Moreover, while some research has focused on the role of vulnerability factors for older people in comparison with younger adults, there is a lack of research on differences *within* the ageing population. Moreover, there is lack of research on the role of these factors in generalized perceived unsafety, i.e., perceived unsafety that might originate from non-crime-related factors.

The role of perceived unsafety in the well-being of older adults

Perceived unsafety and well-being when ageing in place

Theoretically, according to the generalized unsafety theory of stress (Brosschot et al., 2018), lack of perceived safety is likely to result in a stress response. While a brief stress response is generally considered natural and not threatening for an individual's health, it is the prolonged stress response resulting from absence of perceived safety that undermines physical and mental health (Brosschot, 2017). Thus, a prolonged experience of perceived unsafety is likely to be linked to diminished health and well-being outcomes.

Research is consistent in demonstrating that individuals with higher levels of perceived unsafety report lower well-being (for review, Alfaro-Beracoechea et al., 2018). In qualitative studies, older adults reflect upon the importance of feeling safe for their daily well-being (Andersson et al., 2008; Bowling et al., 2003; Grewal et al., 2006). A large body of research has focused on fear of crime as a concrete aspect of perceived unsafety in older adults, revealing that fear of crime is negatively associated with quality of life (Stafford et al., 2007) and subjective well-being (Bazargan, 1994), and positively associated with anxiety (Beaulieu et al., 2004; Olofsson et al., 2012; Stafford et al., 2007), depression and depressive symptoms (Beaulieu et al., 2004; Stafford et al., 2007; Wilson-Genderson & Pruchno, 2013), and stress and suicide attempts (Olofsson et al., 2012).

However, there is a lack of studies addressing perceived unsafety in its multidimensionality and relation to well-being aspects in older adults (van Hoof et al., 2022; Won et al., 2016). There is also an overall lack of research on the perceived safety of older adults within the context of senior housing (Lindahl et al., 2017). Existing descriptive accounts of older adults collected through qualitative research reveal that perceived safety is closely linked to their well-being in the place of residence and intention to continue living there. As one study participant phrased it, 'If you're feeling safe in your home and you've got your good neighbours and they keep a lookout for you and everything else, you don't want to up and leave really, do you?' (Wiles et al., 2012, p. 362). On the contrary, being afraid of, for example, accidentally falling because of home hazards and not receiving help contributes to feeling unsafe and anxious, reducing well-being in one's place of residence and motivating older people to move

to special care settings (Fonad et al., 2006). Similarly, lack of perceived safety due to perceived criminality prevents older people from participating in social activities in their residences or neighbourhoods (Sheppard et al., 2021). Therefore, more quantitative research findings are needed to address the associations between perceived unsafety and well-being indicators when ageing in place, as well as possible risk and protective factors in these associations.

Cognitive emotion regulation: a risk or a protective factor?

Perceived unsafety is generally viewed as a barrier to well-being in advanced age. Considering this, it is important to understand perceived unsafety in the context of known mechanisms hindering or promoting well-being. This is important because knowledge of such mechanisms advances theoretical understanding of the phenomenon and enables directing intervention efforts promoting safety and well-being. One such mechanism addressed by this dissertation is emotion regulation.

From the viewpoint of the socioemotional selectivity theory (SST), specifics of emotion regulation might explain high levels of subjective well-being maintained by older adults during the life stage when losses in multiple life domains become more frequent (Carstensen et al., 1999; Urry & Gross, 2010). According to SST, when the future time perspective becomes more limited, which usually happens as people grow older, emotional goals are prioritized over goals related to knowledge and information gain. In other words, older people prioritize social contact that is meaningful and gratifying while avoiding social encounters that could provoke negative emotions (Carstensen et al., 2003). Older people also tend to show the so-called positivity effect, paying more attention to positive stimuli and recalling more positive events from the past than do younger people (Charles & Hong, 2016). Such adjustment of emotion regulation processes observed more frequently in advanced age is believed to contribute to the well-being of older adults. However, few studies have explored the role of emotion regulation in relation to perceived unsafety and its association with well-being in later life.

Emotion regulation refers to ‘the set of processes whereby people seek to redirect the spontaneous flow of their emotions’ (Koole, 2009, p. 6). Generally, these processes can include a wide range of behavioural and cognitive adjustments (Garnefski et al., 2001). This dissertation focuses on cognitive emotion regulation strategies, which represent conscious cognitive attempts to manage emotions. Such cognitive emotion regulation

may be especially relevant when people are exposed to threatening experiences (Garnefski & Kraaij, 2006; Garnefski et al., 2001). Therefore, cognitive emotion regulation might play a significant role in dealing with contexts provoking perceived unsafety.

In line with the documented associations with mental health problems, cognitive emotion regulation strategies are classified as more or less adaptive (Garnefski et al., 2001). Examples of adaptive cognitive regulation strategies are positive refocusing, positive reappraisal, and putting into perspective. In contrast, such strategies as rumination, catastrophizing, and blaming others could be considered less adaptive (Garnefski & Kraaij, 2006; Garnefski et al., 2001).

The focus on cognitive emotion regulation as a mechanism for maintaining well-being when ageing allows us to hypothesize that adaptive cognitive emotion regulation strategies might buffer the negative effects of perceived unsafety on well-being aspects. Previous research has shown that emotion regulation continues to develop into advanced age and that older adults outperform younger people in effectively applying certain emotion regulation strategies (Carstensen et al., 2000; Etxeberria et al., 2018; Koole, 2009; Livingstone et al., 2020; Urry & Gross, 2010). Alternatively, maladaptive emotion regulation strategies could be linked to heightened perceived unsafety and would exacerbate its negative effects on well-being for older adults. Not only strengths but also vulnerabilities in emotion regulation could explain differences in well-being outcomes in older adults (Charles, 2011; Charles & Hong, 2016). Indeed, high frequencies of losses or the presence of prolonged stressors that are not within an older person's control might lead to difficulties in downregulating negative emotionality and, thus, to lower well-being (Charles, 2011). Therefore, this dissertation will investigate the potential roles of both adaptive and maladaptive cognitive emotion regulation strategies in explaining the association between perceived unsafety and well-being outcomes in advanced age.

Summary and knowledge gaps

Although the approaches to perceived unsafety discussed above developed largely independently and in parallel with one another, there are certain similarities in their explanations of perceived unsafety. First, perceived unsafety is viewed as a subjective experience that is not directly related to specific episodes of victimization, injury, or actual experienced threat. Second, perceived unsafety in advanced age could be explained by various physical, social, and environmental factors and their interrelations. Third, various vulnerability aspects specific to advanced age should be considered as explaining perceived unsafety. Fourth, the selected approaches allow us to hypothesize significant heterogeneity in perceived safety and unsafety among older adults based on documented differences in factors explaining perceived unsafety.

Integration of these theoretical approaches allows us to hypothesize the existence of the following perceived reasons of unsafety in advanced age: health limitations (compromised body; environmental docility hypothesis), fear of crime (compromised context; physical environment), inconvenient infrastructure (compromised context; physical environment), and unattractive social climate (compromised social networks; social environment). These hypothesized perceived reasons are investigated in **Study I** of this dissertation. Furthermore, the vulnerability to perceived unsafety could be explained by compromises in the central life domains (GUTS theory), deficits in the physical and social environments (environmental gerontology), and certain socio-demographic and psychological characteristics (vulnerability approach). These vulnerability aspects are investigated in **studies II and III** of this dissertation. Finally, all selected approaches consider perceived unsafety in relation to well-being aspects of an older person. Therefore, in this dissertation perceived unsafety is studied in the context of well-being indicators (**studies II and III**).

Moreover, theoretical reasoning within the socioemotional selectivity theory suggests that cognitive emotion regulation might be a factor potentially strengthening or diminishing the effects of perceived unsafety on well-being outcomes, which is especially relevant to older adults. Specifically, adaptive strategies of emotion regulation might buffer the negative effects of perceived unsafety on well-being, while maladaptive strategies might increase the strength of this relation. These propositions are investigated in **Study II** of this dissertation.

Knowledge gaps

Overall, the knowledge gaps in the current research on perceived unsafety in older adults can be summarized as follows:

1. There is limited knowledge of *various distinct reasons* for perceived unsafety, together with their interrelations and contributions to overall perceived unsafety in advanced age.
2. There is limited understanding of *heterogeneity among older adults* regarding their perceived safety and unsafety (e.g., differences in why and to what extent older adults feel unsafe), as well as regarding the interplay among vulnerability factors relevant to perceived unsafety in advanced age.
3. Although a general negative association between perceived unsafety and well-being outcomes has been established, there is limited knowledge of whether *cognitive emotion regulation* could serve as a risk or protective factor in this association.
4. Knowledge of the role of perceived unsafety in *ageing in place* and specifically among senior apartment residents is limited.

Research aims

The overarching aim of this dissertation is to investigate perceived unsafety and its associations with well-being in the context of ageing. The following specific research aims were formulated for studying perceived unsafety in residents of senior apartments in Sweden:

1. Understanding heterogeneity among older adults in their experience of perceived unsafety by:
 - a. Examining perceived reasons for unsafety and their contributions to perceived unsafety (**Study I**)
 - b. Identifying possible latent groups of older adults based on their vulnerability to perceived unsafety (**Study III**)
2. Investigating the role of socio-demographic factors in experiencing perceived unsafety (**studies I and III**)
3. Examining the associations between perceived unsafety and well-being outcomes (**studies II and III**) and the hypothesized moderating role of cognitive emotion regulation in these associations (**Study II**)

The key concepts studied in this dissertation and their interrelations are presented in Figure 2.

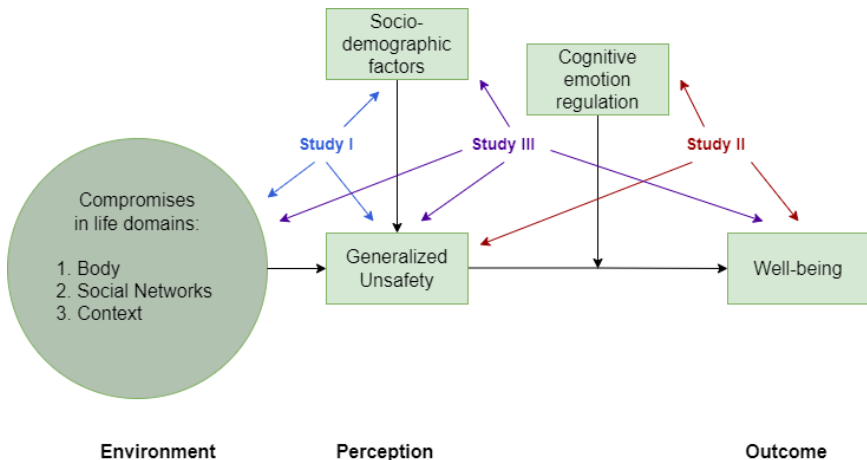


Figure 2. Perceived unsafety in the context of compromised life domains and well-being according to the GUTS (Brosschot et al., 2017; 2018). Studies addressing parts of the model are indicated in colour.

This framework is based on the GUTS (compromised life domains leading to perceived unsafety, which results in reduced well-being), the socioemotional selectivity theory (the role of emotion regulation), and the vulnerability perspective on fear of crime (socio–demographic factors). In this dissertation, the elements of these frameworks are studied in the context of ageing in place.

Study I focuses on perceived reasons for unsafety that could originate from compromises in the central life domains of an older adult, i.e., bodily fitness, social life, and overall environmental context (Brosschot et al., 2018). The study focuses on the associations between perceived reasons for unsafety and socio–demographic factors and on contribution of these distinct perceived reasons to overall perceived unsafety. **Study II** addresses the association of perceived unsafety (in its fear of crime aspect) with well-being indicators, considering the potential buffering or exacerbating role of cognitive emotion regulation in this association. **Study III** identifies subgroups of older people based on their vulnerability to perceived unsafety in the central life domains. The study further investigates whether belonging to a specific subgroup is associated with socio–demographic factors, perceived unsafety aspects, and well-being indicators.

65+ and Safe Study: Data collection and sample characteristics

The studies within this dissertation were performed using the data from the 65+ and Safe Study. This study is a cross-sectional survey study investigating feelings of unsafety experienced by older adults living in senior apartments in Örebro Municipality, as well as the role of individual and contextual factors potentially associated with feeling unsafe in late life. The research plan for the study was developed at the start of the doctoral program, followed by the application for ethical vetting (2018–2019). The study received approval from the Ethics Review Authority (Etikprövningsmyndighetens beslut 2019-05-06; dnr: 2019-02248). Data were collected during May–September 2019. The inclusion criteria specified that those who were residents of senior apartments owned by Örebro Bostäder AB (ÖBO), 65 years old or older in the year of data collection, and without severe cognitive impairment could be invited to participate in the study.

Senior apartments, or *seniorbostäder*, are a specific form of housing reserved for individuals who have reached a certain age (SOU, 2008). Across the country, the minimum age of application for a senior apartment varies between 55 and 65 years. Residing in a senior apartment can mean either renting an apartment from a housing company or owning an apartment within a cooperative (Motevasel, 2006). The main features of such housing include increased physical accessibility and safety adapted to the needs of older people, and opportunities for socializing among the residents (SOU, 2008).

As a housing alternative, senior apartments became available in Sweden in the late 1980s and developed rapidly during the 2000s. This development paralleled the decrease in places available in special care settings and the promotion of the ‘ageing within a community’ trend. Thus, senior apartments became an important alternative to both living in ordinary dwellings, not adapted for age, and living in special care facilities (i.e., nursing homes) (Lindahl et al., 2017). Generally, senior apartments in Sweden are designated for relatively autonomous individuals who do not require substantial daily care. In other words, such apartments mostly host older people in their ‘third age’ (i.e., the young-old – relatively healthy and active individuals), to a lesser extent those in their ‘fourth’ age

(i.e., the old-old – those experiencing decline in multiple domains), and are not oriented to those in the ‘fifth age’ (i.e., the terminal stage of life) (Diehl & Wahl, 2020; SOU, 2008)

Senior apartments owned by ÖBO are rental apartments located in various parts of Örebro Municipality including different urban and rural neighbourhoods. Apartments vary in their size and rental cost to residents. Most apartment buildings have adapted infrastructure such as an elevator or automatic door openers. Additionally, residents have an opportunity to apply for assistance with daily tasks, for instance, grocery shopping, cleaning, and meal preparation. The minimal age for application for senior apartments with ÖBO is 65 years (ÖBO, 2022). This age was set as a lower limit for inclusion in the 65+ and Safe Study.

While data on age and residing in a senior apartment were available to the research team, direct assessment of the cognitive status of prospective participants was not feasible. Generally, because senior housing does not offer care for individuals with severe cognitive impairments, it was considered unlikely that someone with such an impairment would reside in a senior apartment. However, to exclude answers from those who might be in a transition to a care facility or those cared for by partners, the information letter to the participants explicitly asked older adults with a severe cognitive impairment to refrain from completing the questionnaire.

The target sample for the study was formed according to two sources: the list of senior apartment addresses obtained from ÖBO, which was complemented with data on senior apartment residents provided by the regional office of the Swedish Tax Agency (Skatteverket). According to these data, 1299 residents potentially fulfilled the inclusion criteria. However, when excluding those residents recently deceased or moved, the final target sample was corrected to 1256 prospective participants.

Postcards announcing the 65+ and Safe Study were sent out inviting older adults to participate. Furthermore, paper questionnaires were sent by post along with the information letter containing the detailed description of the study and the research group contacts. The information letter also included instructions for completing the web version of the questionnaire as an alternative to the paper one. These letters were followed by reminder phone calls made within the following two weeks. The first reminder letter was sent to non-responders within four weeks,

and the second reminder letter containing another paper copy of the questionnaire was sent after 11 weeks. The second reminder letter was followed by reminder phone calls. Finally, a postcard was sent to those who had not indicated a response to the questionnaire and could not be contacted by phone.

The final sample of the 65+ and Safe Study comprises 622 responses. All these responders provided written informed consent to participate in the study. The majority of the responders completed a paper questionnaire, while considerably fewer participants responded online (see Table 1). Two respondents provided identical responses via web and on paper; for practical reasons, only their web responses were included. Reasons for not participating that are known to the research team are summarized in Table 1.

Table 1. Distribution of the type of response and characteristics of the non-responders in the target sample of 1256 participants.

Responders	622	Non-responders	634
Replied by post	587	No response received	318
Replied online	35	Declined participation (reason not indicated)	208
		Did not provide consent	42
		Declined participation while indicating a reason:	
		Questions' content	18
		Not speaking Swedish	15
		Being too ill or tired	10
		'Cannot participate'	9
		Vision problems	8
		Being 'too old'	4
		Incorrectly filled in	2

The response rate in the study corresponded to 49.5%. Although this response rate is lower than the generally recommended 65% response rate for postal questionnaires (Kelley et al., 2003), in general, lower response rates are not considered direct indications of the lower validity of studies

(Morton et al., 2012). Moreover, our response rate is within the range of previously reported response rates for postal surveys of older adults in Sweden (e.g., Jakobsson, 2005; Lindwall et al., 2017).

Nevertheless, the risk of non-response bias should be considered as potentially affecting the sample. To assess potential differences between responders and non-responders, available data for these two groups were compared in terms of age and gender. Analysis did not reveal any significant gender differences between responders and non-responders ($\chi^2(2, N = 1237) = 1.17, p = .56$). However, the non-responders were on average older ($M = 79.09, SD = 8.12$) than the responders ($M = 77.6, SD = 7.22$) ($t(1220) = -3.41, p = .001$). Although this age difference is statistically significant, the mean difference constitutes 1.5 years, which is considered a relatively small difference given the age range of the sample (i.e., 64–106 years). Therefore, possible non-response bias based on gender and age was considered as not significantly affecting the sample.

Statistical comparisons of other socio-demographic and questionnaire variables were not feasible due to the absence of data for non-responders. Due to ethical considerations, such data were not feasible to obtain. Therefore, it cannot be excluded that certain groups of older adults might be underrepresented in the sample. Analysing the reasons for not participating in the study indicated by residents¹ suggests that older adults lacking sufficient Swedish or English language skills to complete the questionnaire were likely not represented in the sample due to the unavailability of the questionnaire in other languages. Furthermore, residents with worse health could be underrepresented as they refrained from participation due to feeling too ill, tired, or old, or because of vision problems. Additionally, the questionnaire content itself could be a reason for non-participation. The questionnaire was said by some older people to be, for instance, ‘too long’, ‘too personal’, or ‘not relevant’ (Table 1). A speculative reflection on this subgroup of non-participants suggests that both more and less vulnerable older adults in terms of feeling unsafe might have refrained from participating due to the content of the questions. Therefore, these possible limitations regarding the sample representativeness are acknowledged.

¹ Some of the residents mentioned their reason for not participating in the study when returning a blank questionnaire to the research team or when contacted via a reminder call.

The general sample characteristics are presented in Table 2. The respondents indicated different reasons for moving into a senior apartment, with 19.9% referring to health reasons, 11.9% to economic reasons, 32.6% to practical reasons, 17.7% to family or social reasons, 11.6% to loss of a spouse, and 21.7% to other reasons. Among other mentioned reasons for moving were a desire to live in a senior apartment with specific features (e.g., an elevator) (4.1% of the total sample), a desirable location of the apartment building (3.1%), problems in a previous place of residence (1.6%), meeting a new partner (1.2%), separation from a previous partner (1.2%), and safety reasons (0.8%). Thus, only 2.4% of the sample explicitly mentioned safety or problems in the previous place of residence as a motive for moving into the senior apartment. At the same time, the diversity of reasons for relocation could indirectly indicate heterogeneity in the health status, functioning, and lifestyle of older people in our sample. Furthermore, only 6.2% indicated that they planned to move from their current senior apartment.

Table 2. Sample characteristics for the 65+ and Safe Study.

Variable	N (%) or M (SD)	Range
Age	77.6 (7.22)	64–106
Gender		
Male	245 (39.4%)	
Female	377 (60.6%)	
Education		
High school diploma or lower	413 (68.5%)	
Above high school	190 (31.5%)	
Family status		
Married	228 (36.7%)	
Living with a partner ('sambo')	48 (7.7%)	
Living separately with a partner	15 (2.4%)	
Divorced	98 (15.8%)	
Single	60 (9.6%)	
Widowed	164 (26.4%)	
Able to get a hold of 15 000 SEK in one week?		
Yes	509 (85%)	

No	90 (15%)	
Years lived in current neighbourhood	10.22 (11.69)	0–70
Going outside of the apartment		
Less than once per week	10 (1.6%)	
Once or twice per week	24 (3.9%)	
Three to four times per week	64 (10.3%)	
Every day	512 (82.3%)	
Receive assistance with daily tasks at home		
Yes	146 (23.5%)	
No	467 (75.1%)	
Had been a victim of crime within the last year		
Yes	30 (4.9%)	
No	577 (95.1%)	

Summary of the studies

Study I. Perceived reasons of unsafety among independently living older adults in Sweden

Background and aims

Given its broad scope in the view on perceived unsafety, GUTS theory (Brosschot et al., 2017, 2018) was the central explanatory theory used in the first study. It was hypothesized that several perceived reasons² of feeling unsafe could be uniquely associated with perceived unsafety in advanced age. Health limitations, fear of crime, unattractive social climate, and infrastructure inconveniences were outlined as perceived reasons of unsafety that corresponded to the compromised life domains of body, social networks, and context. Additionally, following the reasoning of the vulnerability perspective on perceived unsafety (Henson & Reyns, 2015; Killias, 1990), the following individual vulnerability factors were included in the study: age, gender, education, living alone, financial status, years lived in the neighbourhood, and mobility outside the apartment. These factors are referred to as socio-demographic factors in this study.

First, the study explored the associations between the socio-demographic factors, perceived unsafety, and specific reasons for perceived unsafety. Furthermore, the study examined the independent contributions of the perceived reasons for unsafety (i.e., health limitations, fear of crime, unattractive social climate, and inconvenient infrastructure) to unsafety experienced by the respondents in their neighbourhoods and at home.

Measures

Perceived unsafety in the neighbourhood was measured with the question ‘During the last year, did you ever feel unsafe in the area where you live?’. *Perceived unsafety at home* was measured with the question ‘During the last year, did you ever feel unsafe in the apartment in which you live?’. Each of these items was followed by response options ‘Never’, ‘Very rarely’, ‘Quite rarely’, ‘Quite often’, and ‘Very often’.

² In this study, ‘reason’ is used as reflecting respondents’ self-reports and not in the sense of implying statistical causality.

In the absence of agreement between researchers on a uniform assessment of feelings of unsafety (De Donder et al., 2015; Etopio & Berthelot, 2022), the following considerations guided the choice of measurement of perceived unsafety. Considering previously shown differences between feelings of unsafety in the neighbourhood and at home (Allik & Kearns, 2017), these were assessed separately in the study. The questions addressed perceived unsafety in its broad sense without reference to specific factors of unsafety (e.g., criminal threat and non-age-friendly environment). The time reference to the previous year was included in the questions to capture the relatively recent experience of respondents (vs. all previous years of life) while avoiding a situational focus when responding (e.g., on events happening in the last week). Finally, the question about the neighbourhood avoided referring to being in the area alone and at night, which may not be relevant to older people (De Donder et al., 2015).

Perceived reasons of unsafety were rated with the following item: ‘Please indicate to what extent the following factors make you feel unsafe in your neighbourhood/in your apartment’, followed by list: *Fear of crime*, *Health limitations*, *Infrastructure*, and *Social climate* (for neighbourhood only) as factors of unsafety. Each of the factors was illustrated with an example relevant to older adults’ everyday life. Respondents rated each of these reasons using one of the following response options: ‘not at all’, ‘to a minor extent’, ‘to some extent’, or ‘to a great extent’.

Socio-demographic factors comprised age, gender, education, living alone, financial status, years lived in the neighbourhood, and mobility outside the apartment. *Age* was assessed as a continuous variable (years). *Gender* was coded as being male or female. *Education* responses were dichotomized into having a high school diploma or lower, or having education above high school. *Living alone* was coded as ‘yes’ (living alone) or ‘no’ (living with someone). *Financial status* was measured with the question ‘If you were suddenly in a situation in which you had to get a hold of 15000 SEK, would you manage to do so?’, with responses coded as ‘yes’ or ‘no’. *Years lived in the neighbourhood* was assessed as a continuous variable (years). *Mobility outside the apartment* was measured with a single item ‘How often do you usually go out of your apartment?’, with response options ‘less than once a week’, ‘once or twice a week’, ‘3-4 times a week’, and ‘every day’.

Analytic strategy

Descriptive analysis of the variables revealed that the distribution of responses for both variables measuring perceived unsafety in the neighbourhood and at home deviated substantially from the normal distribution. Considering this, new dichotomized variables were created with the responses ‘never’ and ‘very rarely’ considered as feeling safe, and the responses ‘quite rarely’, ‘quite often’, and ‘very often’ considered as feeling unsafe. Such a distribution of the responses into the new binary variable was done according to the content of the response alternatives and statistical power considerations.

Non-parametric statistics were used in this study. Spearman’s correlation was performed to estimate the associations among the socio-demographic factors, perceived unsafety in the neighbourhood and at home, and perceived reasons of unsafety. Next, binary logistic regression analyses were performed to estimate the contribution of perceived reasons of unsafety to perceived unsafety, while controlling for socio-demographic variables. Two separate models were estimated with perceived unsafety in the neighbourhood and at home entered as dependent variables. IBM SPSS Statistics 25 software was used to perform the analyses.

Results

Descriptive statistics indicated that 81.5% of the respondents felt safe in their neighbourhoods and 89.7% felt safe in their apartments (i.e., never or very rarely felt unsafe).

Spearman’s correlation analysis revealed a positive correlation between perceived unsafety in the neighbourhood and years lived in the neighbourhood. However, there were no statistically significant correlations between perceived unsafety in the neighbourhood and age, gender, education, living alone, financial status, or mobility outside of apartment. Perceived unsafety at home was not correlated to any of the socio-demographic factors included in the study. However, perceived reasons of unsafety – i.e., health limitations, fear of crime, inconvenient infrastructure, and social climate in the neighbourhood – were differentially correlated with the socio-demographic variables included in the study.

Binary logistic regression analysis established associations between perceived reasons of unsafety and perceived unsafety in the neighbourhood and at home. The first model (Omnibus test = $\chi^2(11) = 170.98$, $p < 0.001$; Cox & Snell $R^2 = 0.29$, Nagelkerke $R^2 = 0.50$) revealed

significant associations of fear of crime (OR = 5.71, $p < 0.001$, 95% CI [3.81–8.55]) and unattractive social climate (OR = 3.48, $p < 0.001$, 95% CI [2.10–5.75]) with perceived unsafety in the neighbourhood. The second model (Omnibus test = $\chi^2(10) = 113.63$, $p < 0.001$; Cox & Snell $R^2 = 0.20$, Nagelkerke $R^2 = 0.48$) revealed significant associations of fear of crime (OR = 6.64, $p < 0.001$, 95% CI [4.03–10.93]) and inconvenient infrastructure (OR = 4.94, $p < 0.001$, 95% CI [2.42–10.06]) with perceived unsafety at home.

Discussion and conclusions

Overall, the study results showed that socio-demographic factors were largely unrelated to perceived unsafety. This was in contrast with the hypothesis based on the vulnerability approach to explaining perceived unsafety. Furthermore, the study demonstrated that fear of becoming a victim of crime, perceiving the social climate in the neighbourhood as unattractive, and inconvenient infrastructure at home were independently associated with perceived unsafety. In line with the generalized unsafety theory of stress (Brosschot et al., 2018), these findings suggest the implicit role of compromises in the important life domains, compromises manifested in the presence of several unique reasons for feeling unsafe. To conclude, the study findings suggest the importance of viewing perceived unsafety as a multifaceted concept and of addressing various perceived reasons of unsafety separately in future research.

Study II. Affective fear of crime and its association with depressive feelings and life satisfaction in advanced age: Cognitive emotion regulation as a moderator?

Background and aims

According to the results of **Study I**, fear of crime emerged as a consistent and independent contributor to perceived unsafety both in the neighbourhood and at home in our sample. The latest national report on unsafety among older adults in Sweden showed that substantial numbers of older men and women report fear of specific crimes (BRÅ, 2020). Therefore, the fear of crime aspect of perceived unsafety was chosen as the focus of **Study II**.

Previous research has documented that fear of crime has serious negative effects on mental health (Collins & Marrone, 2015; Olofsson et al., 2012) and is associated with lower life satisfaction (Adams & Serpe,

2000; Hanslmaier, 2013). In this study, these associations were further addressed while considering both depressive feelings and life satisfaction as relevant well-being outcomes. Furthermore, in line with the socioemotional selectivity theory (SST) (Carstensen et al., 1999), it was hypothesized that cognitive emotion regulation strategies could buffer or exacerbate this association. The study examined whether adaptive and maladaptive emotion regulation strategies were differentially associated with fear of crime. The study also investigated the moderating role of these cognitive emotion regulation strategies in the associations of fear of crime with depressive feelings and life satisfaction, respectively.

Measures

While acknowledging the existence of various fear of crime aspects and corresponding measures of fear of crime (e.g., affective, cognitive, and behavioural aspects – Greve (1998); Greve et al. (2018); Kappes et al. (2013); Rühls et al. (2017); frequency and intensity of fear of crime – e.g., Gray et al. (2010)), this study focused on the *affective aspect of fear of crime*, operationalized as frequency of worry about specific types of crime. Although fear and worry are conceptually differentiated in psychological research (Barlow, 2002), recent qualitative research on the meanings of fear of crime has revealed that study participants do not emphasize differences between fear and worry in the context of crime, but rather use these words interchangeably (Etopio & Berthelot, 2022). Therefore, the terms ‘affective fear of crime’ (to be consistent with the classification developed within criminology) and ‘worry about crime’ were used as synonymous in this study.

Affective fear of crime was measured with an index consisting of six items each capturing worry about a specific type of crime (e.g., ‘Has it happened in the past year that you have been worried about being attacked or assaulted?’). The questions inquired about the fear of break-in, fear of being attacked or assaulted, fear of being robbed, fear of rape or sexual assault, and fear of crime that could be committed by others having access to the apartment. Respondents rated each item with a response option ranging from ‘Never’ (1) to ‘Very often’ (5). The index was computed based on the mean score across all six items and showed good reliability, with a Cronbach’s alpha of 0.80.

Life satisfaction was measured with the Satisfaction With Life Scale (SWLS, Diener et al., 1985). The scale comprises five items rated on a seven-point scale ranging from ‘Strongly agree’ to ‘Strongly disagree’ (e.g.,

‘In most ways, my life is close to my ideal’). The life satisfaction scale was computed based on the mean score of the five items. The scale showed very good reliability in our sample, with a Cronbach’s alpha of 0.88.

Depressive feelings were measured with the Hospital Anxiety and Depression Scale, using the subscale for depression (HADS-D, Zigmond & Snaith, 1983). The subscale comprised seven items, each responded to on a four-point scale ranging from 0 to 3 (e.g., ‘I feel as if I am slowed down’). The depressive feelings scale was computed based on the mean score of at least six of the total seven items. The scale showed good reliability, with a Cronbach’s alpha of 0.74.

Cognitive emotion regulation strategies were measured with the Cognitive Emotion Regulation Questionnaire, short version (CERQ-short; Garnefski & Kraaij, 2006). CERQ-short consists of nine subscales: self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others. Every subscale consists of two items that are responded to on a five-point scale ranging from ‘Almost never’ (1) to ‘Almost always’ (5). Refocusing on the planning and positive reappraisal subscales did not confirm their expected factor structure in our sample, so they were not included in the analyses. The reliability (Cronbach’s alpha) of the seven subscales addressed in the study was as follows: 0.69 for catastrophizing, 0.70 for blaming others, 0.59 for rumination, 0.59 for self-blame, 0.76 for acceptance, 0.67 for positive refocusing, and 0.65 for putting into perspective. Each subscale was computed based on the mean score of the corresponding subscale items.

Moreover, *age* (assessed continuously in years) and *gender* (coded as male or female) were included as control covariates in the study.

Analytic strategy

Zero-order Pearson’s correlations and partial correlations controlling for age and gender were computed to establish the associations among fear of crime, depressive feelings, life satisfaction, and the cognitive emotion regulation strategies. Multiple regression analyses were performed to assess the moderation effect of each cognitive emotion regulation strategy.

Separate multiple regression models were estimated with fear of crime as a predictor, depressive feelings and life satisfaction as outcomes, and each of the seven cognitive emotion regulation strategies as moderators (in total, fourteen models: seven with depressive feelings and seven with life satisfaction as the respective outcomes). Each of the models included age

and gender as control variables. Multicollinearity diagnostics were performed for each model and did not reveal any multicollinearity problems. Analyses were performed in IBM SPSS 27, and PROCESS v3.5 was used to plot significant interactions.

Results

As expected, fear of crime was positively correlated with depressive feelings ($r = 0.246, p < 0.01$) and negatively correlated with life satisfaction ($r = -0.277, p < 0.01$). Also, in line with our prediction, fear of crime was positively correlated with rumination ($r = 0.101, p < 0.05$), blaming others ($r = 0.099, p < 0.05$), and catastrophizing ($r = 0.255, p < 0.01$), i.e., maladaptive cognitive emotion regulation strategies. However, contrary to our expectation, none of the adaptive strategies or self-blame was correlated with fear of crime.

A somewhat unexpected finding was that there was no moderation effect of any of the cognitive emotion regulation strategies on the association between fear of crime and depressive feelings. In the models with life satisfaction as outcome, self-blame ($\beta = -0.092, p = 0.034$) and rumination ($\beta = -0.090, p = 0.038$) moderated the association between fear of crime and life satisfaction (Figures 3 and 4). There was no moderation effect of blaming others, catastrophizing, acceptance, positive refocus, and putting into perspective.

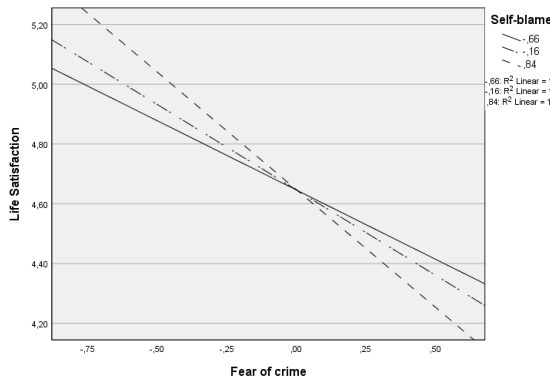


Figure 3. Moderating effect of self-blame on the association between fear of crime and life satisfaction.

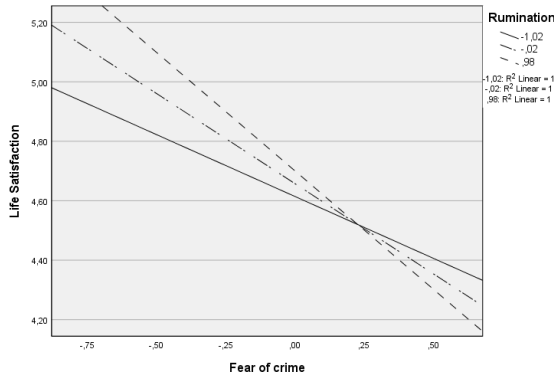


Figure 4. Moderating effect of rumination on the association between fear of crime and life satisfaction.

Discussion and conclusions

Consistent with previous research, this study showed the links of fear of crime with depressive feelings and life satisfaction in late life. The study demonstrated associations between fear of crime and such maladaptive cognitive emotion regulation strategies as rumination, blaming others, and catastrophizing. Moreover, a moderation effect of rumination and self-blame on the association between fear of crime and life satisfaction was observed. These findings contribute to the growing line of research on possible psychological vulnerability factors in the fear-of-crime experience.

Contrary to our expectation, the results showed that adaptive cognitive emotion regulation strategies were unrelated to fear of crime, nor did they moderate the association of fear of crime with well-being outcomes. Therefore, based on these findings, adaptive cognitive emotion regulation strategies cannot be regarded as a protective factor for fear of crime and its impact on the well-being of older adults. Overall, the findings allow us to conclude that maladaptive cognitive emotion regulation is a relevant vulnerability factor in relation to fear of crime.

Study III. Older and feeling unsafe? Differences in underlying vulnerability, anxiety, and life satisfaction among older adults

Background and aims

While multiple factors affecting vulnerability to perceived unsafety in advanced age have been identified, the research on various *configurations of such factors* is limited. This study addressed configurations of vulnerability factors among older adults with the theoretical guidance of the generalized unsafety theory of stress (Brosschot et al., 2018). Namely, the compromised body, social networks, and context domains were chosen as starting points for identifying the factors influencing vulnerability to perceived unsafety.

In contrast with **studies I and II** of this dissertation, which applied the variable-oriented approach, this study applied the person-oriented approach to studying perceived unsafety. Generally, the person-oriented approach classifies individuals into meaningful subgroups based on configurations of characteristics presented by them (Asendorpf, 2002; Bergman et al., 2003). This is relevant because of the hypothesized heterogeneity among older adults in terms of their perceived unsafety. This study aimed to identify latent subgroups of older people according to their profiles of vulnerability to perceived unsafety. Latent profile analysis (LPA) as a data-driven, person-oriented research method was applied in the study (Ferguson et al., 2019). Furthermore, the associations of the latent profiles with socio-demographic factors, perceived unsafety in the neighbourhood and at home, fear of crime, anxiety, and life satisfaction were explored.

Measures

Frailty was assessed with the Groningen Frailty Indicator (GFI; Steverink et al., 2001). GFI is a multidimensional measure that addresses physical, cognitive, social, and psychosocial aspects of frailty. The instrument comprises 15 items. The recommended scale scoring was used to assign scores to each of the items (Schuurmans et al., 2004). The mean scale score was computed based on at least nine valid answers to create the frailty variable. The scale showed good reliability (Kuder-Richardson [KR] 20 = 0.70).

Fear of falling was measured with a single item, suggesting that respondents rate how afraid they are of experiencing a fall accident, with

response options ranging from 0 ('Not afraid at all') to 10 ('Very much afraid').

Social support was assessed with the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). The scale has three subscales measuring perceived social support from the significant other, family, and friends. Each subscale comprises four items rated on a seven-point Likert scale ranging from 'Very strongly disagree' (1) to 'Very strongly agree' (7). The Significant other, Family, and Friends subscales were used as independent variables in this study. The subscale scores were created based on the means of at least three valid answers for each subscale. The reliability of each of the subscales was very good, with Cronbach's alphas of 0.92 (Significant other), 0.93 (Family), and 0.93 (Friends).

Neighbourhood problems were measured by six items inquiring about the degree of presence of the following in respondents' neighbourhoods: (a) litter, (b) vandalism, (c) graffiti, (d) reckless driving with motorbikes or other vehicles, (e) individuals or gangs who cause trouble or disturbances, and (f) open drug trafficking. Each of these neighbourhood problems was rated, with response options ranging from 'Not at all' (1) to 'To a great extent' (4). The neighbourhood problems index was created based on valid responses to at least four items. The reliability of the scale was very good (Cronbach's alpha = 0.91).

Trust in other people in the neighbourhood was measured with the single item 'How much do you trust people in your neighbourhood?', with the response alternatives ranging from 'Not at all' (1) to 'To a great extent' (4).

Socio-demographic variables. Age was assessed continuously, in years. Gender was coded as '0' = Male and '1' = Female. Responses on education were converted into two categories with '1' = High school degree or lower, and '2' = Education above high school. Family status was converted into '1' – With partner (married, partnered – living together or separately), and '2' – Without partner (single, divorced, or widowed). Financial situation was measured with a 'yes' or 'no' answer to a question about whether the responder could be able to get a hold of 15 000 SEK in one week in case of necessity. Previous victimization was coded as 'yes' or 'no' on whether the responder had been a victim of crime in the past year.

Perceived unsafety in the neighbourhood and at home was assessed with two single items: 'During the last year, did you ever feel unsafe in the area where you live?' and 'During the last year, did you ever feel unsafe in

the apartment in which you live?'. Response alternatives for both items ranged from 'Never' (1) to 'Very often' (5). These items were included as separate variables in the study.

Fear of crime (affective aspect) was measured with a six-item index in which questions captured worry about specific types of crime (e.g., 'Has it happened in the past year that you have been worried that you will be attacked or assaulted?'). The types of crime were: break-in (burglary), attack or assault, robbery, rape or sexual assault, crime committed by individuals having access to the respondent's apartment (e.g., those delivering service or assistance at home), and worry that a close person might be victimized. Each question was responded to with alternatives ranging from 'Never' (1) to 'Very often' (5). The index variable was created based on a mean score of at least four valid responses. The index had very good reliability (Cronbach's alpha = 0.80).

Anxiety was measured with the anxiety subscale of the Hospital Anxiety and Depression Scale (HADS-A; Zigmond & Snaith, 1983). The subscale comprised seven items each rated on a four-point Likert scale ranging from 0 to 3 (e.g., 'Worrying thoughts go through my mind'). The Anxiety scale was created based on the mean score of at least five valid responses (Cronbach's alpha = 0.85).

Life satisfaction was measured with the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The scale comprises five items rated on a seven-point scale ranging from 'Strongly agree' to 'Strongly disagree' (e.g., 'In most ways, my life is close to my ideal'). The scale variable was created based on the mean score of at least three valid responses. The scale showed very good reliability in our sample, with a Cronbach's alpha of 0.88.

Analytic strategy

First, the LPA was performed to identify the model with the number of profiles that fitted the data optimally. The latent profiles were estimated based on the following indicator variables: frailty, fear of falling, social support from the significant other, social support from family, social support from friends, neighbourhood problems, and trust in others in the neighbourhood. Second, it was estimated whether profile membership is predicted by socio-demographic variables by running a multinomial logistic regression with profile as the outcome variable and socio-demographic variables as independent variables. Third, the study investigated whether profile membership predicted perceived unsafety in

the neighbourhood and at home, fear of crime, life satisfaction, and anxiety via a series of Kruskal–Wallis H tests with profile membership serving as an independent variable. In steps two and three of the analysis, the statistical significance of the results was determined using the Bonferroni-corrected alpha cut-offs of the p -value. Steps one and two of the analyses were performed in Mplus Version 8.4 (Muthén & Muthén, 1998-2017) and step three was performed in IBM SPSS 27.

Results

The model with three profiles was selected as optimally fitting the data and providing good interpretability. Consistent with the terminology of the GUTS theory, the profiles were labelled as: 1) Compromised body and social networks ($n = 45$, 7.2%), 2) Compromised context ($n = 111$, 17.9%), and 3) Non-vulnerable ($n = 465$, 74.9%). Figure 5 presents the z -scores of each indicator item for the three profiles.

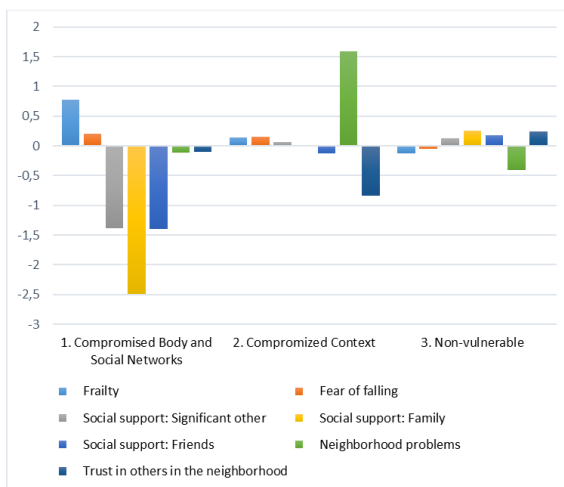


Figure 5. Means of indicator variables corresponding to each of the three profiles (z -scores).

Furthermore, results of the multinomial logistic regression indicated that: a) men were more likely to be included in the Compromised body and social networks profile than the Non-vulnerable ($B = -1.43$, $OR = 0.24$, 95% CI 0.13–0.46, $p < 0.001$) or Compromised context ($B = -1.56$, $OR = 0.21$, 95% CI 0.10–0.43, $p < 0.001$) profiles; b) respondents

without a partner were more likely to be included in the Compromised body and social networks profile than the Non-vulnerable profile ($B = -1.53$, $OR = 0.22$, $95\% CI 0.11-0.44$, $p < 0.001$); and c) younger respondents were more likely to be in the Compromised context profile than the Non-vulnerable profile ($B = -0.09$, $OR = 0.91$, $95\% CI 0.89-0.94$, $p < 0.001$).

Finally, Kruskal–Wallis H tests and post hoc pairwise comparisons indicated significantly more perceived unsafety in the neighbourhood, at home, and fear of crime in the Compromised context profile than the Non-vulnerable profile. Moreover, those in the Compromised context profile displayed significantly more fear of crime than did those in the Compromised body and social networks profile, and significantly more anxiety than did those in the Non-vulnerable profile. The results also indicated significant differences in life satisfaction among all profiles, with the highest being in the Non-vulnerable profile and the lowest in the Compromised body and social networks profile.

Discussion and conclusions

This study identified several profiles of vulnerability to perceived unsafety, which could be further differentiated in terms of age, gender, family status, perceived unsafety, and well-being indicators. The study findings suggest the existence of distinct subgroups of older people with differing configurations of compromises in health, social networks, and overall context. Thus, the study further advanced our understanding of the heterogeneity of the underlying vulnerability to perceived unsafety among older adults. Remarkably, almost three quarters of respondents were considered non-vulnerable in terms of possible compromises in central life domains, challenging the proposition that older age could be considered a factor of vulnerability to perceived unsafety.

GENERAL DISCUSSION

This dissertation addressed the overarching research aim by investigating perceived unsafety and its associations with well-being in the context of ageing. Drawing on previous knowledge and research findings accumulated within psychology, gerontology, and criminology, this dissertation addressed specific research aims in three presented studies. Specifically, this dissertation studied the heterogeneity of perceived unsafety in advanced age, the role of socio-demographic factors, associations of perceived unsafety with well-being outcomes, and the moderating role of cognitive emotion regulation in these associations in the sample of residents of senior apartments in Örebro Municipality, Sweden.

Heterogeneity of perceived unsafety

Overall, by showing that 81% of respondents felt predominantly safe in their neighbourhood and 89% predominantly safe at home (**Study I**), and that almost 75% were considered non-vulnerable to perceived unsafety (**Study III**), the present results challenge the theoretical assumption of homogeneity of older adults as being predisposed to feeling unsafe. Rather, our findings contribute to the body of research raising awareness of differences *among* older adults in their experience of unsafety (Hanslmaier et al., 2018; Rypi, 2012; Velasquez et al., 2021; Won et al., 2016).

While aiming to understand the differences among older adults in terms of perceived unsafety further, it was hypothesized that various perceived reasons of unsafety could make independent contribution to perceived unsafety among older adults. **Study I** of this dissertation investigated whether such perceived reasons corresponding to the compromised life domains were uniquely associated with perceived unsafety in the neighbourhood and at home. The findings revealed that fear of crime, unattractive social climate in the neighbourhood, and infrastructure problems at home independently and uniquely contributed to feeling unsafe. Thus, the study clearly demonstrated that perceived unsafety cannot be attributed to only one threatening factor (e.g., crime), but rather could originate from various compromises in multiple life domains (Brosschot et al., 2018). Therefore, the combined efforts of various disciplines – i.e., psychology, gerontology, health sciences, criminology –

could be beneficial in advancing our understanding of perceived unsafety in late life.

A somewhat unexpected finding of this study was that health limitations did not emerge as an independent factor of perceived unsafety, while deficits in infrastructure were uniquely related to feeling unsafe at home. From the person–environment fit perspective, personal characteristics and environmental demands should be considered in interaction and not as separate factors (Iwarsson, 2005; Iwarsson et al., 2009). As such, health limitations could be considered as closely interrelated with the environmental context and demands. In other words, older adults with functional limitations can continue living safely in independent housing units *if* home infrastructure is adapted to their needs, or unadapted homes might become a source of unsafety *if* a resident experiences health or functional limitations.

In relation to perceived safety, such interaction between people and their environment was recently observed in a study in which the state of sidewalks was associated with perceived unsafety *only* among older adults who reported having limitations in their daily functioning (Velasquez et al., 2021). Consequently, the person–environment fit perspective could be considered in future research in which questions concerning perceived reasons could be posed while considering the person–environment interaction. Theoretically, this could imply that the compromised body and compromised context life domains articulated by the generalized unsafety theory of stress (Brosschot et al., 2017, 2018) should be viewed as interrelated and that interaction between these domains in advanced age should be further clarified.

In a broader sense, the conclusion about multiple perceived reasons of unsafety corresponds to the reasoning of the symbolic paradigm in explaining perceived unsafety (De Donder et al., 2009; Elchardus et al., 2008). The symbolic paradigm suggests that feelings of unsafety originate from various kinds of vulnerabilities, which can include diminished health, financial limitations, future anxieties, etc. (Elchardus et al., 2008). Indeed, it was previously shown that financial concerns, anxiety about one's health status, and perceived social exclusion contribute to feeling unsafe in the general adult population (Valente & Valera Pertegas, 2018; Valente et al., 2018). In advanced age, certain fears and concerns become more central than in younger adulthood, including fear of falling, fear of dementia, fear of one's own death or the death of a loved one, fear of losing autonomy and independence, and other existential fears (Kuin &

Spaans, 2017). Therefore, future research might continue exploring the heterogeneity of the origins of perceived unsafety by broadening the range of possible subdomains especially relevant to older adults.

Furthermore, a person-oriented approach was applied to investigate the existence of possible latent subgroups of older adults based on their vulnerability originating from compromises in central life domains. The findings of **Study III** demonstrated the presence of such latent groups in our sample and allowed us to further differentiate these subgroups in terms of gender, age, family status, aspects of perceived unsafety, and well-being outcomes.

The study observed the presence of three profiles, one of which was characterized by low overall vulnerability, while the other two exhibited two distinct patterns of vulnerability in the compromised body, social networks, and context life domains. Interestingly, only respondents in the Compromised context profile scored significantly higher in all aspects of perceived unsafety than did those in the Non-vulnerable profile. Perhaps measures of perceived unsafety applied in the study correspond to a more explicit manifestation of perceived unsafety and do not capture perceived unsafety in its ontological insecurity sense (Giddens, 1991; Valente & Valera Pertegas, 2018), which might better characterize the compromised body and social networks profile.

The patterns of vulnerability described by **Study III** might pose further questions about whether cumulative vulnerability could be taken into account when explaining perceived unsafety and well-being outcomes. In our study, respondents classified into the profile with simultaneous compromises in two life domains reported the lowest life satisfaction compared with other profiles. Although this study's findings alone are insufficient to conclude that multiple compromises result in more severe well-being deficits in older adults, this hypothesis could be explored in further research.

The role of socio–demographic factors

The studies also explored the role of socio–demographic factors in the context of perceived unsafety. **Studies I and III** addressed research questions related to the role of socio–demographic factors in perceived unsafety. Here, the findings related to age, gender, education and financial status, and family status (living alone) will be discussed.

Age

Although age has been studied as a vulnerability factor in relation to perceived unsafety, most such research has focused on various aspects of fear of crime, and has compared older adults to younger adults (e.g., Fisher et al., 2004; Greve et al., 2018; Kappes et al., 2013; Ziegler & Mitchell, 2003). However, possible age differences in perceived unsafety *within* late adulthood, which can span 30–40 years, have been largely overlooked. Therefore, Study I of this dissertation considered the associations of age with perceived unsafety in the neighbourhood and at home and with possible perceived reasons of unsafety.

Interestingly, age did not emerge as a factor associated with perceived unsafety in the neighbourhood or at home in our study. However, older respondents more frequently admitted that their own health limitations made them feel unsafe both outdoors and indoors than did younger responders. This might indicate the importance of possible health problems in explaining perceived unsafety as, for instance, frailty status has been shown to have more explanatory power than does chronological age (Schuermans et al., 2004).

At the same time, older respondents rated social climate as less relevant to their feelings of unsafety. This result is in line with the findings of Köber et al. (2020), who showed that the role of neighbourhood in perceived unsafety decreases in very advanced age. Similarly, the findings of **Study III** showed that younger respondents in our sample were more likely to experience compromises in their neighbourhoods that were associated with a higher frequency of fear of crime. Taken together, these findings might indicate that, with increasing age within older adulthood, perceived unsafety due to health limitations might increase, whereas fear of crime and the overall effect of neighbourhood on perceived unsafety might decrease. These findings are also in line with the ‘age-as-leveller’ hypothesis, which states that contextual factors might play a less important role for older adults with increasing age (Orsholits et al., 2022). However, very advanced age has not been sufficiently studied in relation to perceived unsafety (Köber et al., 2020), and more research is needed to corroborate these results.

Gender

Gender was not associated with perceived unsafety in the neighbourhood or at home, but women more frequently reported that health limitations and fear of crime in the neighbourhood made them feel unsafe than did

men (**Study I**). In late life specifically, differences in vulnerability aspects might be important to consider in relation to gender aspects. On average, women have longer life expectancy; however, they are more likely to become widows (Calasanti, 2010), present a higher prevalence of anxiety (Grenier et al., 2019), and present higher rates of frailty (Collard et al., 2012; Li et al., 2020). Thus, the profile of female vulnerability explaining perceived unsafety might be different from the male profile.

However, men were significantly more likely to be classified in the compromised body and social networks profile (**Study III**). This profile was characterized by higher rates of health problems and lack of social support and lower life satisfaction. Although the perceived unsafety of the respondents in this profile was not higher than that in the non-vulnerable subgroup, according to the generalized unsafety theory of stress (Brosschot et al., 2017, 2018), these respondents should be at risk of generalized perceived unsafety, which might not have been particularly well captured by the measures applied in this study.

This profile was relatively small and comprised 7.2% of the sample; however, the possible vulnerability of these individuals, who are more likely to be men, should not be overlooked. A parallel could be drawn with a population-based study of fear of crime in Sweden, in which fear of crime was more frequently reported by women than men, but when it *was* experienced by men, fear of crime was associated with more risk of stress, sleeping problems, and suicidal thoughts and attempts in men than women (Olofsson et al., 2012). Therefore, although women might report perceived unsafety in its certain aspects more frequently, it is important to consider both genders in relation to perceived unsafety.

Education and financial status

Neither education nor financial status emerged as associated with perceived unsafety in the neighbourhood or at home (**Study I**). Similarly, education and financial status were not associated with belonging to a certain vulnerability profile (**Study III**). Although these socio-economic status indicators are assumed to be vulnerability factors for perceived unsafety, previous research findings are mixed showing both the presence and absence of such associations (Henson & Reynolds, 2015).

However, respondents with higher levels of education less frequently indicated their health limitations as a perceived reason of unsafety in the neighbourhood, and those with higher socio-economic status less frequently indicated health limitations and fear of crime in the

neighbourhood and health limitations at home as perceived reasons of unsafety (**Study I**). Since most previous research has mainly focused on fear of crime in relation to socio-economic status indicators (Boldis et al., 2018; Hanslmaier et al., 2018; Henson & Reynolds, 2015; Rader et al., 2012), more research including various perceived reasons of unsafety is needed to understand their associations with education and financial status.

Family status and living alone

The findings indicated that living alone was positively associated with perceived unsafety due to fear of crime and due to one's own health limitations, in the neighbourhood and at home (**Study I**). These associations were in line with previous research, which found higher fear of crime among adults living alone (Donnelly, 1989; Killias & Clerici, 2000). However, our findings also highlighted that health problems were more frequently perceived as a reason for feeling unsafe among those who live alone in advanced age. As observed in a qualitative study, being alone was discussed by older adults as a threat in case of needing help at home (e.g., after a fall) (Fonad et al., 2006). This complexity of reasons of perceived unsafety is important to take into account, especially since a considerable number of older adults live alone in Sweden.

Moreover, respondents without a partner were more likely to be included in the compromised body and social networks profile, associated with diminished life satisfaction (**Study III**). This is in line with previous research finding that being widowed was associated with feeling more unsafe (De Donder et al., 2012) and that not cohabiting with a partner was associated with more fear of crime among men (Boldis et al., 2018). Overall, this finding indicated that older adults with diminished health, lack of social support, and not having a partner might be especially at risk of higher perceived unsafety and lower well-being.

Associations with well-being and the moderating role of cognitive emotion regulation

Aspects of perceived unsafety have been also investigated in the context of their associations with well-being outcomes in older adults. Consistent with previous research, the results indicated that fear of crime is positively associated with depressive feelings and negatively associated with life satisfaction (**Study II**). These results corroborate previous findings regarding associations between fear of crime and aspects of well-being in

older adults (Beaulieu et al., 2004; Collins & Marrone, 2015; Olofsson et al., 2012; Stafford et al., 2007; Wilson-Genderson & Pruchno, 2013). Moreover, patterns of vulnerability to perceived unsafety represented in two compromised profiles were associated with lower life satisfaction, compared with older adults considered non-vulnerable (**Study III**).

Additionally, it was explored whether cognitive emotion regulation moderated the association between fear of crime and well-being outcomes (**Study II**). In contrast to our hypothesis, based on the socioemotional selectivity theory (SST) (Carstensen et al., 2003), none of the adaptive emotion regulation strategies moderated these associations. Furthermore, there were no associations of adaptive emotion regulation with fear of crime in our sample. However, the findings showed associations of maladaptive emotion regulation strategies with fear of crime, as well as the exacerbating role of rumination and self-blame in the association between fear of crime and life satisfaction.

An alternative to the SST explanation of these findings could be provided by the theory of strength and vulnerability integration (SAVI). SAVI considers both strengths and vulnerabilities in emotion regulation as explaining differences in the well-being outcomes of older adults (Charles, 2011; Charles & Hong, 2016). High frequencies of losses or the presence of prolonged stressors that are not within an older person's control might lead to difficulties in downregulating negative emotionality and thus to lower emotional well-being (Charles, 2011). Therefore, emotion regulation deficiencies could also be a vulnerability factor, as demonstrated by the study.

Moreover, cognitive emotion regulation is only one possible form of coping (Garnefski et al., 2001). Behavioural strategies aimed at solving a problem or eliminating a stressful situation are among the potential coping mechanisms important in late life (Márquez González et al., 2019). Such behavioural strategies (e.g., installing security devices and moving to a different location) could be especially relevant in case of fear of crime. Therefore, future research should ideally address both cognitive and behavioural emotion regulation strategies in the context of fear of crime and perceived unsafety.

Contribution to theory

This dissertation adopted the generalized unsafety theory of stress (GUTS) view of perceived unsafety and its association with diminished well-being outcomes. While older age is viewed by the theory as predisposing people

to perceived unsafety, this dissertation has advanced our understanding of the differences among older adults in terms of their perceived safety. As was shown by the studies included in this dissertation, compromises in important life domains might have more potential in explaining perceived unsafety than does chronological age. Thus, this dissertation has extended the application of the general GUTS propositions to advanced age as well.

Furthermore, this dissertation has contributed to fear of crime research by applying the theoretical reasoning of the GUTS theory to perceived unsafety and fear of crime. Generally, lack of theoretical foundations has been noted as a problem within the fear of crime research field (De Donder et al., 2009). The GUTS view of perceived unsafety is therefore a valuable theoretical intrapersonal explanation of perceived unsafety in advanced age.

Finally, this dissertation has contributed to the vulnerability perspective in explaining perceived unsafety. First, this dissertation addressed the role of socio-demographic factors in perceived unsafety, contributing to the individual vulnerability perspective. The findings showed the important nuances in how age, gender, and living alone are associated with various perceived reasons of unsafety. Moreover, this dissertation showed that education and financial status did not explain differences in perceived unsafety. Second, this dissertation addressed cognitive emotion regulation in relation to perceived unsafety in advanced age. The findings strengthened the view that maladaptive emotion regulation could be an exacerbating factor for perceived unsafety. However, adaptive emotion regulation did not serve as a buffer to perceived unsafety, according to the findings. Overall, since research on such psychological vulnerability in advanced age is relatively scarce, this dissertation has contributed to this emerging line of this theoretical reasoning.

Contribution to practice

The findings presented here are important for safety promotion efforts directed at older adults ageing in place. Taken broadly, safety promotion entails interventions of a physical, social, financial, political, or technological nature (Kullberg, 2010). In this sense, safety promotion has the potential to address a lack of safety in different life domains of older people, depending on the need.

The present findings indicate that older adults living in senior apartments feel unsafe for different reasons (**Study I**) and present different patterns of vulnerability (**Study III**). Ideally, safety-promotion

interventions should be targeted according to these differences among older adults. For instance, those older adults feeling unsafe because of potential crime might benefit from interventions aimed at reducing fear of crime. Other older adults who feel unsafe because of their health or mobility limitations might benefit from adapted infrastructure or assistance with certain daily tasks. Yet other older people with poor social connections might benefit from interventions aimed at integrating them in social networks. It is important to note that, for some older adults, various reasons for feeling unsafe might co-occur, increasing the risk of the detrimental effects of perceived unsafety. This could also be taken into consideration when planning safety-promoting activities.

Additionally, it might be beneficial to further involve older people in discussing their perceived safety needs and challenges, in order to inform safety-promotion interventions. A recent qualitative study of van Hoof et al. (2022) showed that such involvement is likely to be beneficial not only for better identifying sources of unsafety, but also for empowering older people. Not having clear opportunities to communicate safety concerns to local municipalities or housing organizations might increase existing feelings of unsafety among older people. Therefore, open dialogue between older residents and policy makers might empower older people to use their personal resources to increase their perceived safety, raise their awareness of available safety solutions, and improve overall safety measures within housing for older people (van Hoof et al., 2022).

Overall, considering that most of the respondents felt safe in their environments and were not considered vulnerable to feeling unsafe, it is important that safety-promotion interventions not approach all older adults with a ‘one-size-fits-all’ solution. Rather, identifying those older residents at risk of perceived unsafety is an important safety-promotion task. This dissertation’s findings clearly show that perceived unsafety is linked with diminished life satisfaction and increased anxiety and depressive feelings. Therefore, promoting safety among senior apartment residents would be an important investment in the quality of life of older adults ageing in place in this form of housing.

Strengths and limitations

Among the strengths of this doctoral research is its *interdisciplinarity*, combining knowledge from psychology, gerontology, and criminology to address the research questions. Such an approach allowed the consideration of various aspects of perceived unsafety in advanced age,

enriching the explanatory potential of the findings. Specifically, the psychological view of generalized perceived unsafety provided a foundation for explaining a broad range of reasons for unsafety. Furthermore, gerontology accentuated features of the physical and social environments especially important for safety among older adults. Lastly, criminological evidence regarding fear of crime in advanced age contributed to an understanding of this important aspect of perceived unsafety.

Another strength is that this dissertation provides a *theoretical foundation* relevant to advanced age in explaining perceived unsafety and its links with well-being. The lack of theoretical explanations for empirical findings is among the known limitations in the field of fear of crime research (De Donder et al., 2009; Greve, 1998; Yin, 1979). However, when researching perceived unsafety in its multiple criminal and non-criminal aspects (Won et al., 2016), the lack of theories with potential to address such perceived unsafety aspects is even more pronounced. In this dissertation, the explanatory potential of the generalized unsafety theory of stress (Brosschot et al., 2018) was employed, which is a relatively new and recent explanation of the fundamental mechanisms of perceived unsafety development and its links with stress, anxiety, and, ultimately, well-being.

Third, the *sample* includes a wide age range of older people living in senior apartments: responders of a very high age were included and no upper age limit was applied in the research. This contrasts with studies of perceived unsafety and fear of crime in Sweden that limited the upper age to 80–84 years (e.g., Boldis et al., 2018; BRÅ, 2018, 2020; Olofsson et al., 2012). An alternative approach applied here gives us an overview of the whole natural age span of older adulthood, which is important for studying perceived unsafety in late life (Köber et al., 2020).

Fourth, the analytical approach employed in the studies of this dissertation combined the *variable-oriented* approach (mostly dominating research on perceived unsafety and fear of crime) in **studies I and II** with the *person-oriented* approach applied in **Study III**. This allowed us to study perceived unsafety as a phenomenon in its associations with other variables, on one hand, as well as to describe different subgroups of older adults based on their patterns of vulnerability to perceived unsafety, on the other.

Additionally, the *measures* of perceived unsafety were selected with careful consideration of their relevance to older adults. As such, in

inquiring about perceived unsafety, the questions used in this dissertation avoided referring to being out in the neighbourhood alone at night, which is likely not a situation that many older adults encounter in their daily life (De Donder et al., 2015). Also, the fear of crime index included questions on types of crime or threatening situations specific and relevant to older adults, for example: fear that a close person might be victimized, known to be prevalent among older people (BRÅ, 2020); and fear of crime committed by others having access to one's apartment, specific to advanced age when assistance with daily tasks is a frequent experience.

However, several **limitations** of the study should be acknowledged. First, the *cross-sectional design* of the study does not allow us to investigate the development of the studied phenomena or the relationships among them *over time*. For instance, although the GUTS theory suggests that perceived unsafety precedes reduced health and well-being, previous research allows us to hypothesize bidirectional associations between perceived unsafety and well-being over time (Foster et al., 2016). Therefore, more longitudinal research is needed to address possible nuances in the complex associations between perceived unsafety and well-being aspects over time.

Second, the cross-sectional study design provides only very limited possibilities to apply the *life-span developmental perspective* to perceived unsafety in advanced age. This is important because various deficits and vulnerabilities in key life domains that manifest in advanced age and are studied in relation to perceived unsafety likely develop over the life course (Dannefer, 2003, 2020). Consequently, to fully understand the origins and development of perceived unsafety, alternative study designs should be applied (e.g., longitudinal or retrospective studies).

Third, the study focused on older adults aged 65 years and older only and *did not include a comparison sample* of younger adults. Therefore, the study could not directly test the proposition of the GUTS theory that older adults are more prone to perceived unsafety than are younger adults (Brosschot, 2017; Brosschot et al., 2018), or the assumption that older adults are more fearful of crime shared in the victimization–fear paradox criminological reasoning (Hale, 1996; LaGrange & Ferraro, 1987).

Fourth, the cross-sectional study design cannot rule out possible *cohort and period effects* that are important to consider when studying ageing (Diehl & Wahl, 2020; Victor et al., 2007). This might be important because belonging to a certain generation (cohort effect) and being subject to societal conditions at the time of data collection (period effect) could

provide additional explanations for differences among older adults in their perceived safety and unsafety. For instance, a recent study convincingly showed both cohort and period effects in fear of crime in Germany, which were interpreted in the context of historical events in German society (Koeber & Oberwittler, 2019). Another study showed cohort effects in political socialization and their impact on fear of crime in the United Kingdom (Gray et al., 2019). A similar analysis of Swedish (Nordic) historical conditions and events might provide additional explanations for perceived unsafety and further disentangle age effects from the effects of a cohort or period. Moreover, the data collection, which was performed prior to the COVID-19 pandemic, did not capture the period effect of the pandemic situation, potentially altering older adults' perceptions of safety in its multiple dimensions. Therefore, future research might take a closer look at age-period-cohort differences in perceived unsafety in advanced age.

Fifth, the sample was *limited to senior apartment residents*, which imposes limitations in generalizing the findings to all older adults. Specifically, the sample does not include those receiving medical help, such as nursing home residents or terminally ill older adults. Thus, the sample did not include those older adults in their fifth age, and their experiences of perceived safety and unsafety are likely to have their own specific nuances. Furthermore, our sample did not include property owners, and it was previously shown that homeownership might be associated with perceived unsafety (in its fear of crime aspect, Boldis et al., 2018; McGarrell et al., 1997). It was also previously argued that residents of rental senior apartments in Sweden are likely to have an overall lower socio-economic status than those older adults who own apartments in senior housing cooperatives (Motevasel, 2006). Additionally, older adults who were not sufficiently fluent in the Swedish or English languages were excluded from the sample due to practical data collection limitations. This would likely result in the underrepresentation of older adults of foreign background in our sample. All these limitations urge caution when generalizing our research findings to all heterogeneous subgroups of older adults. Although the senior apartment resident sample was considered diverse enough to answer the research questions posed here, the much greater heterogeneity of older adults in the general population should be acknowledged.

Sixth, the questionnaire was introduced to prospective participants as a scientific investigation of aspects of safety and fear of crime, carried out by researchers at the Criminology Department at Örebro University. Such an

emphasis on *crime-related context* could have actualized mainly crime-related associations with perceived unsafety in the respondents, even when replying to questions that did not explicitly refer to crime or fear of crime. Ideally, future research should avoid presenting studies of perceived unsafety as framed by a specific thematic context.

Seventh, several limitations related to *measurement* should be mentioned. In **studies I and III**, single items were used to assess perceived unsafety in the neighbourhood and at home, which is generally considered a limitation (De Donder et al., 2015; Greve, 1998). Although a validated multi-item instrument would be preferred to assess perceived unsafety, to the best of our knowledge, such an instrument allowing us to capture perceived unsafety while not focusing on crime was unavailable at the time of data collection. Currently available scales focus on fear of crime in its various aspects and do not provide questions on non-crime-related unsafety (e.g., De Donder et al., 2015; Etopio & Berthelot, 2022).

Furthermore, the catastrophizing, rumination, self-blame, and putting into perspective subscales of the Cognitive Emotion Regulation Questionnaire (Garnefski & Kraaij, 2006) displayed slightly lower than conventionally accepted reliability (Study II). This could be partially explained by each subscale containing only two items, while the reliability coefficient is known to generally be higher for scales with more items (Peterson, 1994). Nevertheless, the findings regarding the roles of various cognitive emotion regulation strategies reported in our study could be the subject of replication studies based on other samples. Furthermore, items measuring perceived reasons for unsafety could be extended to include traffic-related unsafety and financial unsafety, which were previously found to be relevant to older adults (Lindahl et al., 2017; Won et al., 2016).

Finally, the studies investigated *only the subjective self-reports* of the participants and did not analyse the objective neighbourhood characteristics (e.g., actual crime rates, neighbourhood disorder, age-friendliness of the neighbourhoods, and sufficiency of age-adopted indoor and outdoor infrastructure). Previous research has articulated the importance of considering both subjective and objective aspects for better understanding perceived safety and unsafety experiences (Kullberg et al., 2011). Including such objective measures would enable us to propose additional research questions about the complex interaction between subjective experience and objective environmental conditions and to

interpret the findings within the person–environment fit perspective (Iwarsson, 2005; Iwarsson et al., 2009; Wahl et al., 2012).

Future directions

The studies presented here addressed specific research questions related to perceived unsafety and well-being in the context of ageing. At the same time, this dissertation illuminated additional aspects on which more research and scientific knowledge is warranted. Further research might explore several questions within the domains related to the perceived unsafety of older adults.

Considering the heterogeneity of ageing, it is important to continue research on possible differences in perceived unsafety in various subgroups of older people (e.g., the oldest old, those living with frailty and/or experiencing cognitive decline, nursing home residents, and older people undergoing retirement and other life transitions).

While this dissertation highlighted the presence of various perceived reasons of unsafety, it is crucial to further understand the possible qualitative differences among feelings of unsafety experienced due to different factors (e.g., criminal victimization originates from the perpetrator while unsafety due to fear of falling is attributed to the situation and not a specific individual). A recent qualitative study conducted in the Netherlands revealed two large domains of the perceived unsafety of older people: unsafety due to intentional acts (e.g., crime), and unsafety due to non-intentional incidents (e.g., traffic, fall accidents, and mistakes online) (van Hoof et al., 2022). Further research could further explore these domains of perceived unsafety and their associations with well-being in late life. Moreover, perceived reasons of unsafety relevant to older adults living in specific environmental conditions and the role of feelings of unsafety due to these reasons in well-being could be studied further. For example, traffic-related unsafety could be relevant to those living in more urban areas, while difficult weather conditions (e.g., ice, snow, darkness, and lack of visibility) could be a seasonal unsafety factor, especially in the Nordic countries. Additionally, unsafety in the digital environment is becoming increasingly important with more and more older adults being Internet users (van Hoof et al., 2022).

Furthermore, scientific work on improving the assessment of perceived unsafety among older adults is important. Creating adequate measures to capture the aspects of perceived unsafety specific to advanced age (Ceccato & Bamzar, 2016) would seem to be a necessary research step. An example

of a recently developed scale for the assessment of feelings of unsafety tailored towards older adults is the Elder's Feelings of Unsafety Scale, which adapted traditional items used in safety surveys to older adults' life context (De Donder et al., 2015). This line of work could be continued by creating measures further differentiating fear of crime and other perceived reasons of unsafety and encompassing the assessment of perceived unsafety due to different reasons simultaneously while ageing.

Moreover, applying qualitative research methodology, i.e., asking participants open questions about the meanings of unsafety in late life, would enable researchers to gain a more genuine phenomenological understanding of perceived unsafety. Existing qualitative studies of fear of crime (Rypi, 2012; Stjernborg, 2017) and feelings of unsafety (van Hoof et al., 2022) among older adults have allowed us to better understand the vulnerabilities as well as resilience of older people in relation to perceived unsafety. More qualitative research could help us further understand the lived experience and ways of coping with perceived unsafety from older people's points of view.

In addition to studying concrete perceived reasons of unsafety, it is further important to understand safety and unsafety in the sense of ontological security, defined by Giddens (1991, p. 243) as 'a sense of continuity and order in events, including those not directly within the perceptual environment of the individual'. When we look for factors that might disrupt this sense of continuity and order while ageing, – a time of life marked with frequent losses and challenges – we might find some explanations of why some older people feel unsafe and how this feeling of unsafety manifests in their daily life.

While significant research attention has been given to fear and worry as manifestations of feeling unsafe (specifically, fear and worry about criminal victimization, fear of falling, etc.), it is also important to consider a wider range of emotional reactions that could originate from perceived unsafety. For instance, the importance of addressing not only fear but also *anger* as a reaction to threats of crime was previously raised within criminological research (Ditton et al., 1999). A recent study by Etopio and Berthelot (2022) corroborated this by showing a high frequency of non-fear-related emotions experienced in relation to crime (e.g., anger, disgust, and sadness). However, this research direction remains relatively underexplored in relation both to worry about crime and to perceived unsafety in general. Understanding the anger-spectrum emotions that could be experienced along with the fear-spectrum ones in reaction to

feeling unsafe might be especially important in late life. Losses in health and social domains that are inevitable for many older adults, and that are closely related to perceived unsafety, might evoke frustration, anger, or despair *along with* or *instead of* worry in some older people. To summarize, a better understanding of various emotional responses to perceived unsafety and their possible associations with well-being is needed in order to create a more complete picture of perceived unsafety in late life.

Although the general negative association between aspects of perceived unsafety and well-being indicators has been shown by previous research and in **Study II** of this dissertation, significantly less is known about the development of this association over time. Since both the links between perceived unsafety and reduced mental health and well-being, and between existing mental health problems, lowered well-being, and increased perceived unsafety over time are theoretically plausible, more longitudinal research examining the development of this association over time is warranted.

Moreover, further research considering a range of possible moderators in the association between perceived unsafety and well-being would advance our understanding of the people in whom this association might be stronger, or, in other words, what might be the risk and protective factors for this association. In this dissertation, **Study II** examined the role of cognitive emotion regulation as a moderator in the given association. However, further research could consider a wider range of possible socio-demographic, behavioural, and environmental factors that could be moderating this association.

Conclusions

The following overall conclusions were formulated based on the findings of the studies:

- Senior apartments' residents are a heterogeneous population in terms of perceived unsafety, with vast majority reporting feeling safe in their neighbourhoods and at home.
- Perceived unsafety in advanced age is a multifaceted phenomenon which can be explained by such perceived reasons as fear of crime, unattractive social climate in the neighbourhood, and inconvenient infrastructure at home.
- Fear of crime is associated with reduced life satisfaction, increased depressive feelings, and more frequent use of rumination, catastrophizing, and blaming others.
- While maladaptive cognitive emotion regulation strengthens the negative association of fear of crime with life satisfaction, adaptive strategies do not serve as a buffer in this association.
- Two different patterns of compromises in the domains of body, social networks, and context were found, while 75% of the respondents were considered non-vulnerable.
- Older people belonging to different profiles based on compromises in the key life domains differed in their perceived unsafety and well-being.

References

- Adams, R. E., & Serpe, R. T. (2000). Social integration, fear of crime, and life satisfaction. *Sociological Perspectives, Volume 43*, (Number 4), 605-629. <https://doi.org/https://doi.org/10.2307/1389550>
- Alfaro-Beracoechea, L., Puente, A., da Costa, S., Ruvalcaba, N., & Páez, D. (2018). Effects of Fear of Crime on Subjective Well-being: A Meta-analytic Review. *The European Journal of Psychology Applied to Legal Context, 10*(2), 089-096. <https://doi.org/10.5093/ejpalc2018a9>
- Allik, M., & Kearns, A. (2017). “There goes the fear”: feelings of safety at home and in the neighborhood: The role of personal, social, and service factors. *Journal of Community Psychology, 45*(4), 543-563. <https://doi.org/10.1002/jcop.21875>
- Alper, M., & Chappell, A. T. (2012). Untangling Fear of Crime: A Multi-theoretical Approach to Examining the Causes of Crime-Specific Fear. *Sociological Spectrum, 32*(4), 346-363. <https://doi.org/10.1080/02732173.2012.664048>
- Andersson, M., Hallberg, I. R., & Edberg, A. K. (2008). Old people receiving municipal care, their experiences of what constitutes a good life in the last phase of life: a qualitative study. *International Journal of Nursing Studies, 45*(6), 818-828. <https://doi.org/10.1016/j.ijnurstu.2007.04.003>
- Asendorpf, J. B. (2002). The puzzle of personality types. *European Journal of Personality, 16*(1_suppl), S1-S5. <https://doi.org/10.1002/per.446>
- Barlow, D. H. (2002). *Anxiety and Its Disorders. The Nature and Treatment of Anxiety and Panic* (2nd ed.). The Guilford Press.
- Bazargan, M. (1994). The effects of health, environmental, and socio-psychological variables on fear of crime and its consequences among urban black elderly individuals. *The International Journal of Aging and Human Development, 38*(2), 99-115. <https://doi.org/https://doi.org/10.2190/FHQY-5T3L-GADM-PUD0>
- Beaulieu, M., Leclerc, N., & Dubé, M. (2004). Chapter 8 Fear of Crime Among the Elderly. *Journal of Gerontological Social Work, 40*(4), 121-138. https://doi.org/10.1300/J083v40n04_09

- Bergman, L. R., Magnusson, D., & El-Khoury, B. M. (2003). *Studying Individual Development in an Interindividual Context. A person-oriented approach*. (Vol. 4). Psychology Press.
- Bigonnesse, C., & Chaudhury, H. (2019). The Landscape of “Aging in Place” in Gerontology Literature: Emergence, Theoretical Perspectives, and Influencing Factors. *Journal of Aging and Environment*, 34(3), 233-251. <https://doi.org/10.1080/02763893.2019.1638875>
- Boldis, B. V., San Sebastian, M., & Gustafsson, P. E. (2018). Unsafe and unequal: a decomposition analysis of income inequalities in fear of crime in northern Sweden. *International Journal of Equity in Health*, 17(1), 110. <https://doi.org/10.1186/s12939-018-0823-z>
- Bowling, A., Gabriel, Z., Dykes, J., Dowding, L. M., Evans, O., Fleissig, A., Banister, D., & Sutton, S. (2003). Let's ask them: a national survey of definitions of quality of life and its enhancement among people aged 65 and over. *The International Journal of Aging and Human Development*(56(4)), 269-306. <https://doi.org/https://doi.org/10.2190/BF8G-5J8L-YTRF-6404>
- Broese van Groenou, M., & van Tilburg, T. (2017). Sociaal netwerk en persoonlijke relaties In M. Vink, Y. Kuin, G. Westerhof, S. Lamers, & A. M. Pot (Eds.), *Handboek ouderenpsychologie* (pp. 49-63). De Tijdstroom.
- Brosschot, J. F. (2017). Ever at the ready for events that never happen. *European Journal of Psychotraumatology*, 8(1), 1309934. <https://doi.org/10.1080/20008198.2017.1309934>
- Brosschot, J. F., Verkuil, B., & Thayer, J. F. (2016). The default response to uncertainty and the importance of perceived safety in anxiety and stress: An evolution-theoretical perspective. *Journal of Anxiety Disorders*, 41, 22-34. <https://doi.org/10.1016/j.janxdis.2016.04.012>
- Brosschot, J. F., Verkuil, B., & Thayer, J. F. (2017). Exposed to events that never happen: Generalized unsafety, the default stress response, and prolonged autonomic activity. *Neuroscience and Biobehavioral Reviews*, 74(Pt B), 287-296. <https://doi.org/10.1016/j.neubiorev.2016.07.019>
- Brosschot, J. F., Verkuil, B., & Thayer, J. F. (2018). Generalized Unsafety Theory of Stress: Unsafe Environments and Conditions, and the Default Stress Response. *International Journal of Environmental*

- BRÅ (2018). *Brott mot äldre. Om utsatthet och otrygghet*. (www.bra.se)
- BRÅ (2020). *Nationella trygghetsundersökningen – utsatthet och otrygghet bland äldre. En sammanställning av centrala resultat från NTU 2017–2019*. (www.bra.se)
- Bunt, S., Steverink, N., Olthof, J., van der Schans, C. P., & Hobbelen, J. S. M. (2017). Social frailty in older adults: a scoping review. *European Journal of Ageing*, 14(3), 323-334. <https://doi.org/10.1007/s10433-017-0414-7>
- Calasanti, T. (2010). Gender and Ageing in the Context of Globalization. In D. Dannefer & C. Phillipson (Eds.), *The SAGE Handbook of Social Gerontology* (pp. 137-149). SAGE.
- Carstensen, L. L., Fung, H. H., & Charles, S. T. (2003). Socioemotional selectivity theory and the regulation of emotions in the second half of life. *Motivation and Emotion*, 27(2), 103-123. <https://doi.org/https://doi.org/10.1023/A:1024569803230>
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54(3), 165-181. <https://doi.org/https://doi.org/10.1037/0003-066X.54.3.165>
- Carstensen, L. L., Pasupathi, M., Mayr, U., & , & Nesselroade, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, 79(4), 644-655. <https://doi.org/10.1037/0022-3514.79.4.644>
- Ceccato, V., & Bamzar, R. (2016). Elderly Victimization and Fear of Crime in Public Spaces. *International Criminal Justice Review*, 26(2), 115-133. <https://doi.org/10.1177/1057567716639096>
- Chadee, D. A., Virgil, N. J., & Ditton, J. (2008). State-trait anxiety and fear of crime. A social psychological perspective. In S. D. Farrall & M. Lee (Eds.), *Fear of crime. Critical voices in an age of anxiety*. (pp. 168-187). Routledge-Cavendish.
- Charles, S. T. (2011). Emotional Experience and Regulation in Later Life. In K. W. Schaie & S. L. Willis (Eds.), *Handbook of the Psychology of Aging* (7th ed., pp. 295-310).
- Charles, S. T., & Hong, J. H. (2016). Theories of emotional well-being and aging In V. Bengtson & R. Settersten (Eds.), *Handbook of theories of aging* (3rd ed., pp. 193-212). Springer.

- Chataway, M. L., & Hart, T. C. (2019). A Social-Psychological Process of “Fear of Crime” for Men and Women: Revisiting Gender Differences from a New Perspective. *Victims & Offenders*, 14(2), 143-164. <https://doi.org/10.1080/15564886.2018.1552221>
- Choi, Y. J. (2022). Understanding Aging in Place: Home and Community Features, Perceived Age-Friendliness of Community, and Intention Toward Aging in Place. *Gerontologist*, 62(1), 46-55. <https://doi.org/10.1093/geront/gnab070>
- Collard, R. M., Boter, H., Schoevers, R. A., & Oude Voshaar, R. C. (2012). Prevalence of frailty in community-dwelling older persons: a systematic review. *Journal of the American Geriatrics Society*, 60(8), 1487-1492. <https://doi.org/10.1111/j.1532-5415.2012.04054.x>
- Collins, R. E. (2016). Addressing the inconsistencies in fear of crime research: A meta-analytic review. *Journal of Criminal Justice*, 47, 21-31. <https://doi.org/10.1016/j.icrimjus.2016.06.004>
- Collins, R. E., & Marrone, D. F. (2015). Scared Sick. *SAGE Open*, 5(3). <https://doi.org/10.1177/2158244015602516>
- Dannefer. (2003). Cumulative Advantage/Disadvantage and the Life Course: Cross-Fertilizing Age and Social Science Theory. *Journal of Gerontology: SOCIAL SCIENCES*, 58B(6), 327-337. <https://doi.org/https://doi.org/10.1093/geronb/58.6.S327>
- Dannefer. (2020). Systemic and Reflexive: Foundations of Cumulative Dis/Advantage and Life-Course Processes. *Journals of Gerontology. Series B: Psychological Sciences and Social Sciences*, 75(6), 1249-1263. <https://doi.org/10.1093/geronb/gby118>
- De Donder, L., Buffel, T., Verte, D., Dury, S., & De Witte, N. (2009). Feelings of insecurity in context: Theoretical perspectives for studying fear of crime in late life. *International Journal of Economics and Finance Studies*, 1(1), 1-20. <https://dergipark.org.tr/en/pub/ijefs/issue/26158/275524>
- De Donder, L., De Witte, N., Buffel, T., Dury, S., & Verté, D. (2012). Social Capital and Feelings of Unsafety in Later Life. *Research on Aging*, 34(4), 425-448. <https://doi.org/10.1177/0164027511433879>
- De Donder, L., De Witte, N., Dury, S., Buffel, T., Brosens, D., Smetcoren, A.-S., Verté, E., Van Regenmortel, S., & Verté, D. (2015). Feelings of Unsafety among Older People: Psychometric Properties

- of the EFU-scale. *Procedia - Social and Behavioral Sciences*, 191, 1095-1101. <https://doi.org/10.1016/j.sbspro.2015.04.581>
- Diehl, M., & Wahl, H.-W. (2020). *The Psychology of Later Life: A contextual Perspective*. American Psychological Association.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & , & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75. https://doi.org/https://doi.org/10.1207/s15327752jpa4901_13
- Ditton, J., Bannister, J., Gilchrist, E., & , & Farrall, S. (1999). Afraid or Angry? Recalibrating the 'Fear' Of Crime. *International Review of Victimology*, 6, 83-99.
- Donnelly, P. G. (1989). Individual and Neighborhood Influences on Fear of Crime. *Sociological Focus*, 22(1), 69-85. <https://doi.org/https://www.jstor.org/stable/20831499>
- Ejrnæs, A., & Scherg, R. H. (2020). The impact of victimization on feelings of unsafety in different welfare regimes. *European Journal of Criminology*, 19(6), 1304–1326. <https://doi.org/10.1177/1477370820960025>.
- Elchardus, M., De Groof, S., & Smits, W. (2008). Rational Fear or Represented Malaise: A Crucial Test of Two Paradigms Explaining Fear of Crime. *Sociological Perspectives*, 51(3), 453-471. <https://doi.org/10.1525/sop.2008.51.3.453>
- Etopio, A., & Berthelot, E. (2022). Defining and Measuring Fear of Crime: A New Validated Scale Created from Emotion Theory, Qualitative Interviews, and Factor Analyses. *Journal of Criminology, Criminal Justice, Law & Society*, 23(1), 46-67. <https://doi.org/10.54555/ccjls.4234.34104>
- Etxeberria, I., Etxebarria, I., & Urdaneta, E. (2018). Profiles in emotional aging: does age matter? *Aging & Mental Health*, 22(10), 1304-1312. <https://doi.org/10.1080/13607863.2017.1286450>
- Ferguson, S. L., G. Moore, E. W., & Hull, D. M. (2019). Finding latent groups in observed data: A primer on latent profile analysis in Mplus for applied researchers. *International Journal of Behavioral Development*, 44(5), 458-468. <https://doi.org/10.1177/0165025419881721>
- Ferraro, K. F. (2018). *The gerontological imagination: An integrative paradigm of aging*. . Oxford University Press.
- Fisher, S., Allan, A., & Allan, M. M. (2004). Exploratory study to examine the impact of television reports of prison escapes on fear

- of crime, operationalised as state anxiety. *Australian Journal of Psychology*, 56(3), 181-190. <https://doi.org/10.1080/00049530412331283354>
- Fonad, E., Wahlin, T.-B. R., Heikkila, K., & Emami, A. (2006). Moving to and Living in a Retirement Home. *Journal of Housing For the Elderly*, 20(3), 45-60. https://doi.org/10.1300/J081v20n03_04
- Fonseca, A. (2020). Aging in Place in Portugal. *Ciências e Políticas Públicas / Public Sciences & Policies*, 6(2), 41-58. <https://doi.org/10.33167/2184-0644.CPP2020.VVIN2/pp.41-58>
- Foster, S., Hooper, P., Knuiman, M., & Giles-Corti, B. (2016). Does heightened fear of crime lead to poorer mental health in new suburbs, or vice versa? *Social Science and Medicine*, 168, 30-34. <https://doi.org/10.1016/j.socscimed.2016.09.004>
- Gabriel, U., & Greve, W. (2003). The psychology of fear of crime. Conceptual and methodological perspectives. *British Journal of Criminology*, 43, 600-614. <https://doi.org/https://doi.org/10.1093/bjc/43.3.600>
- Garnefski, N., & Kraaij, V. (2006). Cognitive emotion regulation questionnaire – development of a short 18-item version (CERQ-short). *Personality and individual differences*, 41, 1045-1053. <https://doi.org/10.1016/j.paid.2006.04.010>
- Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and individual differences*, 30, 1311-1327. [https://doi.org/https://doi.org/10.1016/S0191-8869\(00\)00113-6](https://doi.org/https://doi.org/10.1016/S0191-8869(00)00113-6)
- Gerritsen, D., & Steverink, N. (2017). Kwaliteit van leven. In M. Vink, Kuin, Y., Westerhof, G., Lamers, S., & Pot, A. M. (Ed.), *Handboek ouderenpsychologie* (pp. 297-314). De Tijdstroom.
- Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Stanford university press.
- Gray, E., Grasso, M., Farrall, S., Jennings, W., & Hay, C. (2019). Political Socialization, Worry about Crime and Antisocial Behaviour: An Analysis of Age, Period and Cohort Effects. *The British Journal of Criminology*, 59(2), 435-460. <https://doi.org/10.1093/bjc/azy024>
- Gray, E., Jackson, J., & Farrall, S. (2010). Feelings and Functions in the Fear of Crime: Applying a New Approach to Victimisation Insecurity. *British Journal of Criminology*, 51(1), 75-94. <https://doi.org/10.1093/bjc/azq066>

- Grenier, S., Payette, M. C., Gunther, B., Askari, S., Desjardins, F. F., Raymond, B., & Berbiche, D. (2019). Association of age and gender with anxiety disorders in older adults: A systematic review and meta-analysis. *International Journal of Geriatric Psychiatry*, 34(3), 397-407. <https://doi.org/10.1002/gps.5035>
- Greve, W. (1998). Fear of crime among the elderly: Foresight, not fright. *International Review of Victimology*, 5(3-4), 277-309. <https://doi.org/https://doi.org/10.1177/026975809800500405>
- Greve, W., Leipold, B., & Kappes, C. (2018). Fear of Crime in Old Age: A Sample Case of Resilience? *Journals of Gerontology. Series B: Psychological Sciences and Social Sciences*, 73(7), 1224-1232. <https://doi.org/10.1093/geronb/gbw169>
- Grewal, I., Lewis, J., Flynn, T., Brown, J., Bond, J., & Coast, J. (2006). Developing attributes for a generic quality of life measure for older people: preferences or capabilities? *Social Science and Medicine*, 62(8), 1891-1901. <https://doi.org/10.1016/j.socscimed.2005.08.023>
- Guedes, I. M. E. S., Domingos, S. P. A., & Cardoso, C. S. (2018). Fear of crime, personality and trait emotions: An empirical study. *European Journal of Criminology*, 15(6), 658-679. <https://doi.org/10.1177/1477370817749500>
- Hale, C. (1996). Fear of crime: A review of the literature. *International Review of Victimology*, Vol. 4, 79-150. <https://doi.org/https://doi.org/10.1177/026975809600400201>
- Hanslmaier, M. (2013). Crime, fear and subjective well-being: How victimization and street crime affect fear and life satisfaction. *European Journal of Criminology*, 10(5), 515-533. <https://doi.org/10.1177/1477370812474545>
- Hanslmaier, M., Peter, A., & Kaiser, B. (2018). Vulnerability and fear of crime among elderly citizens: what roles do neighborhood and health play? *Journal of Housing and the Built Environment*, 33(4), 575-590. <https://doi.org/10.1007/s10901-018-9626-1>
- Henning, C., Ahnby, U., & Osterstrom, S. (2009). Senior housing in Sweden: a new concept for aging in place. *Social Work in Public Health*, 24(3), 235-254. <https://doi.org/10.1080/19371910802595307>
- Henson, B., & Reyns, B. W. (2015). The only thing we have to fear is fear itself... and crime: The current state of the fear of crime literature

- and where it should go next. *Sociology Compass*, 9(2), 91-103.
<https://doi.org/https://doi.org/10.1111/soc4.12240>
- Hollway, W., & Jefferson, T. (1997). The risk society in an age of anxiety: situating fear of crime. *British Journal of Sociology*, 255-266.
<https://doi.org/https://doi.org/10.2307/591751>
- Hollway, W., & Jefferson, T. (2000). The role of anxiety in the fear of crime In T. Hope & R. Sparks (Eds.), *Crime, risk and insecurity* (pp. 31-49). Routledge.
- Iwarsson, S. (2005). A Long-Term Perspective on Person– Environment Fit and ADL Dependence Among Older Swedish Adults. *The Gerontologist*, 45(3), 327-336.
<https://doi.org/https://doi.org/10.1093/geront/45.3.327>
- Iwarsson, S., Horstmann, V., Carlsson, G., Oswald, F., & Wahl, H.-W. (2009). Person–environment fit predicts falls in older adults better than the consideration of environmental hazards only. *Clinical Rehabilitation*, 23, 558–567.
<https://doi.org/10.1177/0269215508101740>
- Jackson, J. (2009). A psychological perspective on vulnerability in the fear of crime. *Psychology, Crime & Law*, 15(4), 365-390.
<https://doi.org/10.1080/10683160802275797>
- Jackson, J., Farrall, S., & Gray, E. (2007). Theorising the Fear of Crime: The Cultural and Social Significance of Insecurities about Crime. *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.1012393>
- Jakobsson, U., & Hallberg, I.R. (2005). Loneliness, fear, and quality of life among elderly in Sweden: a gender perspective. *Aging Clinical and Experimental Research*, 17, 494-501.
<https://doi.org/https://doi.org/10.1007/BF03327417>
- Kang, S. J., & Seo, W. (2020). The Effects of Multilayered Disorder Characteristics on Fear of Crime in Korea. *International Journal of Environmental Research and Public Health*, 17(24).
<https://doi.org/10.3390/ijerph17249174>
- Kappes, C., Greve, W., & Hellmers, S. (2013). Fear of crime in old age: precautionous behaviour and its relation to situational fear. *European Journal of Ageing*, 10(2), 111-125.
<https://doi.org/10.1007/s10433-012-0255-3>
- Kelley, K., Clark, B., Brown, V., & , & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International*

- Journal for Quality in Health Care*, 15(3), 261-266. <https://doi.org/10.1093/intqhc/mzg031>
- Killias, M. (1990). Vulnerability: Towards a Better Understanding of a Key Variable in the Genesis of Fear of Crime. *Violence and Victims*, 5(2), 97-108. <https://doi.org/10.1891/0886-6708.5.2.97>
- Killias, M., & Clerici, C. (2000). Different measures of vulnerability in their relation to different dimensions of fear of crime. *British Journal of Criminology*, 40, 437-450. <https://doi.org/https://doi.org/10.1093/bjc/40.3.437>
- Klama, E. K., & Egan, V. (2011). The Big-Five, sense of control, mental health and fear of crime as contributory factors to attitudes towards punishment. *Personality and Individual Differences*, 51(5), 613-617. <https://doi.org/10.1016/j.paid.2011.05.028>
- Koeber, G., & Oberwittler, D. (2019). How older people became less afraid of crime-An age-period-cohort analysis using repeated cross-sectional survey data. *Social Science Research*, 79, 211-225. <https://doi.org/10.1016/j.ssresearch.2018.10.010>
- Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition & Emotion*, 23(1), 4-41. <https://doi.org/10.1080/02699930802619031>
- Kuin, Y., & Spaans, H.-P. (2017). Emotie en stemming. In M. Vink, Kuin, Y., Westerhof, G., Lamers, S., & Pot, A. M. (Ed.), *Handboek ouderenpsychologie* (2nd ed., pp. 83-122). De Tijdstroom.
- Kullberg, A. (2010). *My Home is my Castle: Residential Well-being and Perceived Safety in Different Types of Housing Areas in Sweden* [Doctoral dissertation, Linköping].
- Kullberg, A., Karlsson, N., Timpka, T., & Lindqvist, K. (2009). Correlates of local safety-related concerns in a Swedish Community: a cross-sectional study. *BMC Public Health*, 9, 221. <https://doi.org/10.1186/1471-2458-9-221>
- Kullberg, A., Nordqvist, C., Timpka, T., & Lindqvist, K. (2011). Residents' perspectives on safety support needs in different types of housing areas. *Scandinavian Journal of Public Health*, 39(6), 590-597. <https://doi.org/10.1177/1403494810395988>
- Köber, G., Oberwittler, D., & Wickes, R. (2020). Old age and fear of crime: cross-national evidence for a decreased impact of neighbourhood disadvantage in older age. *Ageing and Society*, 1-30. <https://doi.org/10.1017/s0144686x20001683>

- LaGrange, R. L., & Ferraro, K. F. (1987). The elderly's fear of crime: A critical examination of the research. *Research on Aging*, 9(3), 372-391.
- Lawton, M. P., & , & Simon, B. (1968). The Ecology of Social Relationships in Housing for the Elderly. *The Gerontologist*, 8(2), 108-115. <https://doi.org/> <https://doi.org/10.1093/geront/8.2.108>
- Lee, J. S., Zengras, P. C., & Ben-Joseph, E. (2013). Safely active mobility for urban baby boomers: The role of neighborhood design. *Accident Analysis and Prevention*, 61, 153-166. <https://doi.org/10.1016/j.aap.2013.05.008>
- Li, X., Ploner, A., Wang, Y., Magnusson, P. K., Reynolds, C., Finkel, D., Pedersen, N. L., Jylhava, J., & Hagg, S. (2020). Longitudinal trajectories, correlations and mortality associations of nine biological ages across 20-years follow-up. *Elife*, 9. <https://doi.org/10.7554/eLife.51507>
- Lindahl, L., Andersson, M., & Paulsson, J. (2017). Perceived Safety in Extra-Care Housing for Senior Residents. *Journal of Housing For the Elderly*, 32(1), 58-72. <https://doi.org/10.1080/02763893.2017.1393487>
- Lindesay, J. (1997). Phobic disorders and fear of crime in the elderly. . *Aging & Mental Health*, 1(1), 81-86. <https://doi.org/https://doi.org/10.1080/13607869757416>
- Lindwall, M., Berg, A. I., Bjalkebring, P., Buratti, S., Hansson, I., Hassing, L., Henning, G., Kivi, M., Konig, S., Thorvaldsson, V., & Johansson, B. (2017). Psychological Health in the Retirement Transition: Rationale and First Findings in the HEalth, Ageing and Retirement Transitions in Sweden (HEARTS) Study. *Frontiers in Psychology*, 8, 1634. <https://doi.org/10.3389/fpsyg.2017.01634>
- Livingstone, K. M., Castro, V. L., & Isaacowitz, D. M. (2020). Age Differences in Beliefs About Emotion Regulation Strategies. *Journals of Gerontology. Series B: Psychological Sciences and Social Sciences*, 75(2), 316-326. <https://doi.org/10.1093/geronb/gby022>
- Márquez González, M., Cheng, S.-T., & Losada, A. (2019). Coping Mechanisms through Successful Aging In R. Fernández-Ballesteros, A. Benetos, & J.-M. Robine (Eds.), *The Cambridge Handbook of Successful Aging*. Cambridge University Press.
- McGarrell, E. F., Giacomazzi, A. L., & Thurman, Q. C. (1997). Neighborhood disorder, integration, and the fear of crime. *Justice*

- Quarterly*, 14(3), 479-500.
<https://doi.org/10.1080/07418829700093441>
- Morton, S. M., Bandara, D. K., Robinson, E. M., & Carr, P. E. (2012). In the 21st Century, what is an acceptable response rate? *Australian and New Zealand Journal of Public Health*, 36(2), 106-108.
<https://doi.org/10.1111/j.1753-6405.2012.00854.x>
- Motevasel, I. N. (2006). Senior Housing in Sweden—A Question of Class Differences and Collective Aging. *Journal of Housing For the Elderly*, 20(3), 77-93. https://doi.org/10.1300/J081v20n03_06
- Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus User's Guide*. Muthén & Muthén.
- Olofsson, N., Lindqvist, K., & Danielsson, I. (2012). Fear of crime and psychological and physical abuse associated with ill health in a Swedish population aged 65–84 years. *Public Health*, 126(4), 358-364. <https://doi.org/10.1016/j.puhe.2012.01.015>
- Orsholits, D., Cullati, S., Ghisletta, P., Aartsen, M. J., Oris, M., Studer, M., Maurer, J., Perna, L., Gouveia, E. R., Gouveia, B. R., Marques, A., Peralta, M., Marconcin, P., Kliegel, M., & Ihle, A. (2022). How Welfare Regimes Moderate the Associations Between Cognitive Aging, Education, and Occupation. *Journals of Gerontology. Series B: Psychological Sciences and Social Sciences*, 77(9), 1615-1624. <https://doi.org/10.1093/geronb/gbac013>
- Oswald, F., Jopp, D., Rott, C., & Wahl, H. W. (2011). Is aging in place a resource for or risk to life satisfaction? *Gerontologist*, 51(2), 238-250. <https://doi.org/10.1093/geront/gnq096>
- Pain, R. H. (1995). Elderly Women and Fear of Violent Crime: The Least Likely Victims - A Reconsideration of the Extent and Nature of Risk. *The British Journal of Criminology*, 35(4), 584-598. <https://doi.org/https://doi.org/10.1093/oxfordjournals.bjc.a048548>
- Peterson, R. A. (1994). A Meta-Analysis of Cronbach's Coefficient Alpha. *Journal of Consumer Research*, 21(2), 381-391. <https://doi.org/http://www.jstor.org/stable/2489828>
- Portacolone, E., Perissinotto, C., Yeh, J. C., & Greysen, S. R. (2018). "I Feel Trapped": The Tension Between Personal and Structural Factors of Social Isolation and the Desire for Social Integration Among Older Residents of a High-Crime Neighborhood. *The Gerontologist*, 58(1), 79-88. <https://doi.org/10.1093/geront/gnw268>

- Pruchno, R. (2018). Aging in Context. *The Gerontologist*, 58(1), 1-3. <https://doi.org/https://doi.org/10.1093/geront/gnx189>
- Rader, N. E., Cossman, J. S., & Porter, J. R. (2012). Fear of crime and vulnerability: Using a national sample of Americans to examine two competing paradigms. *Journal of Criminal Justice*, 40(2), 134-141. <https://doi.org/10.1016/j.jcrimjus.2012.02.003>
- Ryan, R. M., & Deci, E. L. (2001). On Happiness And Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology*, 52, 141-166. <https://doi.org/10.1146/annurev.psych.52.1.141>
- Rühs, F., Greve, W., & Kappes, C. (2017). Coping with criminal victimization and fear of crime: The protective role of accommodative self-regulation. *Legal and Criminological Psychology*, 22(2), 359-377. <https://doi.org/10.1111/lcrp.12106>
- Rypi, A. (2012). Not Afraid at All? Dominant and Alternative Interpretative Repertoires in Discourses of the Elderly on Fear of Crime. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 13(2), 166-180. <https://doi.org/10.1080/14043858.2012.729375>
- SCB (2022). *Efter 60. En beskrivning av äldre i Sverige* (https://www.scb.se/contentassets/c4ac9fb5ad10451aab0885b7160de9b0/be0701_2022a01_br_be51br2202.pdf)
- Schuermans, H., Steverink, N., Lindenberg, S., Frieswijk, N., & Slaets, J. P. J. (2004). Old or Frail: What Tells Us More? *Journal of Gerontology: MEDICAL SCIENCES*, 59A(9), 962-965. <https://doi.org/https://doi.org/10.1093/gerona/59.9.M962>
- Sheppard, C. L., Gould, S., Austen, A., & Hitzig, S. L. (2021). Perceptions of Risk: Perspectives on Crime and Safety in Public Housing for Older Adults. *The Gerontologist*. <https://doi.org/10.1093/geront/gnab155>
- SOU (2008). *Bo bra hela livet* (<https://www.regeringen.se/rattsliga-dokument/statens-offentliga-utredningar/2008/12/sou-2008113/>)
- Stafford, M., Chandola, T., & Marmot, M. (2007). Association Between Fear of Crime and Mental Health and Physical Functioning. *American Journal of Public Health*, 97(11), 2076-2081. <https://doi.org/10.2105/AJPH>
- Step toe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, 385(9968), 640-648. [https://doi.org/10.1016/s0140-6736\(13\)61489-0](https://doi.org/10.1016/s0140-6736(13)61489-0)

- Steverink, N. (2019). Trajectories of Well-Being in Later Life (*Oxford Research Encyclopedia of Psychology*). <https://doi.org/10.1093/acrefore/9780190236557.013.424>
- Steverink, N., Slaets, J. P. J., Schuurmans, H., & Van Lis, M. (2001). Measuring frailty: developing and testing the GFI (Groningen Frailty Indicator). *The Gerontologist*, 41, 236.
- Stjernborg, V. (2017). Experienced fear of crime and its implications for everyday mobilities in later life: an ethnographic case study of an urban Swedish neighbourhood. *Applied Mobilities*, 2(2), 134-150. <https://doi.org/10.1080/23800127.2017.1322777>
- Sutton, R. M. (2004). Gender, Socially Desirable Responding and the Fear of Crime: Are Women Really More Anxious about Crime? *British Journal of Criminology*, 45(2), 212-224. <https://doi.org/10.1093/bjc/azh084>
- Sutton, R. M., Robinson, B., & Farrall, S. D. (2011). Gender, fear of crime, and self-presentation: an experimental investigation. *Psychology, Crime & Law*, 17(5), 421-433. <https://doi.org/10.1080/10683160903292261>
- Tesch-Romer, C., & Wahl, H. W. (2017). Toward a More Comprehensive Concept of Successful Aging: Disability and Care Needs. *Journals of Gerontology. Series B: Psychological Sciences and Social Sciences*, 72(2), 310-318. <https://doi.org/10.1093/geronb/gbw162>
- Thayer, J. F., Mather, M., & Koenig, J. (2021). Stress and aging: A neurovisceral integration perspective. *Psychophysiology*, 58(7), e13804. <https://doi.org/10.1111/psyp.13804>
- Urry, H. L., & Gross, J. J. (2010). Emotion Regulation in Older Age. *Current Directions in Psychological Science*, 19(6), 352-357. <https://doi.org/10.1177/0963721410388395>
- Valente, R., & Valera Pertegas, S. (2018). Ontological insecurity and subjective feelings of unsafety: Analysing socially constructed fears in Italy. *Social Science Research*, 71, 160-170. <https://doi.org/10.1016/j.ssresearch.2017.11.007>
- Valente, R., Valera Pertegas, S., & Guàrdia Olmos, J. (2018). A Structural Equation Model Estimation of the Role of Social Vulnerability as a Predictor of People's Feelings of Unsafety. *Social Indicators Research*, 143(2), 433-449. <https://doi.org/10.1007/s11205-018-2004-2>

- van den Bout, J., & Boelen, P. (2017). Verlies en rouw. In M. Vink, Y. Kuin, G. Westerhof, S. Lamers, & A. M. Pot (Eds.), *Handboek ouderenpsychologie* (pp. 221-246). De Tijdstroom.
- van Hoof, J., Dikken, J., van Staaldin, W. H., van der Pas, S., van den Hoven, R. F. M., & Hulsebosch-Janssen, L. M. T. (2022). Towards a Better Understanding of the Sense of Safety and Security of Community-Dwelling Older Adults. The Case of the Age-Friendly City of The Hague. *International Journal of Environmental Research and Public Health*, 19(7). <https://doi.org/10.3390/ijerph19073960>
- Velasquez, A. J., Douglas, J. A., Guo, F., & Robinette, J. W. (2021). What predicts how safe people feel in their neighborhoods and does it depend on functional status? *SSM - Population Health*, 16, 100927. <https://doi.org/10.1016/j.ssmph.2021.100927>
- Victor, C., Westerhof, G. J., & Bond, J. (2007). Researching Aging. In J. Bond, S. Peace, F. Dittmann-Kohli, & G. Westerhof (Eds.), *Aging in Society. European Perspectives on Gerontology*. (3rd ed., pp. 85-112). SAGE.
- Visser, M., Scholte, M., & Scheepers, P. (2013). Fear of Crime and Feelings of Unsafety in European Countries: Macro and Micro Explanations in Cross-National Perspective. *The Sociological Quarterly*, 54(2), 278-301. <https://doi.org/10.1111/tsq.12020>
- Wahl, H.-W., & Gerstorf, D. (2020). Person-Environment Resources for Aging Well: Environmental Docility and Life Space as Conceptual Pillars for Future Contextual Gerontology. *The Gerontologist*, 60(3), 368-375. <https://doi.org/10.1093/geront/gnaa006>
- Wahl, H.-W., & Gitlin, L. N. (2019). Linking the socio-physical environment to successful aging: From basic research to interventino to implementation science considerations In R. Fernandez-Ballesteros, A. Benetos, & J.-M. Robine (Eds.), *The Cambridge Handbook of Successful Aging* (pp. 570-593). Cambridge University Press.
- Wahl, H.-W., Iwarsson, S., & Oswald, F. (2012). Aging well and the environment: toward an integrative model and research agenda for the future. *The Gerontologist*, 52(3), 306-316. <https://doi.org/10.1093/geront/gnr154>
- Walklate, S. (1998). Excavating the fear of crime: Fear, anxiety or trust? *Theoretical Criminology*, 2(4), 403-418. <https://doi.org/https://doi.org/10.1177/1362480698002004001>

- Wiles, J. L., Leibing, A., Guberman, N., Reeve, J., & Allen, R. E. (2012). The meaning of "aging in place" to older people. *The Gerontologist*, 52(3), 357-366. <https://doi.org/10.1093/geront/gnr098>
- Wilson-Genderson, M., & Pruchno, R. (2013). Effects of neighborhood violence and perceptions of neighborhood safety on depressive symptoms of older adults. *Social Science and Medicine*, 85, 43-49. <https://doi.org/10.1016/j.socscimed.2013.02.028>
- Won, J., Lee, C., Forjuoh, S. N., & Ory, M. G. (2016). Neighborhood safety factors associated with older adults' health-related outcomes: A systematic literature review. *Social Science and Medicine*, 165, 177-186. <https://doi.org/10.1016/j.socscimed.2016.07.024>
- Yin, P. P. (1979). Fear of Crime among the Elderly: Some Issues and Suggestions. *Social Problems*, 27(4), 492-504. <https://doi.org/https://doi.org/10.2307/800177>
- Ziegler, R., & Mitchell, D. B. (2003). Aging and fear of crime: an experimental approach to an apparent paradox. *Experimental Aging Research*, 29(2), 173-187. <https://doi.org/10.1080/0361073030303716>
- Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, 67(6), 361-370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52(1), 30-41. https://doi.org/https://doi.org/10.1207/s15327752jpa5201_2
- ÖBO (2022). *Upptäck fördelarna med ÖBOs seniorbostäder*. ÖrebroBostäder AB <https://www.obo.se/sok-ledigt/senior/>

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