

Fear of Crime and Older Adults: A Metanarrative Review of the Literature

by

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Abstract

Older adults have been described as experiencing irrational fear of crime with debilitating effects on the quality of their lives. Recent research suggests fear of crime by older adults may have been over-stated due to conceptual, methodological, and theoretical weaknesses. It has been argued that fear of crime has a “murky history,” “shaky foundations,” and “a constructed, contingent, and ultimately contestable” nature. A metanarrative review of the literature was completed in order to identify where the “fear of crime debate has been, where it presently sits, and where it might travel in the future.” The review utilized nine electronic data bases up to 2013 including Ageline, PsychInfo, Wiley Library, PsychArticles, Avery Index, Cochrane Central, ProQuest Dissertations, Web of Science, and SFU Library. Articles addressing definitional, conceptual, measurement and theoretical issues are included. The results strongly suggest that irrational fear of crime is a very limited experience for older adults.

Keywords: fear of crime; fear of crime and older adults (elderly); crime worry; fear-victimization paradox; ageism

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List of Acronyms and Glossary

BCS	British Crime Survey (U.K.); measures crime in England and Wales
Broken Windows	A criminological theory that emphasizes the signaling effects of urban disorder and vandalism as markers of crime and anti-social behavior. The theory states that maintaining and monitoring urban environments in a well-ordered condition may stop further vandalism and escalation into more serious crime (Wilson & Kelling, 1982).
CCTV	closed-circuit television
CPTED	Crime Prevention through Environmental Design
Defensible Space	Defensible space is "a residential environment whose physical characteristics—building layout and site plan—function to allow inhabitants themselves to become key agents in ensuring their security" http://en.wikipedia.org/wiki/Defensible_space_theory
Fear-victimization paradox	The idea that older adults as a group experience higher, disproportionate, and irrational fear of crime relative to their actual victimization rates.
GAD	Generalized anxiety disorder (GAD) is a common anxiety disorder that involves chronic worrying, nervousness, and tension which is diffuse—a general feeling of dread or unease that colors your whole life.
GSS	General Social Survey (N.A., Europe); source of data on societal trends measuring demographic, behavioral and attitudinal data
NCVS	National Crime Victimization Survey (U.S.); known previously as NCS; has been collecting data on personal and household victimization since 1973.
SCM	The Stereotype Content Model was developed by Fiske and colleagues. The SCM model is a psychological theory that suggests stereotypes possess two dimensions – warmth and competence – along which all social groups are perceived and which elicit distinct emotions and attitudes.

1. Introduction

Fear of crime has been studied for over 45 years and has been conceptualized in a number of different ways. The study of fear of crime has utilized different methodologies and analytical procedures and has explored theoretical models from disciplinary, multidisciplinary, and interdisciplinary perspectives. There are thousands of academic journal articles addressing fear of crime and a Google search of “fear of crime” in 2013 returned over 858,000 entries. Nevertheless, prominent researchers have described fear of crime’s “shaky foundations” (Lee, 2007), its “murky history” (Chadee & Ditton, 2003), its “constructed, contingent, and ultimately contestable” nature (Lee, 2007, p. 61), and currently describe its lived reality as “rarely experienced, episodic, and short-lived” (Jackson, Gray, & Farrall, 2009, p. 12). Lee, a sociologist and author of many books and articles on fear of crime has recently gone so far as to suggest that he could now “pronounce fear of crime dead, a thing of the past” (Lee, 2007, p. 204). While a number of his colleagues would agree, others remain open to the possibility that the construct fear of crime still has much to offer and see value in tracing “where the fear of crime debate has been, where it presently sits, and where it might travel in the future” (Walklate & Mythen, 2008, p. 210).

While the issues outlined above apply to the study of fear of crime in general, they are also applicable to the specific study of fear of crime and older adults. Older adults have been consistently identified as the age group most fearful of crime, and given the global trends in population aging fear of crime and older adults is a potentially important topic for gerontology. According to George Magnus, author of *The Age of Aging*, by 2050 the proportion of the world’s population over the age of 60 will have doubled and will account for 22% of the world’s population, while those over the age of

80 will have increased from 88 million to over 400 million (Magnus, 2009).¹ If fear of crime is a serious concern for older adults, it will be important for gerontology to contribute to a resolution of the problem. If fear of crime is not significant for older adults, gerontology can refocus on issues that are of more importance. This capstone paper aims at bridging the gap in our substantive knowledge regarding fear of crime as experienced by older adults by providing a critical examination of the outstanding literature designed to address several key research questions:

- Are older adults more afraid of crime than younger people?
- If yes, what is the nature, frequency, and intensity of that fear?
- How does fear of crime impact the quality of life for older adults?
- How are older adults harmed by fear of crime?
- Is fear of crime a proxy for something else for older adults?
- Is fear of crime a major social problem for older adults?
- Is there value in continuing to research fear of crime and older adults?

These questions are approached from multiple directions. Chapter 1 provides an outline of this capstone project. Chapter 2 introduces the conceptual, methodological, and analytical approach to the research literature used in this capstone project, while Chapter 3 presents the early history and development of the “discovery” of fear of crime, reviews the early literature relating specifically to older adults and fear of crime, and introduces the fear-victimization paradox. Chapter 4 presents a critical examination of the definitional, conceptual, methodological, and theoretical issues outstanding in the literature. Chapter 5 reviews a number of related methodological and substantive topics that are important for the study of fear of crime and older adults, and Chapter 6 discusses future research opportunities, in particular those related to identifying the fears associated with late life, and safety issues for older adults. A brief summary is also provided.

¹ The US Census Bureau predicts that the percentage of people over 65 in the US will grow from 13% to 20% by 2030 and in Canada the population over 65 is predicted to move from 13.7% to 20% by 2024 (Joyce and Low, 2010)

2. Literature Review

This capstone project will utilize the meta-narrative perspective to complete the review and synthesis (Greenhalgh, 2004; Greenhalgh & Peacock, 2005; Greenhalgh Robert, Macfarlane, Bate, Kyriakidou, & Peacock, 2005). This perspective, recommended as a tool to analyze and then synthesize complex bodies of research, is defined as a process which takes the “unfolding storyline of a research tradition over time” as the unit of analysis, and then traces the impact on the storyline of key theoretical and empirical work contributed by different groups of scientists investigating the same problem (Greenhalgh et al., 2005, p. 417). As a number of researchers are increasingly recognizing, an over-reliance on a standard systematic literature review, described as an “objective and dispassionate summary of all the published research on a particular topic area” (Greenhalgh, 2004, p. 350), can inadvertently obscure the ways in which research actually evolves. As these authors have suggested, all research occurs in a particular historical, ideological, political, and social context and this insight is particularly helpful in understanding how the key theoretical ideas that have contributed to our understanding of fear of crime and older adults have unfolded over the past 45 years. I will also argue that a meta-narrative perspective uncovers the ways in which research on fear of crime and older adults has relied on and inadvertently contributed to an ageist understanding of older adults.

Hundreds of articles have been written on fear of crime and older adults from a number of conceptual, methodological, and theoretical perspectives over the last 45 years. Nine electronic data bases were searched up to 2013 including Ageline, PsychInfo, Wiley Library, PsychArticles, Avery Index, Cochrane Central, ProQuest Dissertations, Web of Science, and SFU Library. *Fear of crime, fear of crime and older adults (elderly), crime worry, fear-victimization paradox, and ageism* were selected as the generic search terms. Relevant journals and Websites were hand searched for additional studies, as were bibliographies of key articles. Key experts in the field were contacted (Chadee, Farrall, Greenhalgh, Hummelsheim, and Jackson). English

language terms only were searched. The search returned 2,643 references with 310 included in this review. Seminal conceptual and empirical papers addressing key theoretical aspects of the fear of crime literature were also included when judged to be relevant. The literature review will develop a synthesis of the research conducted over the preceding 45 years, and will summarize both the diversity and complexity associated with understanding fear of crime and older adults.

2.1. Conceptual Papers

The fear of crime literature has from the beginning struggled to adequately conceptualize fear of crime, which has in turn led to significant measurement problems. As early as 1984 Warr observed that “the phrase fear of crime has acquired so many divergent meanings in the literature that it is in danger of losing any specificity whatsoever” (Warr, 1984, p. 681). By 1987, Ferraro and LaGrange noted that a “substantial body of research has not manifested a rigorous concern for conceptual issues” and commented again in 1988 on the “conceptual cloudiness” of fear of crime. While conceptual developments have occurred and will be discussed throughout the paper, the inability to adequately conceptualize fear of crime has led to different substantive conclusions and misleading empirical findings over the last 45 years with important implications for our understanding of fear of crime and older adults. These implications will be discussed in detail in the context of the empirical results and a chronological summary of important conceptual papers is provided in Appendix B.

2.2. Methodological Papers

Conceptual problems contribute to methodological problems and the operationalization and measurement of fear of crime has suffered as a result. While measurement issues were identified as early as 1971 by Furstenburg, researchers in the late 1970s continued to express frustration over the lack of sophistication, consistency, and specificity in academic papers (DuBow, McCabe, & Kaplan, 1979), going so far as to suggest that as a result, “what has been measured in research as the fear of crime is simply not the fear of crime” (Garofalo & Laub, 1978, p. 246). The “operational

obfuscation” noted by Ferraro and LaGrange in 1987 remains as important an issue today as it was then with many researchers continuing to comment on questionable survey methods and inconsistent and misleading empirical measurement instruments (Farrall & Gadd, 2004; Gray, Jackson, & Farrall, 2011; Kury, 2008; Lee, 2007; Sessar, 2008; Vanderveen, 2008). The implications for fear of crime and older adults will be discussed in detail in the context of the empirical results and a chronological summary of important conceptual papers is provided in Appendix B.

3. The “Discovery” of Fear of Crime

A number of criminologists and sociologists have stated that the construct *fear of crime* was not “discovered” in the U.S. until the mid-1960’s and was in fact, rarely if ever used prior to 1965 (Ferraro, 1995; Lee, 2007; Lee & Farrall, 2009). Its emergence coincided with official reports of escalating crime rates and significant social change created by social movements such as protests against the Vietnam War, the fight for civil rights for black Americans, feminism, and gay rights (Erskine, 1974; Ferraro, 1995; Fishman, 1978; Furstenberg, 1971, 1972; Lee, 2001, 2007; Lee & Farrall, 2009). In saying this, these academics do not mean that fear of crime had not been experienced previously – only that it had not been seen as sufficiently important to formally measure or address with policy.

However, the political response to reports of higher crime rates and escalating social protest movements in the 1960s was immediate and resulted in a number of commissioned polls from firms such as Gallup and Harris. Gallup was releasing poll results as early as 1965 that indicated that crime was the number one concern of respondents. Ongoing polls collected by both Gallup and Harris in 1967, 1968, and 1969 continued to suggest that crime concerns were high and steadily increasing (Loo, 2009). The cumulative effect of these poll results along with new developments in crime statistics was higher rates of recorded crime, an emerging focus on the victims of crimes rather than perpetrators, and the development of victim surveys. These issues coalesced and resulted in the passing in 1968 of the *Omnibus Crime Control and Safe Streets Act* in the U.S. This act clearly stated that its purpose was to allow the U.S. Congress to provide extensive national support to local and state efforts to implement crime prevention strategies. According to Lee (2007), the passing of this act immediately set in motion a self-perpetuating “fear of crime feedback loop” that resulted in a tougher approach to crime along with significant research funding that resulted in the hundreds of articles addressing fear of crime that eventually followed.

As Loo and Grimes (2004) suggest in their detailed review of the 1960s polls, “scholars’ conclusions about the crime issue in the 1960s have all been based to a large extent, or even exclusively, upon [the] polling data” (p.52) mentioned above.² Furstenberg (1971) also suggested that up until 1969, “the surveys conducted by the President’s Commission on Crime in 1966 provided the best and virtually the only source of information on public reaction to crime” (Furstenberg, 1971, p. 602). However, it is this polling data that many scholars refer to as forming fear of crime’s “shaky foundations” (Lee, 2007), and its “murky history” (Chadee & Ditton, 2003). The questionable nature of the results available to both the public and scholars from polls conducted throughout the 1960s was due to a number of factors including incorrect aggregation of results, category conflation, particularly of crime and civil rights demonstrations, reporting of partial and misleading information, the creation of reporting categories never previously (or since) utilized, the use of leading questions in surveys, and the non-publication of contrary results (Loo and Grimes, 2004; Loo, 2007).

Loo and Grimes’ (2004) review of polls and media coverage covering crime during the mid-1960s reveal a number of important disparities. Newspapers in 1964 describe the country as in the “midst of a crime wave of unprecedented proportions” (Loo & Grimes, 2004, p. 55), a claim repeated in published poll results over the next few years. However, as these authors point out, closer analysis reveals a number of problems and discrepancies in the data. For example, in 1965 Gallup reported crime as the number one fear of respondents when the poll actually showed only 1% citing crime and 2% juvenile delinquency, numbers that remained consistent through to 1967 when poll results showed a slight increase to 4%. (They also note that the majority of poll results showing low levels of concern with crime were ignored by the media.) By the summer of 1968 the polls were reporting that crime concerns had escalated and reached a high of 21%. What the pollsters did not reveal however, was their use of a new conflated category that included the previous crime and delinquency but which now also included riots and looting, which in turn, resulted in inflated numbers. However, even

² A review of the references in Hale’s exhaustive review of the fear of crime literature published in 1996 reveals three references in the 1960s, all released in 1967 by government agencies including the District of Columbia, the President’s Commission on Law Enforcement and Administration of Justice, and the Office of Law Enforcement in Michigan. My own review of the literature reveals no scholarly or academic articles on fear of crime prior to the mid-1970s.

with conflated categories, crime consistently trailed other concerns. While crime concerns did rank fourth amongst concerns in 1968, the correct number was 8% rather than 21%, while the Vietnam War reached 47%, civil rights was second at 21%, and riots were in third place with 12% of the population concerned – all considerably higher than concern with crime (Ferraro, 1995; Lee, 2007; Lee & Farrall, 2008; Loo & Grimes, 2004; Loo, 2007; McCoy, Woolredge, Cullen, Dubeck, & Browning, 1996).

As can be seen in the timeline (Figure 3.1), with inflated reports of fear of crime receiving significant media, police, and public attention, by the close of the 1960s fear of crime had been firmly problematized as a significant social concern and became a major growth area for academic research and policy initiatives (Hale, 1996), and by 2008 could be described as “one of the most researched topics in contemporary criminology” (Lee & Farrall, 2008, p. 3). Scholars from a number of disciplines actively pursued the study of fear of crime and from zero studies in the 1960s, Hale reports that fear of crime studies grew to 60 studies in the 1970s, and to over 190 in the 1980s. By 2000, an online search by Lee (2007) revealed over 837 entries while Google returned over 242,000 entries. A 2013 search of the library index of SFU returns 7,470 journal articles and 13,547 newspaper articles while a Google search returns 858,000 entries. Despite shaky foundations, the study of fear of crime can now be accurately described as having achieved “industry proportions” (Lee, 2007). One of the significant sub-topics to emerge from this vast literature on fear of crime beginning in the early 1970s was that of fear of crime and its’ relationship to older adults, the topic addressed in the remainder of this capstone project.

History of Fear of Crime

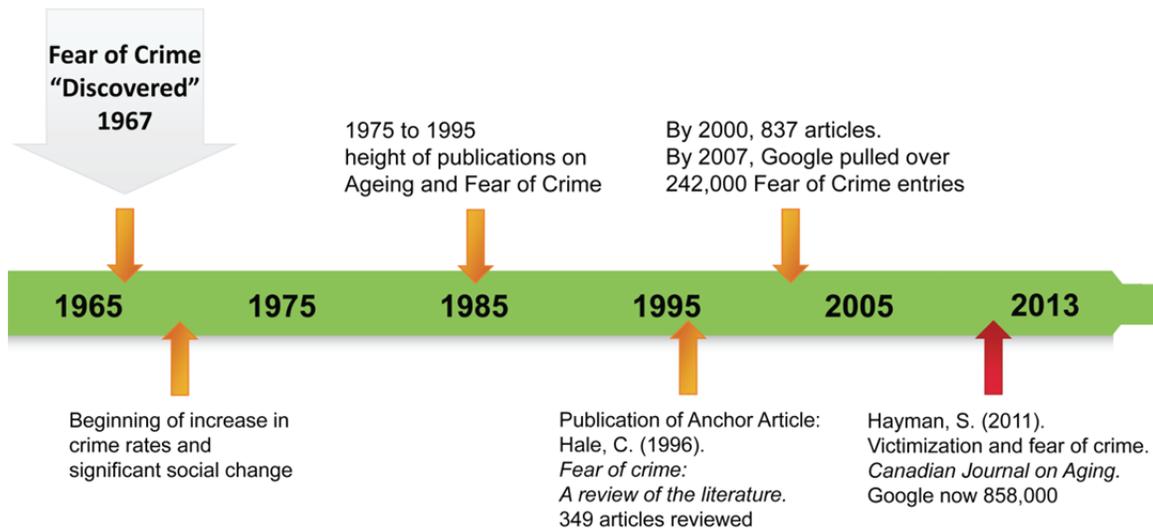


Figure 3.1. Timeline: Development of the Construct Fear of Crime, 1965 to Present

3.1. Fear of Crime and Older Adults

By the mid-1970s, the fear of crime literature had transitioned from polls and newspaper reports to academic research with Hales' detailed review of the literature in 1996 showing over 60 academic reviews by the end of the 70s. It was also at this time that the relationship between fear of crime and older adults began to receive increasing academic attention (see timeline above) as a result of early indications in the polls and newspapers that older adults experienced more fear of crime than younger people (Aday, 1988; Baldassare, 1986; Brooks, 1974; Clemente & Kleiman, 1976; Clemente & Kleiman, 1977; Craig, 2000; Garofalo & Laub, 1978; Goldsmith & Goldsmith, 1976; Goldstein, Hoyer, & Monti, 1979; Greenstein, 1977; Gubrium, 1973; Jaycox, 1979; Lawton, Nahemow, Yaffe, & Feldman, 1975; Lebowitz, 1975; Patterson, 1977; Shotland, et al., 1979; Sundeen & Mathieu, 1976a, 1976b; National Institute of Justice, 1983; Van Burne, 1976). Comments by several prominent gerontologists at this time also lent support to this idea. For instance, M. Powell Lawton, the well-known environmental gerontologist stated in 1973 that "black and white aged alike go about in constant fear of attack" (quoted in Cutler, 1979, p. 374), Robert Butler stated in 1975 in his Pulitzer prize winning book, *Why Survive? Growing Old in America*, that "old people are victims of

violent crime more than any other age group” (Butler, 1975, p.300), and Cutler stated in 1979 that “the evidence that the elderly consider crime to be among their most serious problems is unequivocal” (Cutler, 1979, p. 373).

In fact, none of these comments were “unequivocally” supported by the research emerging during the 1970s. Using data gathered from polls in 1965, 1967, 1968, 1973 and 1974, Cook and Cook (1976) consistently found that adults experienced higher rates of fear of crime in every year (35% versus 38%, 30% versus 33%, 37% versus 41%, 40% versus 46% and 43% versus 56% respectively) and that fear of crime had increased the most over this time period for older adults. Cutler’s (1979) research based on data from 1965 and 1975 was similar to Cook and Cook’s. In both years older people had the highest fear—in 1965, 40% versus 29%, and in 1976, 58% versus 38%—with older people once again showing the highest overall increase in fear of crime. However, other research was leading in a different direction. Clemente and Kleiman (1977) used data from the 1973 and 1974 General Social Surveys and multivariate analysis to go beyond early simple bivariate results and found that age accounted for less than 1% of the variance in fear of crime ($\beta = .008$; MNA no statistical significance provided).³ Lebowitz (1975) also used data from 1973 and found only a 5% difference in fear of crime based on age, an effect he described as “neither substantively interesting nor statistically significant” (Lebowitz, 1975, p. 697). Janson and Ryder (1983) used data from 1974 to review the relationship between risk, fear, and age and found a univariate relationship ($r = .183$; $\beta = .020$, $p < .01$) which was statistically insignificant ($r = .004$) when other factors were controlled for.

Unlike the results for fear of crime and age, those for victimization rates and age were consistent throughout the 1970s. In spite of occasional but ominous news reports of unsubstantiated crime waves against older people (Fishman, 1978), official victimization rates for crime and older adults consistently revealed that older adults experienced the lowest rates of crime (Gubrium, 1974). For example, Cook and Cook

³ Chadee and Ditton (2003) make the interesting observation that there has been a consistent over-reliance in the fear of crime and older adult literature on univariate measures. They refer to the frequent citing of Clemente and Kleiman’s univariate study in 1976 and the infrequent citing of their 1977 multi-variate analysis of the same data in 1977 showing minimal support for age as a contributing factor as evidence of this tendency.

(1976) reveal that in 1967 people aged 60 and older experienced 34.65 crimes per 1,000 versus 59.24 for people aged 20 to 29. In 1973 the rate for those 65 and older was 31.6 per 1,000 while for those 20 to 24 it was 201.2 per 1,000, and in 1974 using both age of the victim and type of crime, the data revealed 30 crimes per 1,000 for people 65 and older versus 169 for those 20 to 34, with the rate lowest for every type of crime for older people. Garofalo (1979) used data from 1975 and found a rate of victimization of 125 per 1,000 for people aged 16 to 19 and 34 per 1,000 for those aged 65 and older and using data from 1977, Lindquist and Duke (1982) found 370 crimes per 1,000 for people 65 and older and 3,009 for people aged 25-34.

However, while victimization rates were largely uncontroversial, commentary addressing the consequences of both victimization and fear of crime was not. Cook and Cook (1976) suggest that a lack of data at that time prevented an adequate assessment of the consequences of fear of crime for older adults. In contrast, Clemente and Kleiman (1976) make a number of assertions regarding the damages caused by fear of crime across age groups, reporting that harms such as avoidance behaviors, the purchase of costly safeguards such as guns, dogs, and alarm systems, reduced socialization, an unwillingness to help others, and negative psychological effects were common, although no supporting empirical evidence is provided. Other researchers suggested similar negative physical and psychosocial consequences but again without corroboration (Butler, 1975; Conklin, 1975; Cunningham, 1976; Hahn, 1976; Lawton et al., 1975). Cook, Skogan, Cook, and Antunes (1978) do however provide substantial empirical evidence from national survey data using economic and physical consequences as the dependent variables, and find that there is “scant systematic support...that when elderly Americans are victimized by criminals, they suffer more severe financial or physical hardship than younger persons” (Cook et al., 1978, p. 346). However in spite of these conflicting results, a rather typical description of the impact of fear of crime on older adults at this time is captured in the following description from the academic literature: “Afraid someone will rob or hurt them, older citizens increasingly remain behind bolted doors and forego many of the experiences that give joy and meaning to life” (Braungart, Hoyer, & Braungart, 1979, p. 15).

3.1.1. Fear-Victimization Paradox

While empirical evidence of high levels of fear of crime experienced by older people is inconsistent in the research conducted throughout the 1970s, the results suggesting that older adults as a group experienced a higher, disproportionate, and irrational fear of crime relative to their actual victimization rates continued to receive the most attention. These results were quickly labeled the fear-victimization paradox in both the academic literature and popular press (Brillon, 1987; Clemente & Kleiman, 1976; Ferraro, 1995; Jaycox, 1978; Lee, 1982a; Lewis & Salem, 1986; Lindquist & Duke, 1982; Maxfield, 1984b). In 1977 the U.S. Subcommittee on Housing and Aging acknowledged that while victimization rates were lower for older people, their excessive fear was driven by the disproportionate suffering (although unsubstantiated) experienced by older adults, rather than the original emphasis on quantitative reports of experiences of fear. This shift in focus was captured in a comment made during that meeting that “no group of citizens suffers more painful losses than our nation’s elderly do at the hands of America’s criminal predators” (Cook et al., 1978, p. 339). The importance of this issue was also demonstrated by the appearance of two issues of the journal the *Police Chief* by 1978 that were devoted to the criminal victimization of the elderly. As a result of this early focus, the fear-victimization paradox has been recognized as fueling much of the subsequent research on fear of crime throughout the 1970s and into the 1980s and 1990s.

While there were early suggestions that the fear-victimization paradox was overstated, it was not seriously contested until the 1980s (Furstenberg, 1971). While greater fear by older adults continued to be regularly reported in the literature, a number of researchers were suggesting that there were significant problems in the construction of fear of crime used in the literature. These problems included the lack of a precise meaning for fear of crime, questionable survey methods, the use of inconsistent and misleading empirical measurement instruments, and conflicting theoretical explanations (LaGrange & Ferraro, 1987; Lawton & Yaffe, 1980; Lebowitz, 1975; Yin, 1980). In fact, the existing research was pointing to a number of variables other than age that appeared to be more strongly associated with the fear of crime such as victimization rates, housing, gender, and income (Akers, LaGreca, Sellers, & Cochrane, 1987; Burt & Katz, 1985; Gomme, 1988; Janson & Ryder, 1983; Jeffords, 1983; Sacco & Glackman, 1987;

Yin, 1985). The identification of these issues led to a sense of increasing scepticism towards the early literature on fear of crime and aging. For example, in an analysis of the existing survey data up to the 1980s, Yin (1982) found that fear of crime was a less severe problem for the elderly than had been previously reported. In another study, Clarke and Lewis (1982) found that fear of crime did not increase with increasing age and Maxfield (1984a) found that perceptions of crime were more important than age in accounting for fear of crime in high crime neighborhoods. By the late 1980s, Ferraro and LaGrange were suggesting that fear of crime in the elderly had been exaggerated in the gerontological, sociological, and criminological literature due to “conceptual cloudiness and operational obfuscation of the fear of crime concept” (Ferraro & LaGrange, 1988, p. 278).

Criticisms of both the early and ongoing research continued during the 1990s culminating in Chris Hale’s important review of the fear of crime literature in 1996. While addressing the fear of crime literature in general, Hale summarized what was known up to 1996 about fear of crime and older adults by stating that “clearly the notion that the elderly are more fearful of crime is one which needs further study” (Hale, 1996, p. 103). This sentiment was also echoed by McCoy et al. in 1996, when they suggested that “researchers might find it profitable to review the social construction of the social problem of fear of crime experienced by the elderly” (p. 202) and this, in turn, was followed by a more strongly worded recommendation appearing in 2003 suggesting that it might in fact be time to “scotch the myth that the old are fearful of crime” (Chadee & Ditton, 2003, p. 443).

4. Issues Emerging from the Literature

The contradictory results and conceptual and methodological issues related to fear of crime and older adults functioned as a catalyst for ongoing research and have generated a significant body of literature from the 1980s to the present. This is perhaps not surprising. As Greenhalgh and colleagues have noted, ambiguous and/or contradictory results in an area of research are typically addressed with claims of methodological flaws that can only be addressed with additional research (Greenhalgh & Peacock, 2005; Greenhalgh et al., 2005; Hurwitz, Greenhalgh, & Skultans, 2004). Certainly, the majority of the articles published since the 1980s on the topic of fear of crime and older adults have been written in response to calls for additional research to address methodological weaknesses. While there are strengths in this kind of response, it can also lead to highly repetitive research and results - outcomes that have been described as watching research “travel long distances down narrow paths” (Walklate, 2008, p. 221). Walklate has clearly captured an important trend in the research addressing fear of crime and older adults. However, I believe that the research has travelled a wider path than Walklate credits it with and this can be seen clearly when a “multi-narrative perspective” is utilized to analyze and synthesize the research results of the last 45 years.

While the surveys, questionnaires, and experiments completed as part of empirical research in the 1970s, 80s, and 90s regularly indicated that many older adults experienced fear of crime sufficient to negatively impact their sense of well-being, and physical and psychological health, the research was never unequivocal. Many criminologists and gerontologists strongly supported these conclusions and recognized fear of crime as a significant social problem for older adults. However, the emerging empirical evidence was always ambiguous and by the early 2000s, a number of new articles were in alignment with the early suggestions by Hale (1996), McCoy et al. (1996), and Yin (1982), that fear of crime in older adults had been overstated in the early literature due to a number of issues (Chadee & Ditton, 2003; Chiricos, Padgett, & Gertz,

2000; Ferraro, 1995; Ferraro & LaGrange, 1987, 1988, 1992; Janson & Ryder, 1983; LaGrange & Ferraro, 1987; Mullen & Donnermeyer, 1985; Ranzijn & Howells, 2002; Sutton & Farrell, 2005, Taylor & Hale, 1986; Tulloch, 2000; Warr, 1984). As will be evident in the literature review below, many researchers in the field, particularly since 2000, now go so far as to suggest that fear of crime is experienced only rarely, and only by a minimum percentage of older adults (Alper & Chappell, 2012; Farrall & Gadd, 2004; Gray, Jackson, & Farrall, 2008b, 2011; Hummelsheim, Hirtenlehner, Jackson, & Oberwittler, 2011; Kitchen & Williams, 2010; Lorenc et al., 2012; Russo & Roccato, 2010; Schafer, Huebner, & Bynum, 2006).

4.1. Conceptual/Definitional Confusion

The fear of crime literature has from the beginning struggled to adequately define and conceptualize fear of crime, which has led to significant measurement problems as will be evident in the following section. Warr had observed as early as 1984, that “the phrase fear of crime has acquired so many divergent meanings in the literature that it is in danger of losing any specificity whatsoever” (Warr, 1984, p. 681). Ferraro and LaGrange noted that a “substantial body of research has not manifested a rigorous concern for conceptual issues” (Ferraro & LaGrange, 1987, p. 71) and fear of crime remains “conceptually cloudy” (Ferraro & LaGrange, 1988, p. 278). One of the earliest definitions presents fear of crime as “the sense of personal security in the community” (Conklin, 1971, p. 374). Others include: “the amount of anxiety and concern that persons have of being a victim” (Sundeen & Mathieu, 1976b, p. 55); “an emotional response of dread or anxiety to crime or symbols that a person associates with crime (Ferraro & LaGrange; 1987, p. 23); “an emotional response to possible violent crime and physical harm” (Covington & Taylor, 1991, p. 231); a “rather highly complex product of each individual’s experiences, memories, and relations to space” (Koskela, 1997, p. 304), and “the wide range of emotional and practical responses to crime and disorder which individuals and communities may take” (Pain, Williams, & Hudson, 2000, p. 4). More recently fear of crime has been defined as “a feeling expressed by avoidance or protection behavior, an abstract fear when being in a perceived threatening environment, or a concrete evaluation of the risk of being a victim of a personal or personal-property attack” (Beaulieu, Dube, Bergeron, & Cousineau, 2007, p. 338). Most recently, in Europe

and South America in particular, fear of crime is being defined as a composite of feelings of general insecurity, “operating as a sponge, absorbing all sorts of anxieties...from family to community to society” (Hummelsheim et al., 2011, p. 337). In Chile, fear of crime has been defined by the United Nations Program for Development in Chile (UNDP) as “the product of a wide array of other economic, social, and political insecurities” (Dammert & Malone, 2006, p. 30).

4.1.1. Concern, Risk, and Fear

One of the first issues to emerge from these conflicting definitions was the recognition of important distinctions between concern, risk, and fear that were largely being overlooked when defining fear of crime. Furstenburg (1971) was one of the first to make a clear distinction between concern (a public issue) and crime risk (a judgment of personal safety), noting that many people (particularly older people), made clear distinctions between crime as a social problem and crime as a personal risk and that these distinctions resulted in different empirical research results. Ferraro and LaGrange, (1987) also note the persistent failure to distinguish between fear of crime as a negative emotional reaction and fear of crime as a cognitive assessment of risk. In addition, the failure to adequately define “crime” and acknowledge that it too refers to a wide variety of activities such as personal crime, property crime, and organized crime for example, has also been noted by a number of academic researchers (Ferraro, 1995; Miethe & Lee, 1984; Lee, 2007; Semmens, 2007; Yin, 1980)⁴. There have also been several suggestions that there are a number of potential alternative emotional reactions to crime such as anger that have not been adequately conceptualized, nor have frequency, intensity, or sensitivity to risk been adequately distinguished from fear of crime (Rader, 2010; Semmens, 2007; Warr, 1984). As this literature review reveals, the combined impact of these conceptual and methodological weaknesses were significant and provide strong support for the early observation by Garofalo and Laub that “what has been measured in research as the “fear of crime” is simply not fear of crime” (Garofalo and Laub, 1978, p, 246).

⁴ Ferraro and LaGrange (1987) reported that as of 1987 only 15 out of 46 studies of fear of crime had tried to distinguish fear by crime type.

4.1.2. Worry, Anxiety, Fear, or Anger?

The related but distinct issue of potentially alternative emotional reactions to crime was also emerging at this time and addressed the conceptual distinctions between the emotions of worry, anxiety, fear, and anger in response to crime. The 1980 Figgie Report on Fear of Crime was one of the first reports to address the importance of this distinction, noting that a number of studies could be described more accurately as having studied anxiety rather than fear (Lavrakas, Lewis, & Skogan, 1980). Walklate (1998) also suggested important conceptual differences between fear, anxiety, and trust. In a study that has not received adequate attention, Ditton, Bannister, Gilchrist, and Farrall (1999), have also identified that when given an opportunity to describe their feelings to crime as either fear or anger, all ages responded with anger far more frequently than they did with fear, including older adults.⁵ Clarke (2003, 2004) examines a number of important distinctions between crime fears, anxieties, and the portrayal of fear of crime as an irrational “crime phobia” throughout much of the criminological and gerontological literature. Her conclusion suggests that too little is known about the “fear in fear of crime” to be able to accurately determine the intensity of that fear (Clarke, 2003, p. 280). Gray et al. (2011) also discuss the issue of distinct conceptual differences between measuring everyday worries and diffuse anxieties as responses to crime. They argue that this conceptual confusion, when applied to data from the British Crime Surveys, has contributed significantly to the different estimates of the distribution of fear of crime in the U.K. Conceptual developments have continued to occur and will be discussed in more detail in the theoretical approaches to studying fear of crime below. Nevertheless, the inability thus far to adequately conceptualize fear of crime has led to different substantive conclusions and conflicting empirical findings over the last 45 years, many with important implications for our understanding of fear of crime and older adults (Williams, McShane, & Akers, 2000; Skogan, 1993).

⁵ The authors report this was an unexpected finding which may have contributed to its relative neglect in the literature.

4.2. Methodological Issues

San-Juan, Vozmediano, and Vergara (2012) have recently suggested that fear of crime research can be characterized as stagnant and repetitive, much of which they attribute to the failure to find a “unanimously agreed-upon instrument for measuring the fear of crime” (p. 653). This has resulted in a large part of the research remaining focused almost exclusively on the search for a valid, reliable, and appropriately operationalized measurement instrument, a search that prevented further exploration of the substantive issues related to fear of crime and older adults (Ditton, Chadee, & Khan, 2003; Ditton, Khan, & Chadee, 2005; Farrall, Bannister, Ditton & Gilchrist, 1997; Ferraro & LaGrange, 1987; Ferraro, 1995; Gabriel & Greve, 2003; Gray, Jackson, & Farrall, 2008b; Jackson, 2005, 2006, 2007; Kury & Obergfell-Fuchs, 2008; Mawby, 2007; Sessar, 2008; Tseloni & Zarafonitou, 2008; Vanderveen, 2008). Four measurement issues in particular have been problematic for the study of fear of crime: 1) the almost exclusive reliance on the self-report survey method; 2) the repetitive use of two questionable survey measurements of fear of crime—the National Crime Victimization Survey (NCVS) and General Social Survey GSS) questions; 3) the distinction between perceived risk of crime (cognitive), and fear of crime (affective) and, 4) the measurement of fear as crime-specific versus non-specific fear (Ferraro & LaGrange, 1987; Ferraro, 1995; Henson, 2011).

Initially measured by professional pollsters and crime reports, fear of crime has been measured for the last several decades almost exclusively by the use of self-report surveys. These surveys are a common research methodology, particularly in criminology, and while there are a number of important advantages gained by using surveys, they can present a number of disadvantages, particularly with respect to the reliability and validity of the results. The advantages include ease of administration, low-cost, anonymity, the elimination of interviewer bias, and ease of completion in a wide variety of settings. Unfortunately the disadvantages can be considerable and include: low response rates; respondent error due to bias, socially desirable responses, lack of understanding of questions, evasiveness and overestimation; memory and recall issues; inability to recollect relevant information, and flawed judgement or estimation strategies. The emotional state at time of responding can also impact responses, as does question

order. In addition, surveys can inadvertently include leading questions, are overly dependent on closed questions, the length can impact both the reliability and validity of responses, as can the presence of a third party, use of incentives, and season of the year, and finally, surveys can be returned incomplete and unusable (Farrell et al., 1997; Gray et al., 2011; Harris, 1975; Jackson, 2007; Levine, 1976; Semmens, 2007; Singer, 1978; Taylor & Hale, 1986). More recently, there has been increasing recognition of the need to maintain adequate cross-cultural equivalence, along with the need to acknowledge parameter drift or temporal invariance resulting in different understandings in the meaning of fear of crime that occur over time (Liu, Messner, Zhang, & Zhou, 2009; Pleysier, Pauwels, Vervaeke, & Goethals, 2005).

Within the self-report surveys, fear of crime has been predominantly measured by one of two questions, both developed in the early 1970s. The first is the National Crime Survey (NCVS) question first used in the 1970s which asks "How safe do you feel or would you feel being out alone in your neighborhood at night" and the second is the General Social Survey (GSS) question which asks, "Is there any place right around here—that is, within a mile—where you would be afraid to walk alone at night." A number of methodological criticisms have been raised over the years in relation to these two questions, most of which center on the inability of either question to measure fear of crime (Ferraro & LaGrange, 1988). Collectively the criticisms suggest that both questions address risk assessment, not fear. In addition, there is no reference to crime, the questions are hypothetical, and for many respondents who never walk at night, the questions are irrelevant and unnecessarily foreboding (Ferraro & LaGrange, 1987). In addition, and as importantly, each of these measures constitutes a single-item indicator of fear, generally considered inadequate to measure complex concepts such as fear of crime, neither can capture the intensity or frequency of fear of crime, and neither adequately addresses the scope of the neighborhood.

The collective impact of these methodological criticisms has led to numerous attempts to improve upon the NCVS and GSS questions. The questions were revised to include daytime and at home versions, and with the development of the victimization approach (discussed shortly), new conceptual approaches were introduced along with related measurement tools, to the study of fear of crime. The victimization approach to the fear of crime made the important empirical distinction that perceptions of risk of

crime occurrence versus fear of crime were measurements of different concepts and it also introduced a more rigorous approach to the measurement of fear itself that measured fear of crime by specific crimes rather than fear of walking in the dark. This distinction is now commonly referred to as formless versus concrete measures of fear (Akers et al., 1987; LaGrange & Ferraro, 1989). As a result, surveys began to more routinely ask respondents about their emotions and their cognitive assessments of risk in relation to crime. Fear of crime was now also increasingly assessed with questions about property versus personal crimes, and research respondents were asked how fearful they were about being the victim of a serious crime, what they thought the likelihood was of being a victim at some future time, and what specific crimes were they most afraid of being a victim of. In addition, continuous measurement scales were created to better capture intensity of fear measurements, rather than relying solely on the use of Likert scales. (A review of these different approaches to the measurement of formless versus concrete measures of fear of crime can be found in Appendix A). While these modifications have led to an enhanced understanding of the importance of distinguishing between fear and risk measurements, the use of this wide range of measurement tools over the last 45 years has also contributed to the difficulty in understanding different and conflicting empirical results which, in turn, has led to different substantive conclusions.

4.3. Metanarrative/Theoretical Approaches

As mentioned in the introduction, contradictory results in a field of research are typically addressed with claims of methodological flaws and calls for additional research utilizing new methodological tools and approaches. This has clearly been the case in the fear of crime literature as presented above. However, when the methodological and analytical improvements outlined above not only failed to reconcile the divergent results, but also created even more confusion, there was a gradual change in focus that led to a move away from an exclusive focus on methodology. While multiple explanations had been proposed to explain fear of crime in older adults, no comprehensive theoretical model existed in the early years. The majority of the early research tended to be descriptive and atheoretical and was focused on identifying the “determinants of fear of crime while paying little attention to providing a coherent conceptual framework” (Clarke

& Lewis, 1982, p. 49). With the increasing realization that methodological refinements alone were not producing coherent empirical results able to explain the identified associations, greater attention was directed to developing theoretical approaches and frameworks that might aid in achieving greater explanatory coherence.

In addition to the identification of a potential direct relationship between increasing age and fear of crime, the early research also suggested that the association between aging and fear of crime was impacted by socioeconomic variables, physical and social vulnerability, previous victimization and knowledge of other's victimization, the built environment, social relationships, psychological issues, politics, and economics. However, while aging continued to be positioned as the most important factor leading directly to increasing fear of crime, research was also suggesting that the very young also experienced high levels of fear of crime (Ferraro & LaGrange, 1988). Gender continued to be a significant factor in the literature, and in fact appeared more frequently than age as a contributory factor (Chiricos et al., 2000; Haynie, 1998; Heath & Petraitis, 2011; Meyer & Post, 2006; Schafer et al., 2006; Sutton & Farrell, 2005). Physical vulnerability, in particular poor health, continued to be associated with fear of crime (Brunton-Smith & Sturgis, 2011; De Donder, Verte, & Messelis, 2005; Gray et al., 2008a, 2011; McKee & Milner, 2000; Moore & Shepherd, 2007; Stiles, Halim, & Kaplan, 2003), as did former victimization, (Hummelsheim et al., 2011; May, Rader, & Goodrum, 2010; Oh, 2003), although neither variable was associated uniquely with age.

In spite of these inconsistent and conflicting results, and greater appreciation for the complexity of the subject of fear of crime and age, a portrait of a typical individual experiencing high levels of fear of crime nevertheless emerged from the early research literature and this portrait clearly suggested that those most afraid of crime were older, female, in poor health, frail, poor, living in somewhat neglected neighbourhoods, had few social contacts, and minimal access to accurate information about crime (Brugge, 2006; Hale, 1996; Marczak, 2008), with age as the most important determinant. It was not a portrait that was uniformly accepted however. While a number of researchers recognized that this portrayal was essentially descriptive, possibly exaggerated, and clearly lacking in explanatory power, it was nevertheless the image that drove much of the subsequent research on fear of crime. However, it was also acknowledged that without theory, it was not possible to specify if the variables identified by this portrait were correlated or

causative or if they mediated or moderated a relationship between age and fear of crime. As a result, there was a greater willingness to concede that the fear of crime and aging research field at this time could be accurately described by the well-known observation raised by Birren and Bengtson (1988) who described the entire gerontological field of study as “data-rich but theory poor.”

A number of different approaches have been pursued in an attempt to address the “data-rich but theory poor” status of research addressing the association between age and fear of crime. The remainder of this chapter will describe the core concepts of the seven major approaches that have developed and will present a brief summary of the most important results derived from each approach. As will become evident in this review, it is important to note both the historical sequence and political issues that influenced these approaches to the study of fear of crime. In addition, their relationship to seminal theoretical and empirical work occurring in a number of unrelated disciplines is also important in order to understand the “unfolding storyline” of fear of crime research. This approach to making sense of research data has been described as a “metanarrative approach” and it is increasingly recommended in order “to make sense of large data sets drawn from heterogeneous sources” (Greenhalgh, Robert, Macfarlane, Bate, Kyriakidou, & Peacock, 2005, p. 417). It is also particularly recommended for literature reviews where the subject lacks a “unitary theoretical coherence,” the results are “ambiguous and contradictory”, the studies are frequently “methodologically flawed” and where “more research” is called for (Greenhalgh, 2004; p. 351). As the discussion thus far has revealed, the current state of fear of crime and aging research clearly corresponds to the conditions that would benefit from the use of a metanarrative perspective. Perhaps as importantly, by calling for a “multidisciplinary, exploratory, flexible, and reflective” approach that encourages identification of the “over-arching storylines” informing a research field rather than an exclusive focus on research results, a metanarrative literature review may be able to “feed into the research process....rather than merely judge its outputs” (Greenhalgh, 2004, p. 374).

4.3.1. Sociodemographic Approach

The dominant approach to fear of crime and aging was atheoretical in its earliest stages. The image of aging informing research at the time was a combination of the

common and widespread view of aging which saw later life as a time marked by accelerating bodily and cognitive decline leading to increased vulnerability and helplessness, and academic debates between the disengagement theory of aging which saw social withdrawal as natural and desirable and the activity and continuity theories of aging which saw aging as a time of either new interests and social engagements or the continuation of lifelong interests (Achenbaum & Bengtson, 1994; Hendricks, 1994, Marshall, 1994). The influence of both conceptual approaches is clearly evident in the early sociodemographic research with the dominant approach focused on the belief that older adults experienced excessive fear of crime due to factors associated with the aging process which in turn was detrimental to the quality of their lives, a phenomenon described earlier as the fear-victimization paradox (Skogan, 1993). While the sociodemographic approach assumed that fear of crime increased in a linear fashion with increasing age regardless of other variables, it was open to the exploration of other variables that might impact the association.

Two early research efforts by Clemente and Kleiman, referred to earlier, (1976, 1977) are particularly interesting for underscoring several issues implicated in the early fear of crime research with older adults. Both studies utilized the same data set and predictor variables—the 1973 and 1974 General Social Surveys—and sex, race, age, socioeconomic status, and community size as the predictor variables. However, different sample sizes (1976, N = 461 and 1977, N = 2,488) and statistical analyses were utilized. The 1976 study opens with the observation that “one of the most neglected areas of empirical investigation in social gerontology is the impact of crime upon the aged” (Clemente & Kleiman, 1976, p. 207), but also states on the following page that “there is solid documentation that the elderly suffer from a substantial fear of crime” (Clemente & Kleiman, 1976, p. 208), an important and persistent confusion between beliefs and empirical data that runs throughout much of the subsequent research as will become evident. The results in the 1976 study were reported by percentages and supported the position that the elderly were more afraid of crime than younger people, with 51% of those over the age of 65 reporting fear compared to only 41% for those under 65 years of age, results that were suggested as providing the explanation for why those over 65 years of age “stay behind locked doors...under house arrest” (Clemente & Kleiman, 1976, p. 210). However, by 1977 (one year later), Clemente and Kleiman reported

substantively and significantly different results. While the data set and predictor variables remained the same, the sample size was larger ($N = 2,700$) and multivariate analysis rather than percentages were reported. Under these conditions, a “marked disparity in the predictive power of the independent variables” emerged with age becoming insignificant ($\beta = .008$; MNA procedures used and no statistical significance level is provided) although gender was statistically significant at ($\beta = .153$) a result described by the authors as “less than one would suppose upon reviewing the social gerontology literature (Clemente & Kleiman, 1977, pages 527-529).⁶

Other studies continued to reveal mixed results across a number of variables, sample sizes, and age categories. Sundeen and Mathieu (1976a) found neighborhood effects on fear of crime and age with those living in city cores more significantly fearful than those in the suburbs or retirement communities, while Braungart, Braungart, and Hoyer (1980) found minimal age differences across a range of socioeconomic predictors. Clarke and Lewis (1982) researched the activity levels of older adults after dark and while they found the majority of older adults felt unsafe walking alone in the dark (94.5%), fear of crime itself ranked third in concerns behind health and finances (21.4%, 18.6%, and 15.2%, respectively). Yin (1982) reviewed neighborhood satisfaction and isolation variables and found that only 1% of older adults mentioned fear of crime as a serious concern versus 25% who expressed serious health concerns. In 1982 sex differences in fear of crime were reviewed and while women were more afraid to walk in the dark, age was found to be virtually uncorrelated with fear from age 55 and older (Lee, 1982b). In a study by Jeffords (1983) of age and fear of crime at home and walking alone, fear due to walking alone in the dark within one block of home showed a very small positive effect size ($r = .08, p < .001$) and walking within a mile from home at night also showed a small and positive effect ($r = .04, p < .05$). However, the relationship between age and the fear of being home alone at night was small and negative ($G = -.10, p < .001$). Janson and Ryder (1983) found that age and fear during the daytime hours showed low correlations for the most part across a range of large U.S. cities (LA, $r = .183$; Newark, $.197$; St. Louis, $.202$; Baltimore, $.212$; Cleveland, $.166$; Denver, $.199$;

⁶ It is interesting that the authors make no reference in the 1977 paper to their very different results reported in 1976.

Dallas, .157, with Atlanta the highest at .268 (p values not reported) results that led the authors to conclude that “it would be wise to broaden public policy on the fear problem so as to move beyond a narrow focus on age” (Janson & Ryder, 1983, p. 211). A study by Golant (1984) did find that older people who were less likely to go out at night were more likely to be afraid of crime although the association was small ($\beta = .182$; $p < .001$), and Baumer (1985) tested age and fear of crime in cities over 10,000 ($\beta = .172$, $p < .05$), suburbs, ($\beta = .103$, $p < .05$), and small towns and rural ($\beta = .041$, $p < .05$), and also found very small correlations.

In 1989, *The Figgie Report on Fear of Crime* released results indicating significant and conflicting age differences between risk and fear assessments of crime. When concrete crime-specific questions were used to measure fear of crime, older people reported lower fear of crime (33% for people aged 60 and older versus 49% for people aged 18-29). However, with the original “formless” fear of crime questions of walking alone in the dark, older adults continued to report higher fear of crime with 43% of those 60 and older reporting fear versus 36% for those aged 18-29 (Figgie, 1989). Parker and Ray (1990) investigated a number of sociodemographic variables and found a weak correlation between fear of crime and age ($r = .153$, $p < .001$). Covington and Taylor (1991) did find a somewhat larger association with fear and age in their study of three models with ($\beta = .25$, $p < .001$), with the only variable more strongly associated being incivilities ($\beta = .318$, $p < .001$). Keane (1992) used a very large sample size ($N = 9,870$) and both formless and concrete measures of fear of crime and found one of the earliest indications of a negative relationship between fear of crime and age on three concrete measures ($r = -.158$, $-.141$ and $-.145$, $p < .01$) and a very weak positive association with a formless nighttime measure of fear ($r = .024$, $p < .01$). Pain (1995) found older women less concerned about violent crime and they also practiced less constrained behavior; for example 43%, ($p < 0.01$) of younger women (less than 35 years of age) reported not going out alone versus (30.3%, $p < 0.01$) of older women. An Australian study of fear of crime in urban and rural areas by age found that fear of crime decreased by age in both settings (Borooah & Carcach, 1997). Ferraro and LaGrange (1992) used both the NCVS and GSS measures of fear and crime and crime-specific measures in their research and failed to identify any instance of a significant and positive correlation between age and any crime risk. In addition, the fear of crime index was

lowest for those aged 55 to 64 and highest for those 18 to 24 with the oldest old (75 and older) showing lower fear levels than the youngest (with the exception of panhandling), and finally, their results found the simple correlation between age and the overall fear index to be weak and negative at ($r = -.13$ for women and $r = -.10$ for men, $p < .05$). In a replication study in 2003 in Trinidad, Chadee and Ditton found very similar correlations.

Research conducted since 2000 continues to demonstrate similar results. A study completed in 2002 reviewing seven demographic variables with older adults 65 and older found that 71% felt very safe in their neighborhoods and only one demographic variable—education—was found to be statistically significant (Shields, King, Fulks, & Fallon, 2002). In one of the very few experimental studies of age and fear, Ziegler and Mitchell (2003) used exposure to a violent video to measure fear of crime across different age groups and found that older adults reported significantly less fear than younger adults (mean values of 1.12 versus 1.62 respectively, and older adults were less fearful of walking alone at night after viewing the video (mean = 1.60 versus 2.32 for younger adults). Acierno, Rheingold, Resnick, and Kilpatrick (2004) found that older adults were unlikely to experience high fear of being victimized, with older adults reporting their highest fears for breaking and entering (3.6/10) and robbery (3.5/10). A study in Belgium in 2005 found small but significant age differences across eight dimensions of fear, and also found that people 75 and older were no more fearful than those aged 60-74, older women were somewhat more fearful than men ($m = 28.58$ versus 26.09), and the poor were more fearful ($m = 28.46$ versus 26.84) (De Donder et al., 2005). A 2008 study of older adults in Australia also found no evidence that older adults were greatly concerned with their personal safety, with older women feeling safe all of the time in their home more with increasing age and only non-significant declines with feelings of safety in the neighbourhood with increasing age (Quine & Morrell, 2008). Jackson (2009) continued to find a significant negative effect of age on worry about crime, with older respondents worrying less frequently.⁷ And finally in 2011, Gray et al. found age was not statistically significant in four tested models (health, SES, neighborhood, and social change).

⁷ Due to space restrictions Jackson did not report the specific statistical analyses results for age, only the direction.

In general then, while the polls from the 1970s reported high fear levels, academic research was only revealing small statistically significant results, and then only sometimes, and often, when significant, the relationship was negative. These results were strongly suggestive that older adults did not experience excessive fear of crime. From the early 2000s those most involved in research on fear of crime and older adults have been of the opinion that the fear of crime in older adults has been mistakenly exaggerated due to conceptual weaknesses that resulted in related methodological weaknesses (Farrall & Gadd, 2004; Ferraro, 1995; Gray, Jackson, & Farrall, 2008; Kury & Obergfell-Fuchs, 2008). The consistency of these weak results, despite significant conceptual and methodological modifications over the last 45 years, has generated a number of comments by academic researchers. By 1987, Ferraro and LaGrange were willing to concede “that continued use of the original NCVS and GSS questions as an indicator of fear of crime was difficult to justify” (Ferraro & LaGrange, 1987, p. 77). In 1988 Ferraro and LaGrange suggested three critically important outcomes that were apparent in the empirical research as a result of the use of the revised measurement of fear questions. These included the observations that: (a) the elderly were no more fearful of crime than any other age group; (b) the public under 65 of age considered fear of crime to be a more serious problem for older people than older people did for themselves and, (c) the more diffuse and vague the measure of fear of crime, the more likely that elderly people would score high on it. By 1992, Keane suggested that recent research using the standard NCVS/GSS questions as the dependent variable in studies usually finds that the most fearful people are older while those using concrete questions with specific crimes find younger people more fearful and Ferraro and LaGrange openly acknowledged that if “Yin and the others are correct, then American society has been led to hold an inaccurate image of older adults” (Ferraro & LaGrange, 1992, p. S233).

In 1995 Ferraro stated that “older adults generally have lower rates of criminal victimization, perceive their risk as such, and are not the age category most afraid of crime” (Ferraro, 1995, p. 83) and, in 1998, Ditton, Farrall, Bannister, and Gilchrist stated that “fear of crime is largely an artifact of survey methodologies, which once invented, fed off itself and served many purposes” (Ditton et al. quoted in Shirlow & Pain, 2003, p. 18). In addition, by 2003, Chadee and LaGrange were able to suggest that the early results in the 1970s and early 1980s reported higher fear of crime levels for everyone

due to “an early reliance on univariate analysis with multivariate analysis washing the relationship away most of the time” (Chadee & LaGrange, p. 419). Given these observations by many of the experts in the field, it is difficult to understand why the use of the standard NCVS and GSS questions to measure fear of crime continues unabated in national self-report surveys such as the General Social Survey (Canada, Europe), the British Social Survey, and the National Crime Survey in the U.S, although some surveys now add risk assessment questions.

4.3.2. *Physical and Social Vulnerability Approach*

The vulnerability approach to fear of crime and older adults also focuses on socio-demographic variables – both physical and social - that are particularly associated with aging and is the earliest theoretical model to attempt to interpret or explain the sociodemographic patterns identified above (Hirtenlehner, 2008a; Killias, 1990, 1991; Liu, Messner, Zhang, & Zhuo, 2009). An early definition suggested fear of crime would be higher for older people due to “their greater vulnerability to criminal victimization and its consequences....caused by economic, physical, situational, and psychological factors *that set the elderly apart from other age groups*” (Norton & Courlander, 1982, p. 388, italics added). More recently, the vulnerability approach in general has been described as predicting that fear of crime will be higher among those who have a physical inability to defend themselves or to recover from a criminal assault which may or may not be related to age (Vilalta, 2011). The physical and social variables associated with vulnerability to fear of crime include age, gender, race, education, income, occupation, and low-income/high-crime neighborhoods (Hale, 1996). However, the vulnerability approach overall continued to hold to the prevailing image of the typical person experiencing fear of crime described earlier and hypothesized that those most afraid of crime would be older, female, in poor health, frail, poor, and living in somewhat neglected neighbourhoods. A number of social and physical vulnerabilities were hypothesized to impact the association between fear of crime and older adults, with age continuing to be viewed as the primary variable contributing to increased vulnerability to fear of crime. While the vulnerability approach to fear of crime and aging is very similar to the sociodemographic approach, the emphasis was now on explanation rather than simple description. This approach predicted that fear of crime increases in a linear

fashion with increasing age regardless of other variables, although other variables are recognized as having the potential to either exacerbate or mitigate some of the effect believed to be directly attributable to age. The goal was to explain the sociodemographic patterns that had to this point in time only been described.

However, similar to the studies reported in the sociodemographic section of this paper, the results addressing the hypothesized associations between vulnerability, age, and fear of crime continued to be inconsistent and inconclusive, making explanation difficult. Lebowitz (1975) completed an early study analyzing the relationship between age and fear, and age, income, and fear. Using data from a 1973 national sample of US adults, Lebowitz found a negative relationship for fear of crime with older rural dwellers (19% versus 24% for younger) and a positive relationship for older urban dwellers (71% versus 53 % for younger). In addition, with low income, fear of crime was greater for older people than young (48% to 37%) with increasing income lowering fear of crime for older adults (35% vs. 48% for younger). A 1980 study of age, sex, and fear of crime found that while 50% of the elderly expressed some degree of fear of crime, it was only somewhat higher than levels experienced by the young (41%) and the middle-aged (42%), although gender differences were maintained for the most part with older women expressing greater fear than older men (Braungart et al., 1980). A detailed study by Toseland (1982) which examined 10 socio-economic, seven psychosocial, and four crime-related variables reported that 44% of older adults expressed some degree of fear of crime with gender as the most important variable ($r = .84$; F Wilks Lambda .0000), followed by size of city ($r = .25$; .0000), satisfaction with neighborhood ($r = .26$; .0000) and increasing age a distant fourth at ($r .18$; .0000). Maxfield (1984b) found that age was a less important predictor of fear in high-crime areas than it was in low crime-areas suggesting that in neighborhoods where crime is high and visible, “everyone is more afraid” (p. 246). In a 1987 study of race, gender, age, and fear of crime, age was found to have stronger effects on fear of crime with aging for blacks than for whites although the effect was stronger for women than for men (women showed a 15.1% increase in fear of crime with age versus a 5.5% increase for men) (Ortega & Myles, 1987). Research by Sacco and Glackman (1987) also reported that age may not be an unequivocal marker for vulnerability as worry about crime decreased with age in their study rather than increasing as expected.

O'Bryant, Donnermeyer, and Stafford (1991) completed research with older, recently widowed women living alone, and found slightly over half (54%) reported fear of crime, with older respondents reporting higher fear, and each year of age increasing the odds of being afraid by 4.1% (a change the authors attribute to suddenly being alone rather than simple age vulnerability). A study of the racial composition of neighborhoods and fear of crime found that fear of crime was lower for older adults with those 65 and over reporting a mean of 14.8 and those 18 to 29 reporting a mean of 17.2 with bivariate measurements also revealing weak, lower fear for both older blacks and whites (although only the result for white older adults was significant ($r = -.14$ versus $.01$; $p = < .05$) (Chiricos, Hogan, & Gertz, 1997). A study of income, gender, and age in 2000 revealed that poor people are twice as likely to feel unsafe walking in the dark as wealthy people, poor women are significantly more likely to report feeling unsafe as poor men (67% to 34%) and poor older people are more likely to feel unsafe walking in the dark than are poor young people (62% versus 46%), results that suggest poverty impacts feelings of safety in people more than age itself (Paintazis, 2000). In another study in 2000, Killias and Clerici (2000) researched vulnerability and fear of crime in relation to public spaces and found stronger associations for gender and self-reported vulnerability than for age. For example, age was significant in only two models (walking after 10 p.m. and walking home from the bus, but in both cases was in third place and small ($r = .1407$, $p < .01$) and ($r = .1184$, $p < .01$). When riding public transit and precautions taken after 10 p.m. were analysed age was insignificant, leading the authors to conclude that age was unimportant in fear of crime. A specific relationship between age, education, and fear of crime was found recently indicating that fear of crime among those aged 65 and older was related only to a respondent's education level, with those more educated reporting less fear (Shields et al., 2002).

Another recent study found a weak but statistically significant relationship between increased age, gender, race, and income in lowering fear of crime (affective), while the same variables increased perceived risk with increased age (cognitive) (Franklin & Franklin, 2008). Taylor, Eitle, and Russell (2009) examined physical limitations and fear of crime by race and age and found that fear was surprisingly low across all groups (mean 19.243 on a scale from 10 to 40), age was negatively related to fear of crime for both blacks and whites, non-disabled older adults reported significantly

lower fear than younger non-disabled adults (15.387 versus 18.768) and, while not significant, there was also a trend for older moderately and highly disabled adults to report lower fear than their younger peers (18.817 versus 21.665 moderate and 20.949 versus 21.614 for highly disabled). The authors suggest that disability may be more damaging for younger as opposed to older people due to the operation of a “normative reference process” where peer comparisons are more damaging for younger than older people, which in turn increased fear of crime. In a recent study testing the interdependence of physical and social vulnerability, each year of increase in age decreased the likelihood that an individual would feel unsafe in comparison to other categories (while poor health resulted in a 30% increase in feelings of unsafety) (Rader, Cossman, & Porter, 2012). Research addressing the relationships between fear of crime, age, income, and education are receiving increased attention since 2000. In a unique approach to testing vulnerability, age, and fear of crime, a recent study in Spain utilized two measures of self-protective behaviors—avoidance and active security measures - to assess fear of crime and found younger people more typically practiced avoidance, middle-aged people used both methods, people over 65 tended to rely exclusively on home security measures, and 28% of both genders over 65 did not use any self-protective measures (San-Juan et al., 2012).

A great deal of material related to fear of crime, sociodemographic variables, and the vulnerability approach has been reviewed as it constitutes the majority of research to date addressing fear of crime and older adults and, as is evident from this review, these approaches continue to be active research avenues. The dominant view of aging outside of gerontology still focuses on later life as a time marked by bodily and cognitive decline resulting in increasing levels of vulnerability and helplessness. As a result, vulnerability has tended to be conceptualized as an uncomplicated and invariant notion, and often functions as a proxy for frailty, although as this review again demonstrates, it is neither (Baars, 2009; De Donder, Verte, DeWitte, Buffel, & Dury, 2010; DeWitte 2009; Pantazis, 2000). Overall the vulnerability approach has failed to identify factors operating in a unique fashion with respect to aging and fear of crime. Collectively, these results suggest that the vulnerability model is unable to provide empirical support confirming that fear increases in a simple linear fashion with age (Taylor et al., 2009). In fact there is increasing evidence that there is an evolution of fear with age that sees fear

decreasing for women and increasing for men (San-Juan et al., 2012) and there appears to be significant variation cross-culturally in fear of crime by age and education (Liu et al., 2009). These results have elicited a number of comments from those writing in the field, none perhaps better expressed than that by Lawton and Yaffe (1980) that “perhaps the aged...”are not as easily daunted as our stereotypes of the vulnerable elderly might have thought them to be” (p. 778).

4.3.3. *Victimization Approach*

Much of the impetus for the development of the victimization approach to the fear of crime and older adults was derived from the climate of moral outrage during the late 1960s and early 70s that developed in response to reports of the excessive criminal victimization of older adults. This sense of outrage was fueled in part by volatile comments made by well-known and reputable experts in aging and crime. For example, crime against the elderly was described as a “continuing national crisis” (Goldsmith & Tomas, 1974), Butler (1975) maintained that “old people are victims of violent crime more than any other group” (p. 300), others suggested that “elderly victims are more likely than victims of other age groups to suffer from predatory crimes and to be attacked by unarmed young black males” (Antunes, Cook, Cook, & Skogan, 1977, p. 323), and Lawton and Yaffe (1980) stated that “there have been innumerable murders and even rapes of older people” (p. 768). Many believed this resulted in a population of traumatized older adults with restricted life styles and excessive fear of crime (Balkin, 1979; Fattah & Sacco, 1989; Harris, 1978; Hough, 1985; Lindquist & Duke, 1982; Stafford & Galle, 1984).

However, while no-one disputed that some older people were very fearful, the growing evidence, reviewed earlier, that older people were in fact victimized far less often than younger people and when victimized, sustained fewer serious injuries, continued to baffle researchers who maintained an ongoing belief in the excessive irrational fear of crime experienced by older adults (Brillon; 1987; Clarke, 1984; Clarke, Adler, & Adler, 1983; Cook, Fremming, & Tyler, 1981; Ollenburger, 1981; Skogan, 1986b). An early explanation, referred to as the “differential exposure explanation” suggested that the prevailing lower victimization rates were a recent phenomenon, brought on by the retreat of older adults in the face of the previously high victimization

rates, which also helped to explain the fear-victimization paradox (Janson & Ryder, 1983). In an attempt to support this hypothesis, Stafford and Galle (1984) used a differential exposure to risk measurement scale (by lifestyle and activity rates) to assess victimization rate and fear of crime from 1973 data in Chicago and found a strong correlation between adjusted victimization rates and age ($\beta = .52$; $p < .01$), a correlation exceeded only by gender ($\beta = -.78$; $p < .01$). However research completed in Canada and the U.K. attempting to replicate the differential exposure hypothesis did not find similar results (Clarke et al., 1985; Corado, Roesch, Glackman, Evans, & Leger, 1980)⁸ and the hypothesis has not received subsequent validation. In addition, detailed research completed in the early 1980s based on crime statistics from the 1970s, suggested that “irrespective of frequency, means of travel, destination and activity, the elderly are still less frequently victimized” (Clarke, Ekblom, Hough, & Mayhew, 1985, p. 1), a claim supported by statistics showing that in 1977, the elderly were subject to violent crimes at the rate of 9/1,000 versus 32/1,000 for the young, and property crimes at the rate of 22/1,000 versus 95/1,000 (Liang & Sengstock, 1981).

While the victimization model theorizes that prior victimization increases insecurity and fear of crime, it emerged as an attempt to explain the fear-victimization paradox by suggesting that the paradox of greater fear in the face of lower victimization rates could be explained by both greater harm when victimization did occur, and the greater negative impact on older adults from learning of the victimization of others which was hypothesized to result in greater fear of self-victimization. Direct victimization was not necessary to induce excessive fear of crime (San-Juan et al., 2012). The victimization approach fit very easily with the basic tenets of the vulnerability approach to fear of crime also current at this time, whereby the biological, psychological, and social declines associated with aging were believed to accentuate the vulnerability of older adults to the detrimental effects of crime. The victimization approach was believed to add the necessary causal link.

⁸ Stafford and Galle used NCVS survey data from 1973 that did not include lifestyle/routine activity data, which they obtained from another comparable survey completed in Chicago whereas the other studies were able to use the same data base for both victimization and lifestyle data. This may have impacted the results.

However, the empirical evidence supporting a fear-victimization relationship with older adults was also weak and mixed, with a number of early studies suggesting a relationship between victimization and fear of crime, and more recent research questioning these early results. Early work by Lawton and Yaffe (1980) with a sample of older adults (N = 662, average age 75) on crime rate, personal victimization, and fear of crime suggested low victimization rates (0.38 on scale 0 to 5) and low fear of crime (7.2/26 scale). While hypothesizing in the opposite direction, the study found that a victimization experience in the preceding three years did not lower housing or neighborhood satisfaction although fear of crime did (neighborhood satisfaction ($\beta = -.505$, p not reported) and housing satisfaction ($\beta = -.420$;). Victimization did lower morale minimally ($\beta = -.107$), did not impact aggregate walking time, but did surprisingly correlate with increased use of social space, results that the researchers were unable to explain by either the victimization or vulnerability approach.

Studies of victimization, fear of crime, and age in a wide variety of community settings also substantiated that the elderly (60 and over) experienced low frequency of criminal victimization (4%) and low rates of high fear (6%), with over half expressing no fear of criminal victimization. This particular study also reported that the victimized were somewhat more fearful of crime (43% versus 30%), were highly unlikely to be very fearful of being victimized again (8% versus 6%), and experienced less fear of crime in age-homogeneous communities (Akers et al., 1987). In one of the most influential studies of fear of crime and aging, LaGrange and Ferraro (1989) were amongst the first researchers to demonstrate that by assessing fear of crime with crime-specific questions capturing risk of victimization, rather than the standard formless fear of crime questions of walking in the dark, the relationship between fear of crime and older adults actually reversed and weakened, with younger people now reporting higher levels of fear of crime. In a 1987 study of the impact of victimization on fear of crime, Skogan did find a weak effect for higher fear in relation to recent victimizations for all victims (the highest correlation was $r = .24$; $p < .01$ for personal crime), but did not find support for differential consequences by poverty, gender, or age. Parker and Ray (1990) found that for the elderly, prior victimization was significantly correlated with fear but was nevertheless third behind education (failure to complete high school) and community size ($\beta = .358$, $.284$, and $.243$; $p < .0001$ respectively).

Research in Israel reveals similar results. A 1996 study indicated a significant negative relationship between age and fear of victimization by violence ($\beta = -.173$; $p < .01$) and by fraud ($\beta = -.135$; $p < .05$) (Fishman & Mesch, 1996). In another study in 1996 Rountree and Land found similar results while researching the effect of victimization on cognitive perceptions of risk and precautionary behaviors and found a small, negative, and significant association “meaning that older sampled respondents were actually less likely to feel unsafe ($\beta = -0.010$, $p < .05$) (p. 165). This study also found an unexpected relationship between the use of safety precautions and safety; with “a unit increase in safety precautions there was a corresponding 1.3% increase in the odds of feeling unsafe” (p. 166). Research by McCoy et al. (1996), which has been cited extensively in the literature in relation to a number of important results addressing age, lifestyles, fear of crime, and fear of victimization, found that nearly 79% of the elderly respondents stated that they felt safe/very safe alone in their neighborhoods with only 10% labelling fear of crime as a serious concern. The correlation of age with walking alone in the neighborhood was negative, weak, and insignificant ($\beta = -.022$; $p < .395$) and age as a determinant of fear of crime as a serious problem was also weak and insignificant ($\beta = .007$; $p < .778$).

Research since 2000 has continued to reveal similar results. In Australia Tulloch (2000) found negative associations between age and perceived risk ($\beta = -.39$), age and victimization ($\beta = -.25$), and age and fear of crime as measured by walking in the neighborhood alone ($\beta = -.24$) and suggests that the results indicate that the older adults in the study “are not generally living with high levels of fear because they do not see their levels of perceived risk as high” (Tulloch, 2000, p. 466). A Vancouver study of victimization and fear of crime found that 70% of people over the age of 55 agreed with the statement that they were more afraid of crime than they needed to be after being victimized, 61% were fearful of crime before victimization, but interestingly, subsequent victimization did not increase their fear of crime (Marczak, 2004). In an unusual study in that it focused exclusively on the fear of crime in older men (60 and older), Beaulieu et al. (2007) found that older men reported only a moderate level of worry about victimization (4.2 on a scale of 0 to 10), adopted some avoidance behaviors in response ($M = 5.9$ out of a possible 30), and some protective behaviors ($M = 4.1$ out of a possible 14), saw themselves at low risk for victimization ($M = 25.5$ on a scale of 0 to 160) and

estimated their risk of victimization in the next year as low ($M = 1.5$ on a scale of 0 to 10). In a rare longitudinal study, Russo & Roccato (2010) used a crime-specific victimization measurement for fear of crime with adults aged 60 and older and found age to be negatively correlated (although non-significantly) with crime specific measurements of fear of crime ($\beta = -.012$), a finding that remained consistent for additional direct victimization measures ($\beta = -.010$) and indirect victimization ($\beta = -.004$).

This review of the literature addressing the victimization approach to fear of crime in older adults provides mixed results, with the majority of the research failing to provide either statistical or substantively important support for the hypothesis that either prior victimization or information about the victimization of others significantly increases insecurity and fear of crime in older adults. Low victimization rates are strongly supported by the literature results, and the measurement of fear by specific crimes, as opposed to walking alone in the dark, either lowered expressed levels of fear or reversed the relationship for older adults, results that once again suggest that older adults do not experience excessive fear of crime. Neither direct, indirect, or perceptions of future potential victimization increased fear of crime to irrational levels. When it did increase fear, it was invariably for a limited period of time. Victimization did not reduce the mobility of older adults or their use of social space, it was rarely the strongest predictor of fear, and it did not accelerate or escalate the use of protective or avoidance behaviors.

As with the vulnerability approach, the results of the victimization approach have elicited a number of comments from those writing in the field, perhaps none more important than those provided by McCoy et al. (1996). These authors suggested in relation to the results of their own research on victimization and aging that “overall their results support in large part the position of revisionist scholars that elderly fear of crime is much overestimated in popular and academic literature” and they strongly suggested that a “continued dismissal of the results as a methodological artifact” would be both imprudent and unhelpful (p. 201). It would appear from this review of the existing literature addressing the victimization approach that McCoy et al.’s conclusion clearly has relevance beyond their own research. They go on to conclude with a recommendation that future research be directed towards achieving a better understanding of the extent to which stereotypes of the elderly as ineffectual and infirm influence media and academic assessments of fear of crime and older adults, and

suggest those studying this topic attempt to identify what possible social function(s) might be being served by defining the elderly as irrationally afraid of crime. Given the results above, this would appear to be constructive advice.

4.3.4. Built Environment Theories

The majority of research addressing fear of crime in older adults and the built environment can be traced to the publication of *The Death and Life of Great American Cities in 1961* by Jane Jacobs and the theories that developed in response to this important work. These include the publication of the theory of *Defensible Space* (Oscar Newman, 1972, 1975, 1982), Crime Prevention through Environmental Design (CPTED), developed by C. Ray Jeffrey (1971), and “Broken Windows” theory (Wilson & Kelling, 1982). Each of these theories focuses on “designing out crime” while planning and revising neighborhoods and cities. Jacobs argued that cities could be developed to reduce crime and return control to citizens by focusing on developing clear distinctions between private and public space, increasing diversity of land use within cities and neighbourhoods, and increasing the walkability of cities, all of which she believed would lead to the development of natural surveillance systems referred to as “eyes on the street” (Jacobs, 1961). While none of the theories referred to above were developed specifically to address fear of crime and older adults, each enabled and supported the development of what Wahl describes as the “‘Gestalt switch’ from ageing persons to ageing person-environment systems” (Wahl, 2006, p. 3), a conceptual switch which allowed for an exploration of more external variables that might contribute to the fear of crime experienced by older adults. As a result, each theory has developed a “gerontological perspective” on crime and fear of crime resulting in a significant body of research addressing the built environment in relation to fear of crime and aging (Armitage, Monchuk, & Rogerson, 2011; Brown, Perkins, & Brown, 2004; Brugge, 2006; Brunton-Smith & Jackson, 2012; Brunton-Smith & Sturgis, 2011; Lee, Lee, Clinton, Zhang, & Fraser, 2008; Mawby, 2004; Nasar & Fisher, 1992; Oh, 2003; Pitner, Yu, & Brown, 2011; Rondeau & Brantingham, 2003; Schweitzer, Kim, & Mackin, 1999).

The first gerontological theory to emphasize “aging person-environment systems” was by Lawton and his associates in the 1970s, a theoretical approach which introduced the ecology of aging, the press-competence model, and the “environmental

docility hypothesis” (Lawton & Nahemow, 1973). This theory suggests that as the competence of individuals’ decreases with age, the proportion of behavior attributable to environmental, as contrasted with personal characteristics, increases (Nahemow & Lawton, 1973, p. 652). The key theoretical insight borrowed from this theory by the fear of crime literature is that in order to address the substantive issue of fear of crime and aging, it is necessary that “fear of crime...be viewed from the standpoint of person-environment interaction” (Ward, LaGory, & Sherman, 1986, p. 328). Each of the theories addressing fear of crime and aging and the built environment discussed below incorporates this basic premise.

The theory of defensible space developed by Newman is derived from Jacob’s notion of “eyes on the street”, where the ability to see and be seen functions to create a sense of territory that people are willing to defend, by intervening and reporting crime. This can, according to the theory, act as a deterrent for crime, thereby reducing fear of crime. While placing somewhat less emphasis on the development of territoriality, Jeffrey’s development of CPTED also emphasizes prevention at the design stage to decrease criminal opportunities and increase social interaction. This was to be achieved by focusing on enhancing three “natural” principles: (a) natural surveillance which is achieved by maximizing visibility while performing normal behaviors; (b) natural access control achieved by ensuring that non-residents/intruders have limited access to entrances and exits and, (c) natural territorial reinforcement which was achieved by creating private places signifying ownership, which in turn allowed strangers to stand out. As a theory of crime prevention and control, CPTED focused on the proper design and effective use of built environments in order to “reduce crime and the fear of crime, and by doing so, improve the quality of life for everyone (Jeffrey, 1971, 1977). Since the late 1990’s the strengths of the defensible space model have been adopted by CPTED into an all-inclusive theory of crime prevention advocating “natural” protective surveillance, proprietary access, territorial systems, and well-developed maintenance systems for cities and neighbourhoods. With the addition of the gerontological insight of the importance of “person-environment interactions” defensible space and CPTED principles were extended to the study of fear of crime and aging.

A very early study of age segregation versus integration and fear of crime provided support for the hypothesis that fear of crime would be lower for older adults

living in age-segregated buildings (96% versus 67.2%), a hypothesis suggested by CPTED theory (Sherman, Newman, & Nelson, 1975). In another study of residential location, aging, and fear of crime Lee (1982a) measured fear by walking alone in the dark and with a 7-item victimization scale. The results indicated that older adults living in an urban environment were more afraid to walk alone in the dark than older people in rural environments ($r = .25$ for men, $p < .001$, and $r = .27$, $p < .01$ for women), but when using the probability of victimization scale to measure fear, the difference disappeared ($r = .06$ for men and $r = .09$, $p < .001$ for women). As a result this study concluded that the claim of excessive fear of crime in older adults was likely a measurement artifact rather than a result of environmental variables, with the walking alone at night measurement exaggerating fear of crime. In a test of the environmental docility hypothesis, Ward et al. (1986) hypothesized that older persons with reduced competence would be more affected by the environment and would as a result experience greater fear of crime. In general, fear of crime was low with 84% feeling safe most or all of the time and only 6% suggesting crime was one of the worst aspects of their neighborhoods. Age and retirement were unrelated to perceived safety. Urbanism decreased feelings of safety ($r = -.17$, $p < .0001$), neighborhood satisfaction was significantly associated with perceived safety ($r = .25$, $p < .0001$), 62% of the high-competence group felt safe all of the time as did 50% of the low competence group, and environmental factors impacted perceived safety twice as much for the low competence group compared to the high competence group (14.1% versus 7.7%).

Normoyle and Foley (1988) used Newman's theory of defensible space to hypothesize that older residents living in high rise buildings would be more afraid of crime than those living in low-rise buildings, that the negative effects in high-rise buildings would be reduced with age segregation, and those living in high-rise buildings would perceive a higher crime problem. What they found however, with their sample of residents 60 and older, was that the measured interaction between building height and segregation on fear of crime was insignificant (no increment in explained variance of fear with the interaction term) and age segregation increased the assessment of local crime rates ($\beta = .28$, $p < .001$). They concluded that the ability to accurately assess crime rates is distorted by age segregation and building height may be largely inconsequential in the determination of fear of crime. A single Canadian study was also found that addressed

fear of crime, aging, and CPTED principles. This exploratory study focused on a number of possible environmental determinants of fear such as adequate fencing and sidewalk lighting but found only limited support for environmentally induced fear of crime (Brugge, 2006). Two more recent studies of housing types and fear of crime and aging present mixed results. A qualitative study of housing types in the UK that showed respondents a series of photographs of different types of housing found responses that strongly supported CPTED proposals with the majority expressing greater fear of crime at the prospect of living in a high rise (95 out of a scale to 100), and only 6 out of 100 indicating the same degree of fear at the prospect of living in semi-detached housing Cozens, Hillier, and Prescott, 2008).⁹ A study of public housing high-rises, both age segregated and mixed, found that the fear of crime is not confined to the elderly as residents in the mixed-age towers were overall more fearful than residents in elderly-own towers, with fear related to the type of tower and not age per se (DeLone, 2008). A very recent study in Australia that explored the relationship between neighborhood design and residents' fear of crime in a new suburban housing development did however find a very large OR for age 60 and over (OR = 2.13, $p < 0.002$, the highest age/fear relationship found in this literature review), (Foster, Giles-Corti, & Knuiaman, 2010).¹⁰

The third theory of crime prevention and the built environment, known as social disorder/ incivility theory, is derived from the work of Wilson and Kelling (1982, 1989) and focuses on the impact of perceived and observed environmental incivilities on crime and fear of crime. In addition to emphasizing the importance of both perceptions of disorder and actual disorder as separate measurements, this theoretical approach also suggests social and physical disorder as separate conceptual categories that contribute to crime and fear. These categories include events such as broken windows, abandoned cars, littering, vandalism, gang activities, begging, prostitution, and loitering (Franklin, Franklin, & Fearn, 2008; LaGrange, Ferraro, & Supancic, 1992; Lewis & Salem, 1986; Skogan, 1986a; Wilson & Kelling, 1982). According to this theory, people associate such

⁹ It can however be argued rather persuasively that the respondents were responding to stereotypes of what it would be like to live in different kinds of housing, rather than the lived experience of different kinds of housing.

¹⁰ However no attempt was made to provide an explanation for this result other than suggesting it was a normal result for older adults – a conclusion not supported by the empirical evidence reviewed here, but clearly still accepted as accurate.

signs as evidence of a lack of local concern and social controls that lead to an increased risk of actual crime to which they respond with increased fear of crime (Brown et al., 2004). The disorder model has received more empirical support than the previously reviewed approaches, although the results remain inconsistent (Franklin et al., 2008; Rountree & Land, 1996).

One study found a significant reduction in social bonding among the elderly when encountering an environment of incivilities (Oh, 2003), while Brown et al. (2004) found that age was negatively associated with police reports (older people made fewer reports to the police), home incivility (older adults maintained their homes in better condition), and perceived incivility (older adults perceived less incivility in their neighborhoods). An analysis of the explanatory power of the vulnerability and disorder models revealed that the disorder model accounted for the greatest proportion of variation in two measures of fear of crime (cognitive and affective), and while age was statistically significant, the effect size was very weak ($\beta = .01$, $p < .05$) for perceived risk and for worry of victimization ($\beta = -.02$, $p < .05$) (Franklin et al., 2008). Another recent study assessing the impact of physical and social disorder on quality of life found that physical disorder plays a more significant role than social disorder in measures of quality of life; however they were unable to find any age effect (Chappell, Monk-Turner, & Payne, 2011). Recent research also suggests that collective action by older residents to reduce both social and physical incivilities results in self-reports of decreased fear of crime which in turn is related to stronger place attachment and improved health and well-being, and this study also suggests that age is associated with reporting fewer social incivilities (Pitner et al., 2011). In a very recent study of the predictive power of the vulnerability and disorder models, disorder explained more of the variance in fear of crime than vulnerability (18.3%), age was not significant in either model (Alper & Chappell, 2012). Research on disorder theory is also suggesting paradoxically that interventions to reduce fear of crime by reducing disorder may themselves significantly increase the probability of older adults feeling unsafe, an effect known as the “security paradox” (Hinkle & Weisburd, 2008).¹¹

¹¹ The security paradox was first noted by Rountree and Land (1996) referred to earlier in the paper.

One additional approach, while not formally part of the traditional approaches of defensible space, CPTED, or disorder theory, has received recent attention in relation to enhancing safety and reducing fear of crime for older adults and also deserves attention. Target hardening, which refers to strengthening the security of a building by installing additional safety precautions, is now considered to be part of CPTED and a number of studies have looked at these procedures in relation to reducing fear of crime in older adults. Mawby (2004) reported on a crime reduction initiative that provided free security installation for seniors in the UK in order to reduce crime and fear of crime. While people expressed pleasure with the service, there appeared to be little behavior change (people did not go out more often) and the author also noted that it was the least vulnerable and most affluent who were more likely to feel the service had improved the quality of their lives. An Australian study also recently reviewed the use of security devices in the homes of older adults in an effort to learn more about how older adults protect their homes from crime. Their exploratory study found that more than 70% of older adults used security screens and key-operated deadlocks as their main security devices, respondents living alone had the lowest prevalence of home security devices, and those over 80 years of age used the least number of security devices (Lee et al., 2008). Research by Hadjiyanni and Kwon (2009) provided some support for the “security paradox” referred to above whereby security systems can increase fear while the “absence of visible protection can promote the feeling of well-being” (p.15).

As with the theories reviewed earlier, this review of the literature and theory addressing the ability of the built environment to reduce or mitigate the fear of crime experienced by older adults is largely inconclusive. While defensible space and CPTED principles are considered to be very important in the design of seniors housing, and disorder theory has received good empirical support in relation to crime reduction, the majority of the empirical research has focused on crime prevention in general rather than on the relationship between defensible space, CPTED principles, and disorder in reducing fear of crime in older adults. In addition, the research completed to date has not provided evidence that decreased environmental competence results in increased fear of crime, age segregation as a tool to reduce fear of crime is inconclusive, and there are persistent indications that a strong security emphasis can in fact do more to increase fear than it can to mitigate it. While not specifically addressing fear of crime and older

adults, the results of a recent meta-analysis of the literature assessing the effectiveness of interventions in the built environment to reduce fear of crime supports the above results (Lorenc, Petticrew, Whitehead, Neary, Clayton, Wright,...& Renton, 2013). A total of 47 studies were reviewed in the U.K., U.S., and Netherlands and the authors report that overall the quality of the evidence is low and there is little evidence that initiatives such as “street lighting improvements, closed-circuit television (CCTV), multi-component crime prevention programs or regeneration programs reduce fear of crime” (p. 1).

4.3.5. Social Capital Theory

The theory of social capital has been a relatively recent addition to the study of fear of crime and older adults although the effect of social and neighbourhood integration as an inhibitor of fear of crime in older adults has been studied sporadically since the mid-1980s (Kennedy & Silverman, 1984; Lee, 1983; Skogan, 1986a). However, with the popularization of the construct of social capital in the mid-1990s, research into the properties of social integration and social bonding developed rapidly. While references to social capital can be found in the nineteenth century, and Jane Jacobs refers to it in her well-known book *The Death and Life of Great American Cities* (1961), Somers (2008) traces its recent popularity in the social sciences to the publication of two articles by Robert Putnam; “*The prosperous community: Social capital and public life* (1993), and “*Bowling alone: America’s declining social capital* (1995). In her article, “*Let them Eat Social Capital*” she comments on the emergence of social capital as a “conceptual superstar” whose global reach, ascribed value, and applicability has been utilized since the mid-1990s by “...society, economics, politics, medicine, anthropology, psychology, epidemiology, ethnicity, history, economic development, marriage, child-raising, international relations, sexuality, institutionalism, law, community, education, race, gender, family, civic affairs, democracy, and global poverty” (Somers, 2008, p. 213).

Criminology and gerontology have also recently explored the implications of social capital for fear of crime and in particular, fear of crime and older adults (Chadee, 2000; Franklin et al., 2008; Gibson, Zhao, Lovrich, & Gaffney, 2002; Kanan & Pruitt, 2002; Lorenc et al., 2012; McCoy et al., 1996; Oh, 2003; Oh & Kim, 2009; Oh & Sangmoon, 2009; Poulsen, Christensen, Lund, & Avlund, 2011; Roman, 2008; Ross, 2000; Scarborough, Like-Haislip, Novak, Lucas, & Alarid, 2010; Shields et al., 2002;

Takagi, Ikeda, & Kawachi, 2012; Vilalta, 2011). Social capital's particular relevance for fear of crime and older adults is related to the notion that as people age they experience unwanted reductions in their social networks due to retirement, experience greater loneliness due to "empty nests", and experience with increasing frequency the loss of significant others, all of which function to reduce social support. The thought is that social isolation and smaller social networks decrease social capital which in turn leads to increased fear of crime in older adults.

Defined as the "features of social organization, such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 1993, p. 35), the properties of the social capital model are believed to act as an inhibitor of fear of crime leading to an inverse relationship between social capital and fear of crime for older adults (Franklin et al., 2008; Gaaney, Alper, & Chappell, 2009; Oh & Kim, 2007; Scarborough et al., 2010). However, similar to the research addressing victimization, vulnerability, and the built environment, the empirical results of this line of research have been contradictory due primarily to the continued inconsistency in conceptualizing and measuring fear of crime, now compounded by a wide variation in the measurement of social capital. Whether referred to as social integration, collective efficacy, or social capital, the measurement has diverged widely and has included generalized trust, perceptions of reciprocity, friendship, participation in neighbourhood watch programs, supportive networks, size of personal network, number of civic associations attended, informal socializing, names of neighbors known, personal investment, and satisfaction with neighborhood, to mention only some (Kawachi, Kennedy, & Wilkinson, 1999; Poulsen et al., 2011).

While contradictory, overall the results suggest that social capital—however measured—has minimal impact on older adults' fear of crime. For example, Lee (1983) used six dimensions of social integration to predict reduced fear of crime (measured by a multiple item index rather than the standard NSVC/GSS question) with people 55 and older, and while four of the six dimensions were negative as predicted, they were very small with the largest correlations found with group memberships (r for men = $-.116$ $p < .01$ and $r = -.137$ for women, $p < .05$). Using three measurements of fear, Kanan and Pruitt (2002), also found that social disorder had the largest impact on measures of fear (OR = 0.367, $p < .01$) with social integration variables all insignificant. However, Gibson

et al. (2002) used the NCVS question to measure fear of crime with a number of variables associated with social interaction, hypothesizing that social interaction was mediated by perceptions of collective efficacy. While they found this to be true with strong effects in three US cities ($\beta = .60, .58, \text{ and } .48, p < .05$), the relationship between collective efficacy and fear of crime did not reveal an interaction effect with age, and fear of crime and age in the three cities was weak ($\beta = .16, .12, \text{ and } .07$). Shields et al. (2002) measured the effects of demographics, criminal victimization, and social networks on fear of crime in people 65 and older, 71% of whom reported feeling very safe in their neighbourhoods. Using logistic regression they found that fear of crime in their sample population was related to education level only (OR = .1287, $p < .05$) with no relation to either age or the four variables tapping informal social networks.

More recent studies have continued to find primarily weak results. Using social capital theory and SEM to measure fear of crime in Dallas neighborhoods, Ferguson and Mindel (2007) found that neighborhood satisfaction decreased fear ($\beta = -.141, p < .001$). While there was no significant difference between older and younger individuals in their levels of fear of crime, older adults perceived less incivility in the neighborhood ($\beta = -.227, p < .001$), had more support networks ($\beta = .243, p < .001$), and slightly higher levels of perceived risk ($\beta = .098, p < .001$). Another study in 2007 by Kruger, Hutchison, Monroe, Reischl, and Morrel-Samuels (2007) found that older respondents had significantly less social support from friends and family ($r = -.081, p < .01$), but perceived greater neighborhood social capital ($r = .175, p < .001$) and had lower fear of crime than younger respondents ($r = -.141, p < .001$), providing weak support for the social capital theory related to older adults. The social capital measures of police presence, social support, and collective efficacy had no impact on fear of crime. Roman and Chalfin (2008) measured social capital as collective efficacy and measured fear of crime as fear of walking outside in the dark; the mean level of fear for the sample population was 1.54 out of 3 with 14% reporting high fear. Being black (OR 1.707, 95% CI) and female (OR 1.524, 95% CI) increased fear and while age was significant, the effect was very small (OR 1.018, 95% CI). Once again social capital—measured by a 10-item construct—had no significant effect on reducing fear of crime (OR .953, 95% CI). Franklin et al. (2008) found that the disorder model was most effective in explaining both affective and cognitive dimensions of fear of crime over the social integration model

in 21 U.S. cities and while age was significant it was very weak ($r = .01, p < .05$), although there was a directional change to positive with cognitive assessments of risk and negative with affective fear. Marczak (2008) also found that social capital, measured as community attachment, had only a negligible impact on fear of crime.

Oh and Kim (2009) looked at the impact of five interaction variables of aging and neighborhood attachment on fear of crime and found three variables weak and significant in explaining fear of crime (neighboring ($\beta = -.05, p < .05$), social cohesion ($\beta = -.17, p < .01$), and informal social control ($\beta = .06, p < .01$), while age was weak and significant ($\beta = .01, p < .001$) when measured continuously (not categorically). The most surprising effect noted by the authors was an unexpected association between higher fear of crime ratings and higher social cohesion and trust for older adults. Scarborough et al. (2010) used the NCVS/GSS questions for fear and while significant in the full model measuring neighbourhood conditions, the association between social capital and fear of crime was weak ($\beta = .066, p < .05$) and once again, the association with disorder was highest ($\beta = .337, p < .001$). Alper and Chappell (2012) tested three models of fear of crime—vulnerability, disorder, and social integration—and did not identify age as significant in any model (which they attribute to the use of the NCVS question).

This review of the literature addressing social capital and fear of crime in older adults provides mixed results, with the majority of the research failing to provide either statistical or substantively important support for the role of social capital in the reduction or mitigation of fear of crime in older adults. In addition, the assertion that older adults experience excessive fear of crime due to a lack of social capital is problematic on a number of levels. As an increasing number of academics are suggesting, social capital can be viewed as an example of a “neo-liberal conversion narrative” of personal responsibility (Fitzsimons, 2000; Mayer, 2003; Somers, 2008). It is possible that one can inadvertently come to see older adults as personally responsible for experiencing high fear of crime due to a personal failure to develop adequate social networks. To paraphrase Somers, it could be construed that it is older adults themselves who are responsible for fear of crime due to “their lapsed bowling league memberships, for their neglect of neighborhood barbecues, for their insufficient volunteer labor” (Somers 2008, p. 253). To this extent, it may be beneficial to ask if the continued use of social capital theory is bad for fear of crime research with older adults.

4.3.6. Physical and Psychological/Mental Health Issues

Research into the physical and psychological health correlates of aging and fear of crime is very recent, with most research occurring since 2000, and the number of articles addressing the many related issues is therefore limited (Chandola, 2001; Cossman & Rader, 2011). However, a number of interesting issues have been raised that shed light on the issue of fear of crime and aging. The thought behind this line of research is that the reported excessive fear of crime in older adults may be experienced by a small number of older adults due to a number of physical and psychological issues that contribute indirectly to fear of crime. Topics addressed thus far include mental health, psychosocial functioning, and physical illness.

In addition to the standard socioeconomic and social support variables, a study by McKee and Milner (2000) used a standard sample of community dwelling seniors 65 and older and introduced several new issues to the literature. These included a new measure of fear of crime utilizing a unique catastrophizing interview method addressing both personal and property crime (in addition to measuring perceptions of neighborhood safety), measurements of both physical and mental health (particularly depression and anxiety measures), and the use of a Functional Limitation Profile used to assess self-reported limitations in emotions, social interaction, and recreational activity caused by fear of crime. The results indicated that fear of crime was low with only 11.7% of the respondents indicating their neighborhood was unsafe, fear of property crimes was also low averaging 4.53 (on a scale from 0-15), fear of personal crime was again low averaging 3.8 (on a scale from 0-11), and limitations in psychosocial functioning due to fear of crime was also low at 6.74 (on a scale from 0 to 24). Perceptions of neighborhood safety were positively associated with mental health ($r = .28, p < .05$) and negatively associated with a number of health complaints ($r = -.30, p < .05$), and in multivariate models fear of crime was not a significant predictor of psychosocial limitation when age and gender were controlled for. The authors conclude that their findings do not provide support for previous research “suggesting that older persons are prisoners of fear” (McKee & Milner, 2000, p. 485).

Beaulieu, Leclerc, and Dube (2003) who note that the mental health of older people experiencing fear of crime is under-researched, used data from the Quebec

Longitudinal Study on Aging to identify variables that might differentiate the elderly who experience fear of crime from those who don't. Their findings revealed that 5% of older adults in their sample expressed fear of crime over the three time periods of the study (which they labelled as chronic fear), 57% did not express any fear at any testing period, and 38% indicated fear of crime at least once in three testing periods over five years (labelled as intermittent). In addition, those with the greatest fear rated their physical health as average to good, while those with no fear rated their health as very good to excellent. Individuals experiencing chronic fear of crime revealed statistically significant differences on all measures of psychological distress (depression, anxiety, cognitive distress, and negative affect) from those without fear or intermittent fear. The authors suggest that their analysis of the Quebec longitudinal data provides a new perspective on fear of crime in older adults, one that suggests that personality traits may contribute to differences in chronic, intermittent, and no experience of fear of crime in different individuals. While 43% of older adults have experienced at least one experience of fear of crime it is a chronic experience for only 5% of older adults, a result which might point to a potential role for personality traits increasing susceptibility to fear of crime.

Work by Lindsay (1991, 1997) and Clarke (2004, 2005) also suggests that fear of crime is perhaps a more uncommon and less intense experience for older adults than is often portrayed in both the popular and academic literature. Lindsay examined fear of crime in a community sample of older adults with identified cases of phobic disorder against a control group without identified phobic disorders. Evidence from the control group suggests that fear of crime is not a significant problem for the majority of older adults. While both groups indicated fear when walking alone at night, 80% of the controls were unafraid to walk alone during the day, 77% did not feel at risk from crime indoors, 70% did not worry about the safety of their homes while away, 68% reported no activity restriction due to fear of crime, and 83% indicated that fear of crime was not a problem for them. Those with phobic disorders did report levels of fear of crime that were significantly higher and more in line with the stereotypical descriptions of someone experiencing fear of crime. Lindsay concludes by suggesting that the most effective intervention to reduce fear of crime in older adults might be targeted treatment for this and other vulnerable groups.

Clarke (2004, 2005) approaches the issue of fear of crime in general, rather than focusing on older people specifically, and suggests that despite the criminological and public treatment of fear of crime as a “crime phobia”, fear of crime fails to meet the diagnostic criteria of a phobia as outlined in the DSM-IV. The DSM describes a phobia as “an intense fear of an identifiable stimulus that interferes with daily functioning and quality of life” (Clarke, 2004, p. 88) and Clarke suggests that to date, there is little clinical evidence to support fear of crime as a phobia leading to the typical consequences of phobias such as psychological, occupational, or physiological impairments sufficient to interfere with daily functioning. Clarke concludes that with little evidence to support an argument that the “fear in fear of crime” is dysfunctional and irrational, research should be directed towards examining the perhaps healthy and functional dimensions of fear of crime in a community setting.

Longitudinal research by Stafford, Chandola, and Marmot (2007) with a large sample of civil servants in the UK provides weak support for the idea that fear of crime in older adults is associated with poorer mental health, reduced physical functioning on objective and subjective indicators, and lower quality of life. While the overall level of fear in the study was very low ($M = 2.63$ on a scale of 0-12), those participants reporting high fear of crime were 50% more likely to exhibit signs of mental disorder and 90% more likely to exhibit depression than were those with low fear of crime. Research in the U.S. recently considered the relationship between self-reported health and fear of crime and concludes that the evidence suggests that fear of crime may be an outcome caused by poor health, rather than poor health being caused by fear of crime (Cossman & Rader, 2011). And most recently, Olofsson, Lindqvist, and Danielsson (2012) researched the association between fear of crime, psychological and physical abuse, and self-reported physical and psychological health in older adults. The results suggest that fear of crime was high for women (41% in the age group 65-74 versus 8.7% for psychological abuse and 1% for physical abuse). While fear of crime was associated with ill health in both women and men, psychological and physical abuse had a more serious negative impact on overall health, with 16/17 health indicators higher for physical and psychological abuse. For example, using anxiety as a health measure indicated fear of crime resulted in an OR of 1.8 while psychological abuse and anxiety had an OR

of 6.3, and physical abuse and anxiety an OR of 7.4, both substantially higher than the anxiety caused by fear of crime.

The suggestion that the fear of crime experienced by older adults may be related to both physical and mental health issues introduces a number of intriguing possibilities to this area of research. Perhaps most importantly it positions excessive fear of crime as a health problem rather than a social problem or an inevitable outcome of aging, and as such targeted treatment may be the effective solution rather than large scale social interventions (Lindesay, 1997). In addition, by recognizing the infrequency and low intensity of fear of crime experienced by the majority of older adults, it opens the research community to the possibility of “reframing” fear of crime as a potentially healthy and functional dimension of coping in community settings that allows one to manage the risks of daily living that we all encounter, not just the elderly.

4.3.7. *Generalized Insecurity Hypothesis*

Almost from inception, the fear of crime literature has acknowledged that as a result of challenging conceptual and methodological issues that have yet to be resolved, it has been difficult to definitively state what exactly has been measured by the construct “fear of crime” over the past 45 years. The most recent theoretical addition to the study of the fear of crime literature, the “generalized insecurity hypothesis”, suggests that we may develop a better understanding of all that is captured by the construct “fear of crime” by incorporating a political dimension in addition to the sociological, psychological, and criminological dimensions that have currently been the focus of much of the research. This approach interprets fear of crime as the measurement of: (a) a “generalized social insecurity” (Hirtenlehner, 2008a; Hummelsheim et al., 2011); (b) “a general sense of malaise” (Elchardus, DeGroof, & Smits, 2008); (c) “public insecurities” (Dammert & Malone, 2003, 2006); (d) “diffuse anxiety” (Britto, 2011) and, (e) an “community concern” (Hirtenlehner & Farrall, 2013). With fear of crime almost entirely independent of prevailing crime rates, and with much of the literature unable to account for more than 30% of the variance in fear of crime at best, it is appropriate to ask if fear of crime is measuring something other than simple fear of crime (Hirtenlehner & Farrall, 2013). The thought behind this line of research suggests that the construct fear of crime may be measuring broader social and existential anxieties, rather than simple fear of

crime (Jackson, 2006; Kury, 2008; Paris, Beaulieu, Dube, Cousineau, & Lachance, 2011; Taylor, 1998; Tudor, 2003). While the majority of the research is limited due to the recent development of this approach to fear of crime, and for the most part it has not specifically focused on older adults, there are nevertheless a number of interesting implications for older adults which will be reviewed below.

Fear of crime is receiving increasing research attention in Chile, particularly in relation to the generalized insecurity hypothesis, as Chile makes the social transformation to democracy from military dictatorship (Dammert & Malone, 2003, 2006). Research in Chile suggests strong correlations between an insecurity index suggested by the United Nations (consisting of employment, education of children, quality of life, economic stability, and human rights) and general fear of violence and assault and robbery. Their results indicate that “for every one-unit increase in our insecurities scale, fear of violence increases by .44, and fear of assault or robbery increases by .43 and social identify variables such as gender, age and education “are never significant predictors of fear of violence or crime...all are equally likely to fear violence or crime to the same extent” (Dammert & Malone, 2003, p. 88). (It is particularly interesting to note in light of these results, that research completed shortly after—in 2008—in Belgium on the relationship of general malaise to fear of crime, declined to include older adults in their sample “because malaise and fear of crime are observed to be much higher in older people” (Elchardus, de Groof, & Smits, 2008, p. 460) and would therefore skew the results if included. As a result there is no data available on older adults from this particular study).

Hirtenlehner and Farrall (2011) suggest that fear of crime functions as a proxy for the insecurities generated by social transformation in Europe, an approach they refer to as the generalized insecurity model. In North America crime as a proxy for social anxieties is referred to as the “expanded community concern approach (which differs by suggesting that generalized insecurities are mediated by local habitats). While not focused specifically on older adults in the development of their conceptual models, there are interesting implications that may have relevance for older adults. Using SEM as the analytical tool, the authors have developed conceptual models of the operation of both theoretical approaches. In the generalized insecurity model, fear of crime had a standardized factor loading of .82 which corresponds to a proportion of explained

variance of 67% and social fears had a factor loading of .59 indicating it was a dimension of a sense of insecurity. In the expanded community concern model incivilities ($\beta = .36, p < .001$), economic fears ($\beta = .28, p < .001$), and worries about social issues ($\beta = .23, p < .001$) significantly influenced fear of crime. The authors suggest that while both models are able to account for significant amounts of variance in fear, the generalized insecurity model is able to account for 67% of the variance while the community approach reaches 46% (both acknowledged as excellent by the authors). The results support the theoretical conceptualization of the connection between anxieties about modernization and fear of crime while providing stronger support for the European model. Britto (2011) conducted research on the role of diffuse anxieties with a student population and like Hirtenlehner and Farrall, found support for the role of economic insecurity as an important predictor of fear of crime. More recently, Vieno, Roccato, and Russo (2013) tested what they describe as the “radical hypothesis that fear of crime is mainly social and economic insecurity in disguise” (p. 2), and found that being an older person predicted greater fear of crime (OR = 1.01),¹² a very weak although statistically significant result. However there were much larger odds ratios for variables such as living in a large city (OR = 1.69, $p < .001$), poor social welfare (OR = 1.30, $p < .003$) and feelings of marginality (OR = 1.31, $p < .001$).

Hummelsheim et al. (2011) assessed the association between national welfare state regimes using a measurement of social insecurities to fear of crime (using the GSS fear of crime question for walking at night), across 23 European countries using data from the European General Social Survey (2004-2005) and found strong country differences in fear of crime based on social protection indicators. Results indicated that Slovenia (with strong social protection measures) reported 9.7% of the population experiencing fear of crime while results from Estonia (where social protection measures are weak), suggests that 40% of the population experienced fear of crime. The association between age and fear was found to be U-shaped with younger and older

¹² This very weak association for age may in fact be more a function of using the GSS question of walking alone in the dark to measure fear of crime, a measurement consistently found to overstate fear of crime in older people.

people more fearful than middle-aged people,¹³ and women particularly fearful (OR = 1.626, $p < 0.001$). The authors suggest that one mechanism by which these variables may work is the locus of control, in that “social security may help people feel in control of their lives, thus protecting against specific social anxieties...with self-efficacy as the intervening variable” (Hummelsheim et al., 2011, p. 337).

While these theories are very new approaches to the study of fear of crime, and to date have addressed aging only indirectly, the approach opens research to the possibility of examining “macro-theoretical dimensions” which may be relevant for fear of crime research with older adults. As De Donder, Buffel, Verte, Dury, and DeWitte (2009) suggest, our current approach to the study of fear of crime has resulted in “a narrow conceptualization of fear of crime as “fear” of “crime”; perhaps a more holistic approach incorporating a “combination of the micro-meso-macro levels of social analysis” will allow for conceptualizations of fear of crime able to account for more of the currently unexplained variance in this construct across all age groups.

¹³ It is possible that the higher reported fear of crime by older adults might be attributable to both the use of the NCVS question to measure fear of crime and sample size, $N = 43,000$.

5. Integrative Discussion on Substantive and Theoretical Issues

In introducing this capstone project, I suggested that my primary goal in conducting this literature review was to trace “where the fear of crime debate has been, where it presently sits, and where it might travel in the future” (Walklate, 2008, p. 210) with the ultimate objective being the ability to provide definitive answers for the key research questions that have driven much of the fear of crime research, which to reiterate include:

- Are older adults more afraid of crime than younger people?
- If yes, what is the nature, frequency, and intensity of that fear?
- How does fear of crime impact the quality of life for older adults?
- How are older adults harmed by fear of crime?
- Is fear of crime a proxy for something else for older adults?
- Is fear of crime a major social problem for older adults?
- Is there value in continuing to research fear of crime and older adults?

As this metanarrative review of the major approaches to the study of fear of crime and aging has revealed, the body of research addressing this topic contains a number of large data sets from heterogeneous sources, there is no unitary theoretical focus or coherence to the research, the results are ambiguous and contradictory, the studies are often methodologically flawed, and there is a sense that the research has travelled “a long distance down a rather narrow path.” While these issues are challenging by themselves, the literature review has also identified a number of related issues that have important implications with respect to responding to these multiple research questions. Prior to providing responses it is necessary to review what the literature reveals about the harms caused by fear of crime as this issue has driven much of the research over the past 45 years. In addition, the impact of both socially desirable responding and cohort effects on survey results requires attention as the majority of the

research conducted to date has relied on survey data. And finally the role of ageism and theories of aging also require attention as both have significantly impacted the unfolding storyline of fear of crime and older adults. This chapter will conclude with a response to the research questions and a review of the policy implications that have developed as a result of the “evidence enigma” that is apparent in fear of crime research and policy development.

5.1. The Harms Resulting from Fear of Crime

Perhaps the most significant impetus to fear of crime research, both generally and with respect to older adults, has been the belief that fear of crime causes physical and psychological harm sufficient to harm quality of life. The list of harms believed to result from fear of crime is extensive and includes on a personal level the avoidance of public places, suspicion of neighbors, damaging psychological effects, awareness of mortality, and loss of community life. On the societal level the harms include costly precautions, increased divisions between the rich and poor, neighborhood decline, increased punitive measures, deteriorating business conditions, and increased crime (Alper & Chappell, 2012; Box, Hale, & Andrews, 1988; Kitchen & Williams, 2009; Skogan, 1987).

However, not everyone agrees that fear of crime is harmful. Michalos and Sumba (2000) conducted a review of the harms attributed to fear of crime and concluded that crime related issues, including fear of crime, had very little impact on the quality of one’s life or happiness. Jackson and Stafford (2009) completed a review of the costs of fear of crime using public health data and concluded that “robust evidence on the link between worry about crime and health is surprisingly scarce” (p. 832). They emphasize that the current lack of longitudinal research thus far limits any attempt to delineate causal direction, suggesting that it is as plausible that poor health leads to fear of crime as it is that fear causes health issues. In addition, specific research with older adults that asked how worry about crime impacted their quality of life, found that fewer people aged 65 and older felt that it had even a moderate impact and the group with the lowest sense of impact were those over 75 years of age (Moore, 2010). In addition, Semmens (2007)

cautions that attempts to cost fear of crime ignore the very real distinctions between the experience of fear of crime across persons, time, circumstances, and sensitivity to risk.

In addition to the research just reviewed, other responses to fear of crime have included efforts to calculate both the tangible and intangible costs. For example, Moore and Shepherd (2006) have developed tools to “shadow price” the emotional, intervention, compensation, and health insurance costs attributable to fear of crime. This approach is based on the assumption that it is a moral requirement to provide compensation for the harms of fear of crime such as alterations in daily living habits, negative psychological effects, and decreases in sociability, willingness to help others, and avoidance of strangers. Other approaches include models that attempt to assess the financial losses “arising from anticipating crime” such as increases in health-reducing behaviors and reductions in physical activity using what they describe as “WTP” studies - assessments of how much we are “willing to pay” per avoided crime (Dolan & Peasgood, 2007).

However, in the end, as a number of academics have suggested, perhaps the most serious harm caused by fear of crime comes from ignoring the research results which suggest that the relationship between age and fear “has been demonstrated to be unsound by quantitative analysts” (Semmens, 2007, p. 221), an oversight leading to the neglect of other perhaps more important issues. In addition, as will be discussed shortly, research addressing fear of crime and older adults has in many ways been driven by ageist attitudes and there is increasing evidence that ageist attitudes can have negative psychological and physical health impacts. And finally the use of inaccurate and stereotyped images of older adults to further anti-crime political agendas has also, even if inadvertently, actively contributed to harmful ageist portrayals of older adults.

5.2. Social Desirability and Cohort Effects

While a well-known phenomenon in survey research, the issue of socially desirable responding has been largely neglected in fear of crime research, as has the impact of cohorts. Socially desirable responding refers to the tendency for survey respondents to over-report socially desirable behaviors and under report undesirable

behaviors, while a cohort effect is realized by groups of people with unique characteristics confounded by age and period effects. There is evidence to suggest that these can interact in survey research addressing the fear of crime with older adults. For example, using GSS reports from 1973 to 1994, Haynie (1998) has shown that while females continue to report a stable level of fear of crime, men are reporting more, which is leading to a significant narrowing of the gender gap. Haynie suggests that these results may be the result of either socially desirable responding, a cohort effect, or an interaction between a cohort effect and socially desirable responding due to changes in gender roles from the 1970s to 1990s. Recent research by Sutton and Farrell (2005) which describes the operation of socially desirable responding to fear of crime by men, lends support to the results reported by Haynie. The authors report results from a study completed in Scotland which incorporated a lie scale (EPQ-R) in order to explore relationships between gender, fear of crime, and socially desirable responding. The results suggest that social desirability may be a key factor in differences in fear of crime measurements that have been regularly reported for men and women for the past 45 years. Sutton and Farrell conclude by suggesting that their results raise concerns about fear of crime measures more generally. Their findings have been recently replicated in a community study in Canada. The results suggest that as men leave university, there is a shift from less fear of crime than women to more fear than women; however men tend to deny or minimize their experience of fear of crime once they have graduated (Derksen, 2012). While no research has yet tested for socially desirable responding between young and older respondents, it is equally plausible that the young are less inclined to report fear of crime than are older adults due to social desirability.

5.3. Ageism

In two papers addressing the issue of ageism in fear of crime research, Pain (1997, 2001) reminds us that “ageism¹⁴ has significant implications for the research that we do, how we do it, and what we do with it” (Pain, 1997, p. 117), and suggests that the social construction of old age may explain fear of crime in older adults more so than

¹⁴ Butler defines ageism as a “process of systematic stereotyping and discrimination against people because they are old” (Butler, 1987, p. 22).

chronological age. Her qualitative research project points to the operation of a number of factors impacting the experience of fear of crime that may be attributable to ageism including the assumption that chronological age alone leads to fear of crime, the acceptance of the fear-victimization paradox at face value, the over-identification of vulnerability with age-related frailty, the treatment of older people as homogenous, and a failure to identify the meaning of fear for older adults. While not directly focused on the substantive issue of fear of crime and older adults, research by a number of psychologists is pointing to the need to recognize the ways in which “stereotype maintaining” practices operating under the guise of “benevolent ageism” can inadvertently stigmatize older adults, research with important implications for the study of fear of crime (Cuddy, Norton, & Fiske, 2005; Bugental & Hehman, 2007; North & Fiske, 2013).

For example, Norton and Fiske (2005) have described ‘distancing’ as a form of indirect ageist discrimination that emphasizes differences in attitudes and traits between younger and older people using derogatory words to describe older people. Distancing is readily apparent in the research on fear of crime and older adults with the use of words and terms such as “irrational”, “disproportionate”, “frailty”, and “vulnerability.” The “Stereotype Content Model” (SCM), developed by Fiske also has important implications for the study of fear of crime (Fiske, Cuddy, & Glick, 2006). The SCM model is a psychological theory that suggests stereotypes possess two dimensions – warmth and competence – along which all social groups are perceived and which elicit distinct emotions and attitudes. Research with the model suggests that across all cultures, older adults are perceived as possessing “high-warmth and low competence” (friendly/trustworthy and inefficient/unintelligent), a combination which drives ambivalence and paternalistic behavior. Many of the comments provided throughout this literature review support the basic premises of this theory. SCM research has also demonstrated that this elderly stereotype is particularly “intractable” and persistent even when faced with contrary information, especially information which suggests greater competence. This particular model may help to explain the enigma of resistance to the large body of revisionist fear of crime research which challenges many of the “common sense” assumptions held by both the public and academics about fear of crime and the elderly referred to earlier.

5.4. Theories of Aging and Fear of Crime

In order to better understand the study of fear of crime and aging, it is also helpful to locate it theoretically both in the past and in light of emerging theories of aging. A review of the legacy of the Kansas City Studies of Aging (1952-62), published in *The Gerontologist* in 1994, identifies a number of key themes that would have consciously or unconsciously channeled and shaped the perceptions of aging informing the early studies of fear of crime (Achenbaum & Bengtson, 1994; Hendricks, 1994; Marshall, 1994). As Hendricks (1994) notes, what is perhaps most interesting about theory and conceptual frameworks “is that one need not be conscious of adopting one in order for it “to channel and shape perceptions” (p. 753). The dominant conceptual frameworks addressing aging as fear of crime studies emerged included disengagement theory, activity theory, and continuity theory. Disengagement theory was based on the observation that older adults withdrew from active society and it theorized that this was both natural and socially desirable behavior. Activity theory countered with the observation that older adults who remained socially active experienced greater life satisfaction, and continuity theory theorized that the majority of older adults displayed remarkable consistency in behaviors, activities, and personality as they aged (Bengtson, Gans, Putney, & Silverstein, 2009).

The impact of each of these theoretical approaches can be seen in the approaches to the study of fear of crime and aging reviewed earlier. It is interesting to note that the behavior and image of older adults most frequently commented on in relation to fear of crime is that of socially isolated older adults who “increasingly remain behind bolted doors” (Braungart et al., 1979, p. 15). For researchers who believed that social withdrawal was inevitable with aging, this behavior would have been viewed as relatively normal and less in need of active interventions to alleviate. The explanations for less social interaction would have been oriented towards an emphasis on the impact of inevitable bodily and cognitive decline leading to increased vulnerability and helplessness which in addition to decreasing social contact, might also lead to increased and irrational fear of crime. This position was evident in the sociodemographic and physical and social vulnerability approaches to the study of fear of crime. However, for those researchers more influenced by the activity and continuity theories of aging, social

isolation was abnormal behavior and the explanation for it was believed to lie outside of the older adult, and this position is evident in the approaches to fear of crime which emphasized deficiencies in crime management, the built environment, social relationships, health, and political and economic supports.

There have been significant changes in how we understand the process of aging since the Kansas City Aging Studies and while these have not yet been applied to our understanding of fear of crime and older adults, these theoretical approaches have important implications for our understanding of how fear of crime and aging has been understood in the past and might be better understood going forward. As a number of academics acknowledge, the study of aging has moved from emphasizing one-dimensional decline models of aging to greater acknowledgement of life-span developmental models of aging (Charles & Carstensen, 2009). Two models in particular are relevant with respect to rethinking our approach to fear of crime in older adults. According to the Strength and Vulnerability Integration Theory and Socio-emotional Selectivity Theory, the changes in social and emotional life as we age are better understood as developmental rather than as evidence of emotional and psychological decline. Both theories acknowledge that social and emotional life does change with age and part of that change includes smaller social networks; however, these theories suggest that this is an active and adaptive choice on the part of older adults, rather than a sign of age-related decline. With age and a greater appreciation of limited time, the focus of relationships shifts to a greater emphasis on quality versus quantity.

In addition, recent research is suggesting that there are emotional benefits accruing from experience such as improved regulation of emotions and less negative affect, resulting in relatively high levels of well-being. These changes are adaptive and allow older adults to successfully avoid negative experiences and when encountered, to move on much more quickly. Cross-sectional research by a number of researchers has indicated that older adults have a preference for positive stimuli, they dwell on negative information for shorter periods of time, they report less intensity of negative affect, there is a reduction in trait neuroticism with a corresponding increase in emotional stability, and older adults defuse tense situations more effectively (Baltes & Staudinger, 1993; Carstensen, 1993, 1998; Charles & Carstensen, 2008, 2009; Pennebaker & Stone, 2003; Tentori, Osherson, Hasher, May, 2001). Recent research using functional

magnetic resonance imaging of the medial prefrontal cortex is also providing additional empirical support for increased emotional stability as a function of age (Williams, Brown, Palmer, Liddell, Kemp, Olivieri..., & Gordon, 2006). Williams et al. indicate that their results demonstrate a significant and linear decline in neuroticism from 12 – 79 years of age due to a significant decrease in the ability to recognize negative emotions accompanied by a small increase in recognition for positive emotions. Seen through the lens of these new theoretical developments, the failure to find substantively important differences in fear of crime with older adults is perhaps not surprising. Socio-emotional selectivity theory and related life-span developmental models of aging suggest that irrational and excessive fear of crime by older adults would be highly unlikely, thereby lending strong theoretical support to the failure to find empirical support for excessive fear of crime in older adults over the last 45 years.

5.5. The Evidence Enigma

This literature review has established the presence of a large body of revisionist work in the study of fear of crime and aging that challenges many of the “common sense” assumptions held by both the public and academics about fear of crime and the elderly (Chadee & Ditton, 2003; Ferraro, 1995; Ferraro & LaGrange, 1988, 1992; Jackson et al., 2009; LaGrange & Ferraro, 1987; Lee, 2007; McCoy et al., 1996; Sacco & Nakhaie, 2001; Semmens, 2007). The field has clearly travelled a long way from the observation in 1979 that “the evidence that the elderly consider crime to be among their most serious problems is unequivocal” (Cutler, 1979, p. 373). What remains difficult to explain then are the continuous appeals for additional research, the failure to regularly cite and acknowledge this body of work in more recent research, and the disregard and/or lack of awareness of this body of work on the part of policy-makers. A recent study of correctional boot camps in the U.S. over the last 30 years reveals a similar neglect of research based evidence and suggests a number of important insights with important implications for the study of fear of crime and aging (Bergin, 2013).

As Bergin reveals, a number of related and sometimes unrelated concerns can intervene in a research field, and in order to understand why a particular article or body of work is neglected, it is always critically important to “unravel the political, economic,

social, cultural, and other concerns that can trump research evidence” (p. 1). Engaging in this process is critically important in order to understand why evidence influences and sometimes fails to influence academics, policy makers, and the public with often detrimental results for policy formation and human lives. It has been argued that what has been largely glossed over in the fear of crime research with older adults is the ongoing political usefulness of fear of crime as a tool to reinforce law and order policies.¹⁵ Images of crimes against the elderly and the language used to describe these crimes can be seen as part of “the theatre of language” used to convince the public that more needs to be done to reduce crime and fear (Mallea, 2010). While the intentions may have been good, the ongoing disregard of evidence which strongly suggests that older adults are neither more victimized nor more fearful of crime has resulted in costly and unnecessary interventions by both the government and individual older adults. Additional consequences include over 40 years of “tough on crime” policies that have done little other than increase the incarcerated population and create an inaccurate and damaging image of older adults (Ferraro & LaGrange, 1992). As many suggest, perhaps what is most needed now is acknowledgement that the “manipulation of fear of crime as a political weapon remains [seriously] under researched” (Body-Gendrot, 2001; Cook & Cook, 1976; Cook & Skogan, 1990; Mallea, 2010; Sessar, 2008; Schuermans & Maesschalck, 2010; Walklate & Mythen, 2008), perhaps especially in relation to the study of fear of crime and older adults.

5.6. Policy Implications

As suggested above, the policy implications resulting from a disregard of research evidence suggesting that older adults are no more fearful of crime than other age groups are significant. The response to the belief that older adults experience life damaging fear of crime has been admirable, and has included crime prevention activities, self-defence programs, neighborhood watch programs, advocacy groups such as AARP/CARP, provision of home defence systems, laws designed to deal specifically

¹⁵ See Mallea, P. (2010). “The Fear Factor”: Stephen Harper’s “Tough on Crime” Agenda. <http://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2010/11/Tough%20on%20Crime.pdf>

with crimes against the elderly, and more calls for responsible journalism to avoid irresponsible reporting. Unfortunately, many of these responses raise ethical issues of their own such as reinforcing ageist stereotypes, increasing fear of crime due to the implementation of crime prevention strategies (the security paradox), and increasing the potential for generational imbalance with insufficient funding for crime prevention programs for the young. These few examples of the unintended consequences of initiatives to reduce fear of crime for older adults strongly suggest that greater awareness of the “mixed components of benevolent ageism” is required prior to implementing policies and practices designed to protect older adults (Bugental & Hehman, 2007, p.). In particular, initiatives should be scrutinized to ensure that they do not inadvertently promote perceptions of the dependency and incompetence of older adults given the evidence emerging from the Stereotype Content Model concerning the intractability of age stereotypes. In addition, the recognition by Ferraro and LaGrange as far back as 1987 “that continued use of the original NCVS and GSS questions as an indicator of fear of crime is difficult to justify” due to the tendency of the questions to inflate measurements of fear of crime, particularly in the elderly (Ferraro & LaGrange, 1987, p. 77), should be acknowledged with the development of more appropriate fear measurement questions in future GSS surveys. Correcting the mistaken perception that older adults experience greater fear of crime will also prevent the purchase of unnecessary and expensive crime prevention equipment while also reducing the continued development of unnecessary, intrusive, and potentially expensive technological devices, such as the recent development of “Cambadge,” a wearable, wireless webcam for older people designed to broadcast video and audio data to police or community websites (Blythe, Wright, & Monk, 2004).

The policy implications of greater awareness of low levels of fear of crime by older adults are particularly important for Canada as the statistics compiled and released by Statistics Canada for the last decade also support the academic research suggesting that older Canadians are not excessively afraid of crime. Results released by Ogrodnik (2004) suggest that older adults in Canada are victimized at rates far lower than other age groups, two-thirds of violent crimes against older adults do not result in any physical injuries, and 92% of older people report feeling satisfied with their overall level of safety from crime compared to 89% reported in 1999. In 2008, 82% of Canadians reported that

they do not experience fear of crime while walking alone in their neighborhoods after dark (Fitzgerald, 2008), and in 2009 90% of those aged 65 and older were somewhat to very satisfied with their personal safety compared to 94% of those aged 15 to 24, 83% are not at all worried when home alone at night, 90% feel safe walking alone in the neighborhoods at night, and 83% of those who had been victimized nevertheless felt safe compared to 91% of those who had never been victimized (Brennan, 2009). There is little in these figures to suggest that Canada's older adults are excessively afraid of crime or require age-specific policies to protect them. The policy implications resulting from increasing awareness of the consistency between academic research and Statistics Canada research could be very effective in correcting what Yin, Ferraro, LaGrange and others recognized many years ago as "an inaccurate image of older adults" (Ferraro & LaGrange, 1992, p. S233).

A final important policy implication that must also be acknowledged is the political use of fear of crime and older adults in the pursuit of "tough on crime" agendas here in Canada and internationally. For example, Mallea (2010) has written of the current insistence by the Canadian government that there continues to an epidemic of crime which has resulted in the unfortunate situation where 30% of "all current legislation before the House of Commons relates to crime" (p. 5). The introduction of Bill C-36: An Act to amend the Criminal Code (Elder Abuse) using age as an aggravating factor in sentencing is an example of how a misunderstanding of fear of crime and older adults is being used to further the crime reduction agenda in Canada with what many argue will be unfortunate consequences such as higher incarceration rates, extraordinary financial costs, and neglect of more pressing issues.^{16 17}

¹⁶ Canada has recently amended the Criminal Code with Bill C-36, an act to address Elder Abuse, which is in part a response to academic research suggesting high fear of crime in older adults.

¹⁷ A recent report in the media has suggested that the tough on crime agenda adopted in the U.S. that coincided with the discovery of fear of crime has resulted in a "broken" criminal justice system that is excessively punitive, and has resulted in the U.S. being the world-leader in per-capita incarceration rates. Canada's Conservative government passed an omnibus bill in 2012 that mimics the U.S. justice system in imposing severe minimum sentences.

6. Conclusion

6.1. Future Research

6.1.1. *What, if Anything, Are Older Adults Afraid of?*

Walklate and Mythen (2008) have argued that the focus on fear of crime for the last 45 years as the primary fear in old age, has taken attention away from other issues that may contribute more significantly to fear in old age and they call for a return to a broader exploration of what older adults are afraid of. While research by Deiner (1999) suggests that the elderly are not particularly subject to excessive levels of worry or significant decreases in life satisfaction, there has nevertheless been too little research focused on identifying the frequency, intensity, and sources of worry in old age. Three recent papers have explored this issue and point to several important areas for future research. In reviewing worry and anxiety in old age in the U.K. Graham (2003) focused on the prevalence of generalized anxiety disorder (GAD) in older adults and found that worry increased from adulthood to retirement age, but dropped sharply from age 65 to 74 returning again to higher levels in later life, and at all ages, fear was inversely related to a sense of manageability. He calls for additional studies to look at rates of worry across the lifespan. Neikrug (2003) investigated the degree of worry about a “frightening old age” in Israel and found a moderate and progressive degree of worry as age increased to retirement age. However, similar to Graham (2003) the results again suggested a sharp decrease in worry from age 65 to 74 with a return to relatively high levels at age 75 and older. While he also concludes that “for the most part the elderly are not overwhelmed with worries and manage their lives effectively” (p. 326) he too noted the inverse relationship between manageability and worry over the future and recommends further research. Recent research has also investigated the content of various categories of fear in old age and identified six fear themes (loss and decline, fears for descendants, environment/politics, incidents/accidents, suffering/death, and stranger/supernatural (Herve, Alaphilippe, Bailly, & Joulain, 2010). This research also

suggests that the greatest fears of older adults include fear of becoming ill when alone at night, global warming, and the end of the world, and the authors call for additional research to investigate related variables.

While not academic, a recent survey completed by Home Instead Senior Care identifying the top ten fears of older adults found that they most feared losing their independence followed by declining health, running out of money, not being able to live at home, death of a family member, inability to manage ADLs, not being able to drive, loneliness, strangers caring for them, and fear of falling or hurting themselves.¹⁸ It is interesting to note that fear of crime does not appear on the list and that the survey closes with the observation that “we regularly see seniors who are literally trapped in their homes because they are too weak to perform many of the activities they need to remain safe and independent.” Perhaps the restriction to the home noted in the past and identified with fear of crime was for many of the same reasons. Certainly more academic work investigating these fears would be valuable.

6.1.2. Safety and Aging

Often what passes for fear of crime can be better understood as safety/unsafety concerns, a distinction noted early in the literature (Mawby, 1982). Measures of safety express a cognitive assessment of safety versus an emotionally based fear related to crime, and as such, there is “empirically and conceptually...a difference between safety and fear (Chadee, 2000, p. 13). This issue is becoming increasingly evident from recent research. As Antoninetti and Garrett (2012) point out, as the population around the world continues to age, more and more residents will be living in urban environments that were not designed with older adults in mind. Much more research is needed that investigates the interaction between older adults, the built environment, and fear. Certainly, the World Health Organization’s recent focus on Age Friendly Cities¹⁹ is an important contribution to this literature (Buffel, Phillipson, & Scharf, 2012; Menec, Means, Keating, Parkhurst, & Eales, 2011). It is interesting to note in the table of

¹⁸ <http://www.homeinstead.co.uk/warrington/777.do>

¹⁹ Global age-friendly cities: a guide:
http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf

contents for the Age-Friendly Guidebook that fear of crime and crime reduction are not mentioned as an obstacle to the provision of age-friendly cities. Instead, WHO stresses a number of aspects of the built environment such as innovations able to maintain functional capacity, prevent disability, support rehabilitation, and maintain autonomy.

Recent research suggests that walking for older adults is strongly influenced by safety and security concerns with the majority of concerns related to roadway infrastructures, street lighting, uneven and cracked sidewalks, fear of traffic collisions, and falls, and a sense of community, rather than fear of crime (Fobker & Grotz, 2006; Freedman, Grafova, Schoeni, & Rogowski, 2008; Loukaitou-Sideris, 2006; Pain, MacFarlane, & Gill, 2006; Painter, 1989; Welsh & Farrington, 2008; Wood, Frank, & Giles-Corti, 2010). As part of the Belgian Ageing Studies initiative, De Donder, Buffel, Dury, DeWitte, & Verte (2012) analyzed a number of aspects of the built environment other than incivilities and disorder, using the Elders Feelings of Unsafety Scale as the dependent variable. Correlation coefficients revealed that the strongest correlation with feelings of unsafety was road safety problems, followed by poor sidewalks, insufficient recreational infrastructure, and heavy street traffic. They also found that the crime rate was not significantly related to feelings of unsafety and “incivilities and disorder were less important determinants of unsafety in later life when other aspects of the built environment are taken into account” (De Donder et al., 2012, pp. 14-15). They conclude with recommendations for intervention programs that are designed to allow older people to feel at home and safe in their neighborhood rather than pursuing crime prevention and disorder programs.

6.2. Summation

This capstone project has reviewed “where the fear of crime and aging debate has been, where it presently sits, and where it might travel in the future” (Walklate & Mythen, 1998, p. 210). The storyline indicates that the study of fear of crime and older adults coincided with official reports of escalating crime rates and significant social change created by social movements such as protests against the Vietnam War, the fight for civil rights for black Americans, feminism, and gay rights. Conflated polling data have been revealed as forming fear of crime’s “shaky foundations” (Lee, 2007), and its

“murky history” (Chadee & Ditton, 2003), and its early theoretical foundations can be traced to the theoretical debates addressing the disengagement, activity, and continuity theories of aging initiated in the Kansas City Aging Studies at the University of Chicago. Subsequent theoretical influences include the work of Jacobs with the built environment, Newman’s Defensible Space, CPTED, and “Broken Windows.” Lawton and Nahemow’s influential theory of press competence has been utilized to research fear of crime with older adults and Robert Putnam’s *“The prosperous community: Social capital and public life”* (1993), and *“Bowling alone: America’s declining social capital”* (1995) introduced social capital to the study of fear of crime. And finally, the political debates between socialism and neo-liberalism have been added to the study of fear of crime with the introduction of the generalized insecurity hypothesis (Hirtenlehner & Farrall, 2011; Hummelsheim et al., 2011). Methodologically fear of crime and older adults has been investigated primarily by quantitative methods using percentages, univariate, bivariate, multivariate, and SEM as analytical tools, while qualitative measures (two in this literature review), and longitudinal research (three identified for this review), have been under-utilized. However, as this literature review suggests, regardless of the approach taken, the lived reality of fear of crime for older adults is one in which it is “rarely experienced, episodic, and short-lived” (Jackson, Gray, & Farrall, 2009, p. 12).

What also emerges from this review of the literature over the past 45 years is a puzzling reluctance to accept the findings of the large body of revisionist work that has consistently challenged the idea that older adults are irrationally and excessively afraid of crime. As Ferraro remarked as early as 1995, “given the variety of methods and strategies used to detect age effects one conclusion from these data is inescapable: older people are not any more likely to be fearful of crime than are other age groups” (p. 81). Farrall et al. (1997) completed a major methodological study shortly after this comment and suggested that regardless of age, the “traditional methods used are methods which seem consistently to over-emphasize the levels and extent of the fear of crime...It seems that levels of fear of crime, and, to a lesser extent, of victimization itself, have been hugely overestimated” (p. 676). It would also appear that Semmens (2007) is correct in her conclusion that the relationship between age and fear “has been demonstrated to be unsound by quantitative analysts” (p. 221), as is McCoy et al. in their counsel that “continued dismissal of the results as a methodological artifact” (p. 201)

would be both imprudent and unhelpful. The effect sizes have consistently been small and frequently opposite to the hypothesized direction and the explanatory power of individual theoretical perspectives has been limited (San-Juan et al., 2012). The reluctance to acknowledge this body of research evidence has resulted in an unfortunate and inaccurate image of older adults that emphasizes irrationality and a lack of emotion regulation. Despite the significant contrary evidence reviewed above, this image of older adults has proven to be intractable with academic reports and newspaper articles continuing to insist that older adults experience greater victimization and greater fear of crime than younger people (Hayman, 2011).²⁰

As indicated in the introduction to this Capstone project, a number of questions have driven the research of fear of crime and older adults over the last 45 years. The research effort has been persistent, methodological and conceptual revisions have been frequent, and a number of theoretical approaches have been utilized in order to address these questions. Overall, the results provide strong support for the position that older adults are no more afraid of crime than any other age group, the nature, frequency, and intensity of fear of crime experienced by older adults is similar to that experienced by other age groups, and there is little evidence that fear of crime negatively impacts the quality of life for older adults. There is very little empirical evidence that fear of crime harms older adults or that it is a major social problem for older adults and every theoretical approach to date has failed to find substantively important confirmation of increasing fear of crime with aging. There is however recent empirical evidence that fear of crime may represent a proxy for social insecurity for younger adults; while little

²⁰ This particular article by Hayman opens by stating that “Older people are more affected by fear of crime and the possibility of victimization, despite their being at lower risk of harm, than any other population group in Canada.” While the number of publications addressing fear of crime in older adults is not as high as it was in the 1980s and 1990s, research continues. DeDonder et al. (2005, 2009) is focusing on identifying the causes of fear of crime among the elderly in West Flanders; others are focusing on neighborhood and built environment variables (Cozens et al., 2008; DeDonder et al., 2010; Oh & Kim, 2009; Pitner et al., 2011), still others on the physical and mental correlates of fear of crime (Beaulieu et al., 2007; Cossman & Rader, 2011; Olofsson et al., 2012). In addition many continue to focus on achieving improved methodological approaches, and justification for continued research argues for the need to substantiate negative social and personal consequences of fear of crime (Alper et a., (2012)

research has been completed to date with older adults, this may be a useful approach to explore in more detail.

The final research question addressed by this Capstone project asks if there is value in continuing to research the subject of fear of crime and older adults. The evidence from the past 45 years strongly suggests that a continued search for proof of irrational and excessive fear of crime in older adults is not supported by the previous research literature or by emerging theories of aging. Of course some older adults experience serious fear of crime and appropriate help should be available. However, as Kury and Obergfell-Fuchs (2008) suggest, “all our results point to the fact that the fear of crime does not play the important role in the life of people as the polls, the media and the politicians {and academics} have us believe” (p. 79) - regardless of age. Ageism has played an important and unfortunate role in the fear of crime debate and to paraphrase the sociologist Margaret Somers, it is now time to “analyze how we think, why we seem obliged to think in certain ways, and how to begin the process of unthinking” in relation to our approach to ageing, ageism, and fear of crime (Somers, 2008, p. 265).

An additional goal of this Capstone project has been to understand the implications of fear of crime and aging research for the discipline of gerontology. It is hoped that the application of a “multidisciplinary, exploratory, flexible, and reflective” metanarrative perspective has made this possible. When judging research results, the normal approach is one that suggests that only positive and statistically significant results are of interest. However, from a metanarrative perspective, where the core tasks are “thinking, reflecting, and interpreting” (Wager & Williams, 2013), the failure to find statistically significant *and* substantively important confirmation that older adults are excessively and irrationally afraid of crime is in fact a very interesting and important outcome. As Lawton and Yaffe observed very early in the research process, the research evidence was beginning to suggest that the aged “are not as easily daunted as our stereotypes of the vulnerable elderly might have thought them to be” (Lawton & Yaffe, 1980, p. 778). By providing confirmation of this observation, the last 45 years of fear of crime and aging research has been invaluable to the study of aging.

6.3. Limitations of Current Research

This literature review was limited to English language literature. There may be non-English reports available which have not been identified in this literature review. Reporting and assessment was limited to published data and data available in on-line publications and journals.

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Appendices

Appendix A. Previous Fear of Crime Measures: Authors and Fear Measures²¹

General Social Survey (1972)

- Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?

National Crime Survey (1973)

- How safe do you feel or would you feel being out alone in your neighborhood at night?

Erskine (1974)

- In the past year, do you feel the crime rate in your neighborhood has been increasing, decreasing, or has it remained about the same as it was before?
- Would you say that there is more crime in this community now than there was five years ago, or less?
- Is there more crime in this *area* than there was a year ago, or less?
- Would you say there is more crime or less crime in this area than there was a year ago?
- Is there any area around here—that is, within a mile —where you would be afraid to walk alone at night?
- Compared to a year ago, do you personally feel more worried, less worried, or not much different about your personal safety on the streets?
- Compared to a year ago, are you personally more worried about violence and safety on the streets, less worried, or do you feel about the same as you did then?
- How likely is it that a person walking around here at night might be held up or attacked?
- What about walking alone (in your neighborhood) when it is dark—how safe do (would) you feel?
- Have there been any times recently when you might have wanted to go somewhere in town but stayed home instead because you thought it would be unsafe to go there?
- Compared to a year ago, do you feel more afraid and uneasy on the streets today, less uneasy, or not much different from the way you felt a few years ago?
- Do you feel it is safe to walk in the streets alone in your neighborhood?

Clemente & Kleiman (1976)

- Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?

Clemente & Kleiman (1977)

- Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?

Balkin (1979)

- How safe do you feel being out alone in your neighborhood during the day?

DeFronzo (1979)

- Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?

²¹ Henson, 2011; used with permission.

Garofalo (1979)

- How safe do you feel or would you feel being out alone in your neighborhood at night?

Cutler (1980)

- Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?

Baker et al. (1983)

- How safe would you feel walking alone at night in your neighborhood?
- Think of the worst area within a mile of your house. How safe would you feel walking alone at night in this area?

Janson & Ryder (1983)

- A question asking respondents what are their three greatest problems.
- Is living in a high crime neighborhood a serious problem to you?
- Does crime in the streets cause you any special difficulties in getting around?

Warr & Stafford (1983)

- Respondents were asked to describe how afraid they were of becoming a victim to each of 16 different offenses.

Kennedy & Krahn (1984)

- How safe do you feel walking alone in your neighborhood at night?

Warr (1984)

How afraid you are about becoming the victim of each type of crime in your everyday life?

- If you are not afraid at all, then circle the number 0 beside the crime.
- If you are very afraid, then circle the number 10 beside the crime.
- If your fear falls somewhere in between, then circle the number beside the crime which best describes your fear about that crime.

Baumer (1985)

- How safe do you feel or would you feel being out alone in your neighborhood at night?

LaGrange & Ferraro (1989)

Measured by the extent of the respondents' fear of 11 different forms of criminal victimization using an 11-point scale ranging from not afraid to very afraid.

Smith & Hill (1991)

Eight statements using 4-category likert-scale (Strong Disagree to Strong Agree)

- When I am away from home, I worry about the safety of my property.
- I worry a great deal about my personal safety from crime and criminals.
- Even in my own home, I'm safe from people who want to take what I have.
- There are some parts of the county that I avoid during the day because of fear of crime.
- There are some parts of the county that I avoid at night because of fear of crime.
- I feel safe going anywhere in my community or neighborhood in the daytime.
- I feel safe going anywhere in my community or neighborhood after dark.
- Crime is more serious than the newspapers and TV say.

Keane (1995)

- When walking alone in your area after dark, do you feel very worried, somewhat worried, or not at all worried about your personal safety?
- When alone in your home in the evening or at night, do you feel very worried, somewhat worried, or not at all worried about your personal safety?

Ferraro (1996)

- Measure asking respondents how afraid people are in everyday life of being a victim of 10 different kinds of crimes, using a 10-point scale ranging from not afraid at all to very afraid.

Weinrath & Gartrell (1996)

- 4-point likert-scale type measure asking about fear of walking alone in neighborhood at night (Very unsafe to Very safe).

Wilcox Rountree & Land (1996)

- Dichotomous variable indicating whether or not the respondent worries about his or her home being burgled.

Wilcox Rountree (1998)

- Dichotomous variable indicating whether or not the respondent worries at least one a week about being physically attacked.
- Dichotomous variable indicating whether or not the respondent worries at least one a week about his or her home being burgled.

Fisher & Sloan (2003)

- Measure asking respondents how afraid they are of being a victim of 5 different kinds of crimes on campus during the day and at night since school began the current year, using a 10-point scale ranging from not afraid at all to very afraid.

Farrall & Gadd (2004)

- In the past year, have you ever felt fearful about the possibility of becoming a victim of crime?
- If yes, how frequently have you felt like this in the last year?
- On the last occasion, how fearful did you feel?
(Not very fearful, A little bit fearful, quite fearful, very fearful, can't remember)

Fisher & May (2009)

Students were asked to indicate their level of agreement on a 4-point Likert-type scale with the following statements: While on campus at (name of school):

- I am afraid of being attacked by someone with a weapon.
- I am afraid of having my money or possessions taken from me.
- I am afraid of being beaten up.
- I am afraid of being sexually assaulted.

Fox et al. (2009)

Respondents asked about fear of crime while on campus, measured by using a 4-point scale from strongly disagree to strongly agree, of two items:

- I am reluctant to walk alone on campus during the day
- I am reluctant to walk alone on campus at night

Melde (2009)

“Please indicate how afraid you are of the following things happening to you” (5-point Likert scale: not at all afraid to very afraid)

- Having someone break into your house while you are there
- Having someone break into your house while you are away
- Having your property damaged by someone
- Being robbed or mugged
- Being attacked by someone with a weapon.

May et al. (2010)

Respondents were asked to indicate their level of agreement with the following statements: (4-point Likert scale, strongly disagree to strongly agree)

- I am afraid someone will break into my house while I am away
- I am afraid of being raped or sexually assaulted
- I am afraid of being attacked by someone with a weapon
- I am afraid to go out at night because I might become a victim of crime
- I am afraid of being murdered
- I am afraid of having my money/possessions taken from me

Appendix B. Data Extraction Tables

Table B1. Atheoretical

Reference	Measurement	Sample Size	DVs	IV: and/or SES	Result	Significance
Acierno et al., 2004	<ul style="list-style-type: none"> Predictors of FOC in older adults No comparison with younger 	<ul style="list-style-type: none"> N=106 between 55-85 in SE U.S. 	DV: 10 specific crimes on scale of 1-10.	IV: gender, race, income, social isolation, depression and PTSD.	Hierarchical multiple regression: <ul style="list-style-type: none"> 1/5 of variance in fear attributable to selected variables 80% unexplained variables predict fears related to person and property in different ways 	<ul style="list-style-type: none"> Results indicate older adults unlikely to experience high fear of being victimized consistent with Ferraro and LaGrange (highest were 3.6/10 for breaking in and 3.5 for robbery)
Baumer, 1985	<ul style="list-style-type: none"> Victimization, FOC and urban and rural communities Model of fear as rational response to a subjectively defined threat of harm 	<ul style="list-style-type: none"> N=1,454 of people 18 and older 	DV: NCS alone in neighbourhood at night	IV: self-perceptions of neighbourhood dangerousness, likelihood of personal victimization and police presence and city size	Tested age and FOC in cities over 10,000 ($\beta = .172, p < .05$), suburbs ($\beta = .103, p < .05$), and small towns and rural ($\beta = .041, p < .05$), also very small correlations.	<ul style="list-style-type: none"> Regardless of city size age only showed a weak association with FOC
Braungart & Hoyer, 1980	<ul style="list-style-type: none"> Age, sex and social factors in FOC 	<ul style="list-style-type: none"> N=1,499 interviews Chicago 	DV: FOC by GSS walking alone at night	IV: gender, residence, living arrangements, experience with crime, race, health	<ul style="list-style-type: none"> Approx. 1/2 of elderly expressed FOC but only somewhat more likely than younger people (youth 41%, older 50%) and 64% of older women vs. 32% of older men Community size insubstantial, elderly females living alone 73% Poor health for males 40% vs. good health at 29% and for women 72% for poor and 59% for good health and previous burglary for men 50% afraid vs. 32% for not and 85% fear for women prev. burglary vs. 63% not. 	<ul style="list-style-type: none"> Age differences not large Gender differences, health, and prior victimization contribute to FOC Community size not significant
Chadee & Ditton, 2003	<ul style="list-style-type: none"> Are older people more afraid of crime is research question attempt to replicate 1992 paper by Ferraro and LaGrange 	<ul style="list-style-type: none"> N=728 telephone survey completed in 1999 in Trinidad 	DV: both walking alone at night and day in neighbourhood and specific crimes and fear (10) and how likely specific crimes will happen (10)	IV: age and gender	<ul style="list-style-type: none"> General results independent of age low and insignificant for FOC day and fear of victim and night slightly higher (.10 to .24 and sig.). Overall simple correlations for FOC and age are low and negative for both males (-.16) and females (-.04). Similar for risk of victimization and age with males (-.16) and females (-.03). 	<ul style="list-style-type: none"> This study offers no evidence that FOC increases in a simple linear way with age. "may well be time to scotch the myth that, although the fears of the elderly may differ from those of the young, overall the old are less fearful of crime"
Clarke & Lewis, 1982	<ul style="list-style-type: none"> Criminal victimization and FOC among elderly 	<ul style="list-style-type: none"> N=145 in East London Borough with people of retirement age 	DV: safe within a mile walking, safe inside own homes, three most serious problems	IV: Health, finances, loneliness and social well-being	<ul style="list-style-type: none"> 94.5% said unsafe to be out after dark, over half felt safe in own home 65.5% claimed did not go out after dark FOC third (15.2%) behind health (21.4%) and finances (18.6%) 	<ul style="list-style-type: none"> However FOC did not increase with increasing age
Clemente & Kleiman, 1976	<ul style="list-style-type: none"> FOC by residential location size and SES variables 	<ul style="list-style-type: none"> N=461 65 and older from GSS in 1973/74 	GSS question afraid to walk within a mile	SES: age, gender race and income	<ul style="list-style-type: none"> 51% over 65 afraid and 41% under 65 Gender 34% of older men (younger 19%) and 69% of older women (younger 60%) 47% of White elderly afraid and 67% of Black elderly Income < \$7,000 51% and over \$7,000 43% 76% afraid in large cities, 68% for medium, 48% for suburbs, and 24% rural. 	<ul style="list-style-type: none"> One of the first studies that others followed on.
Clemente & Kleiman, 1977	<ul style="list-style-type: none"> FOC by residential location size and SES variables 	<ul style="list-style-type: none"> N=2,700 people 18 to 65 and older 	GSS question afraid to walk within a mile	SES: age, gender race and income	<ul style="list-style-type: none"> Multivariate analysis with age ($\beta = .008$) ns 	<ul style="list-style-type: none"> States that the controlled effect of age upon fear is certainly less than one would expect

Reference	Measurement	Sample Size	DVs	IV: and/or SES	Result	Significance
Covington & Taylor, 1991	• Review of ecologic effects of class and race, neighbourhood incivilities and subcultural differences from neighbors on FOC	• N=1,577 in 66 neighborhoods	DV: NCS alone in neighbourhood day and night	IV: ecological effects of class, race, victimization, community integration, and neighbourhood incivilities	<ul style="list-style-type: none"> • Larger association with fear and age in their study of three models with ($\beta=.25, p < .001$) • The only variable more strongly associated was incivilities ($\beta=.318, p < .001$). 	• FOC more influenced by within neighbourhood factors.
DeDonder et al., 2005	• 14 potential predictors of FOC in elderly	• N=4,747 and people 60 and older in Flanders Belgium between 2004 and 2005 by personal interview	DV index of 8 dimensions of fear	IV three groups: SES, neighbourhood, and participation in social life	<ul style="list-style-type: none"> • People 75 and older no greater fear than those 60 to 74 (m=28.25 vs. 27.01) • Older women more fearful than men (m=28.58 vs. 26.09) • Poor have higher fear (28.46 vs. 26.84) • self-perceived vulnerability results in higher fear (m=28.05 vs. 26.36) • neighbourhood dissatisfaction results in higher fear (28.20 vs. 26.13) • Neighbourhood involvement decreases fear (m=28.64 vs. 26.98) • Those who are lonely are more afraid (m=31.92 vs. 25.40—the largest difference) and participation lowers fear (m=26.02 vs. 27.86) • Reading a newspaper lowers fear (m=27.23 vs. 28.01). 	<ul style="list-style-type: none"> • Differences are significant but small except for loneliness which is the highest. • 10/14 weakly significant with gender, income, physical vulnerability and loneliness highest.
Ferraro & LaGrange, 1992	• Are older people most afraid of crime	• N=1,101 FOC in America survey, telephone interviews	DV: Measures of FOC (specific crimes), risk of crime (likelihood), and NCS and GSS questions	IV: age and gender	<ul style="list-style-type: none"> • Overall simple correlations for FOC and age are low and primarily negative (-.22 sexual assault) to .12 (begging) and for perceived risk similar (-.16 sexual assault) to .07 (robbery not significant) 	<ul style="list-style-type: none"> • Older adults generally have lower rates of criminal victimization, perceive their risk as such and are not the age category most afraid of crime. • Ageism is a factor.
Foster, Giles-Corti, & Knuiiman, 2010	• How neighbourhood design impacts FOC in Australia	• N=1,059 residents building new homes in a residential neighbourhood.	DV: In your everyday life, how fearful are you about 10 events on scale of 1 to 5?	IV: included age, sex, education and HH income, neighbourhood characteristics, physical and social incivilities	<ul style="list-style-type: none"> • Study in Australia measuring FOC in a new suburban housing development did however find a very large OR for age 60 and over (OR=2.13, $p < 0.002$), the highest demographic variable in the study (although 40 to 59 OR 1.51 also high) • Prior victimization (OR=1.65) 	• Evidence that walkable neighborhoods reduce FOC
Golant, 1984	• Factors influencing nighttime activity of older people in their communities	• N=400 aged 60 and older Illinois by structured interview	DV: frequency of nighttime activity, how often do you go out at night?	SES personality, education, employment	<ul style="list-style-type: none"> • Older people who were less likely to go out at night were more likely to be afraid of crime although the association was small ($\beta=.182, p < .001$) • Also less access to transportation ($\beta=.092$) 	• Individual competence and vulnerability cannot explain all of the variance in the nighttime activity of older people
Gray, Jackson, & Farrall, 2011	• Feelings (worry vs. anxiety) and functions (productive vs. counterproductive behaviors in FOC)	• N=2,844 in London from 2007 in seven wards	DV: How worried are you about being mugged; how frequently do you worry and how much; and do your precautions decrease QoL?	IV: included SES victimization, neighbourhood quality and social change and moral decline	<ul style="list-style-type: none"> • 65% (2/3) no worries in past year • 27% dysfunctional worried (QoL <) • 8% functional (took precautions and no < in QoL) 	• Age was not statistically significant in 4 tested models (health, SES, neighbourhood, social change)
Janson & Ryder, 1983	• Relationship between risk and fear and elderly	• N=1,269 in Los Angeles in 1974 from aging project survey	DV concern with crime measured with three questions: 3 greatest problems, whether living in high crime areas was a serious problem for them and did crime cause them any mobility problems	IV SES including # of people in HH, age, and ethnicity	• FOC day (r=.183): Newark .197, St. Louis .202, Baltimore .212, Cleveland .166, Denver .199, Dallas .157, Atlanta .268	• All weak although significant. Conclusion: wise to broaden public policy perspectives on the crime problem beyond a narrow focus on age) 211
Jeffords, 1983	• FOC at home or walking in neighbourhood and age	• N=2,987 Texas crime poll in 1978 and 79	Fear of walking alone at night and how afraid at home alone at night	SES variables	<ul style="list-style-type: none"> • Home alone at night b=(-.06) • Within a block of home (b=.11) • Within a block (b=.07) both at night 	• Very small effect size
Keane, 1992	• Methodological • How to measure FOC formless vs. concrete questions	• N=9,870 GSS 1988 telephone interview	Formless (day and night walking alone) and concrete FOC (damage, assault, and theft)	IV: SES variables	<ul style="list-style-type: none"> • Negative relationship with age for all three concrete (-.158, -.141, -.145). • Positive for night fear formless (.024). 	• Weak but in hypothesized directions and one of earliest studies to find negative relationship

Reference	Measurement	Sample Size	DVs	IV: and/or SES	Result	Significance
Lai et al., 2012	• Specific crime-fear linkage burglary	• N=737 in Texas in 2008 by telephone survey	DV: single indicator asked if worried about being burglarized while absent on scale of 1 to 3	IV: three separate measures of crime, seven SES, concentrated disadvantage and police satisfaction	• Direct impact of immediate burglaries on resident's fear was significant but the magnitude of the coefficient suggests that the relationship is moderate and age not significant	• FOC measured by fear of victimization by specific crime shows minimal FOC by older adults
Mullen & Donnermeyer, 1985	• Age, trust and perceived safety in rural areas	• N=891 questionnaires from 1980 Ohio rural victim survey	DV for perceived safety for women walking day and night alone for FOC, and indexes for trust and isolation	IV: age and gender	• Age second in importance in predicting safety (b=-.21) • As age increased their perceptions of safety decreased	• Weak but significant relationship • Trust was first at (b=.30)
Ortega & Myles, 1987	• Race, gender and age in interaction and FOC	• N=3,018 in eight Chicago neighborhoods	DV: walking within a mile at night	IV: age, sex and race, perceived risk	• Positive weak relationship between FOC and high-crime neighbourhood (r=.205), perceived risk (r=.203) and for risk-minimizing behaviors (r=.311)	• Overall results tend to support double-jeopardy vs. age as leveler hypothesis • Age enhances rather than attenuates the effects of other culturally devalued positions
Pain, 1995	• Assesses existing explanations of the relationship between the risk and FOC amongst elderly people.	• N=389 with 45 follow-up qualitative interviews from Safety in Edinburgh Survey 1992 • Focused on women's FOC • Self-report questionnaire	DV: The research examined the extent, effects, and causes of fear of sexual and physical assault in different spatial contexts.	IV: age, public and private and different experiences (obscene phone call, flashing, leered at, followed).	• Older women less concerned about violent crime and they also practiced less constrained behavior • For example 43%, ($p < 0.01$) of younger women (less than 35 years of age) reported not going out alone vs. (30.3%, $p < 0.01$) of older women	• The results show that elderly women are no more fearful of violent crime than younger women; less so, in fact, in the case of street violence.
Shields, King, Fulks, & Fallon, 2003	• FOC and crime victimization	• N=301 older residents in Ohio, average age 72	DV how safe feel in neighbourhood	IV: demographic, (age, education, gender, employment, income health and depression), social network and crime victimization; fear related to victimization and social support	Reviewing seven demographic variables with older adults 65 and older • found that 71% felt very safe in their neighborhoods • only one demographic variable—education—was found to be statistically significant (more education feel safer)	• Perceived safety not related to age
Sundeen & Mathieu, 1976	• Looking at circumstances related to fear and attitudinal and behavioral responses	• N=104 between 52 and 90, interview in person	DV, perception of safety in neighbourhood day and night and fear of specific crimes, used a thermometer from 0 to 100	IV: social support, perception of safety in neighbourhood, fear of specific crimes and precautions taken	• FOC in city core was highest across all four crimes, followed by suburbs and then retirement homes. • Core expressed a generalized fear, suburb vulnerable at night and retirement fear of outside of walled community.	• Need to plan for subgroups of older adults taking income and living arrangements into consideration • Asks if FOC is reduced by age homogeneous communities, do we want more age segregation?
Sutton & Farrall, 2005	• Socially desirable responding	• N=112 in Scotland who completed both a fear and lie scale	DV: combined scores for thinking about and being afraid of three common crimes	IV: age, gender, lie scale	• Male fear levels without socially desirable responding are arithmetically higher than females (2.64 to 2.53) • Tendency for men to suppress fear does not vary by age	• Male denial of fear is so powerful that it accounts for all of the gender difference and then some
Yin, 1982	• Attempt to identify buffers minimizing negative effects of FOC	• N=1228 in 1979 Minnesota by interview	DV: neighbourhood satisfaction, morale and involuntary isolation	IV: safe in neighbourhood day and night, biggest problem in daily life and biggest worries	• Only 1% mention FOC as serious compared to 25% who mention poor health • Perceived threat of crime lowers satisfaction with neighbourhood (82% for safe vs. 61% for unsafe) and morale decreases from 78% with safe to 61% unsafe • Isolation weak relationship • No relationship or social support buffering FOC	• FOC a less severe problem for elderly than previously reported • No evidence that social support reduces the negative effects of fear on well-being

Reference	Measurement	Sample Size	DVs	IV: and/or SES	Result	Significance
Ziegler & Mitchell, 2003	• Experimental approach to aging and FOC	• N=26 older adults (61-78) and 30 younger (18-29) in Chicago	DV: • NCS question with two variations (at home day and night and neighbourhood vs. city day and night) • Fear defined with Ferraro 1995: emotional response of dread to crime or symbols associated with crime	IV: media (violent video), age, educations, health, emotional well-being media use and prior victimization	• Older adults reported significantly less fear than younger (m values 1.12 vs. 1.62) • Older adults less fearful of walking alone day and night combined questions (m =1.60 vs. 2.32) • Older adults reported lower avoidance behavior (26.9% vs. 40% not significant) due to prior victimization whether # or date • Perceived risk not significant.	• Video only affected younger people. • Prior Victimization no greater fear regardless of age at home or walking alone. • All reported feeling less safe in city than neighbourhood (m=3.79 vs. 2.74) with greater disparity for younger (2.63 vs. 4.) than for older (2.85 vs. 3.58)

Table B2. Victimization Theory Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Lawton & Yaffe, 1980	<ul style="list-style-type: none"> Personal and property victimization and FOC and 45 minute interviews 	<ul style="list-style-type: none"> 662 older people in 53 public housing sites Mean age 75 	Three measures of tenant well-being: off-site activities, on-site activities and contact with friends	<ul style="list-style-type: none"> 7 demographic variables and three crime-related variables. Victimization scale was out of 5 and mean was 0.38. FOC summative index of 10 closed and 16 open-ended questions mean score 7.20 	<ul style="list-style-type: none"> 69% never leave home after dark and 10% never leave more than once a month. FOC greater in age-integrated projects, among those who had been victimized and in high-crime areas. Little association 	<ul style="list-style-type: none"> Hypothesized that FOC would be greater for those that had been victimized Those with high fear and living in high-crime areas were more mobile and unable to explain the finding that there was no longitudinal effect of victimization on morale
Liang & Sengstock, 1981	<ul style="list-style-type: none"> Victim characteristics and environment on risk of personal victimization Logistic regression 	<ul style="list-style-type: none"> N=21,000 to 22,500 in four national samples from NCS of people 65 and older 	DV: victimization rates	IV: age, sex, marital status, education, family income and size of community	<ul style="list-style-type: none"> Victimization rates range from 11 to 14 per 1,000 and translate as 300,000 aged victims per year. Victimization rates differ by age, race and community size. 	<ul style="list-style-type: none"> Negative relationship between age and being a victim of personal crimes—as age increases from 66 to 80 the probability decreases from 12/1,000 to 9/1,000 a decrease of one-third
Stafford & Galle, 1984	<ul style="list-style-type: none"> Exposure to risk hypothesis explored 	<ul style="list-style-type: none"> NCS data from 1973 sample size approx. 10,000 	Adjusted victimization rates computed by dividing conventional rate for a group by their exposure ratio		<ul style="list-style-type: none"> By adjusted rate, the beta for age and FOC is b=.52; gender is b=.78 	<ul style="list-style-type: none"> Casts doubt on conclusion of previous research that fear is inversely related to objective risks of victimization, so strategy to lower victimization rates has merit
Warr, 1984	<ul style="list-style-type: none"> Victimization and differential sensitivity to risk (relation between fear and perceived risk varies among young and old, male and female) based on perceived seriousness of offences 	<ul style="list-style-type: none"> N=339, 1981 mail survey in Seattle 	DV: <ul style="list-style-type: none"> Fear of victimization measured with question asking about fear related to 16 offences scored from 0 to 10. Perceived risk of victimization measured with same questions changed to “how likely” do you think you would be a victim. Same question modified to measure perceived seriousness of offences 	IV: fear of victimization for 16 offences	<ul style="list-style-type: none"> Fear is highest for elderly (66+) for 8 offences out of 16 Age differences smaller than sex differences Significant age-sex interactions occur for 10/16 offences. Mean fear over the 16 offences is 3.40 out of 10 for people aged 19-35 and 3.91 out of 10 for people aged 66+ 	<ul style="list-style-type: none"> Focus on offence specific measures. Found no necessary correlation between fear and perceived risk among the groups. Age differences do not appear for most of the personal offences (murder, assault by stranger) meaning that the threat of truly serious victimization appears to affect all age groups similarly.
Clarke et al., 1985	<ul style="list-style-type: none"> exposure to risk hypothesis explored 	<ul style="list-style-type: none"> BCS sample size 9,150. Old defined as 61 and older. 	DV street offences involving contact by strangers outside home 554 victims identified	IV: 24 hours and evening hour rates of going out	The older adults were found to be less frequently the victims of street crime: <ul style="list-style-type: none"> for 24 hours young=69/1,000, middle-aged 23/1,000 and older 15/1,000 for evenings young=48/1,000, middle-aged 10/1,000 and older 3/1,000. Same data also showed that only 23% of elderly crime victims reported injury compared with 41% of younger people.	<ul style="list-style-type: none"> Elderly's lower rate of victimization cannot be explained by less exposure to risk and a simple differential exposure hypothesis must be rejected. Also measured by riskiness of where gone and frequency and means of travel of going out and still less risk. Alternative explanations include association hypothesis, lesser attractiveness, less reward. No special need for national crime prevention strategies for elderly
Mullen & Donnermeyer, 1985	<ul style="list-style-type: none"> Age, trust and perceived safety from crime in rural areas 	<ul style="list-style-type: none"> N=891 from Ohio in 1980, in interviews 	DV for safety from crime: scale of 4 items <ul style="list-style-type: none"> NCS day and night all with a woman mentioned trust of neighbors scale used 4 items (reliability .86) 	IV isolation: five items and SES variables	<ul style="list-style-type: none"> OLS trust of neighbors most important for perceived safety (b=.30) and age second (B=-.21) a negative relationship 	<ul style="list-style-type: none"> Age has negative relationship and social capital has small effect
Skogan, 1987	<ul style="list-style-type: none"> Examines relationship between criminal victimization and FOC 	<ul style="list-style-type: none"> N=1,738 residents of 7 neighborhoods in US 19 and older Two interviews with each respondent one year apart 	DV: Several measurements of FOC: worry, concern and behavior	IV: Victimization rates by type and number	<ul style="list-style-type: none"> A weak effect for higher fear in relation to recent victimizations for all victims (the highest correlation was $r=.24$, $p < .01$ for personal crime), but did not find support for differential consequences by poverty, gender, or age. 	<ul style="list-style-type: none"> Age did not result in special harms or impacts

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Akers et al., 1987	• FOC and victimization in age homogeneous and heterogeneous communities	• N=1,410 in 90 minute home interviews with people 60 and older, 4 communities in Florida	DV criminal victimization as victim of crime in last 12 months and vicarious same FOC by how fearful are you of being a victim of a serious crime, with 4 possible responses	IV: four communities, SES and health variables	<ul style="list-style-type: none"> Elderly experience low frequency of criminal victimization (4%) and do not have high levels of FOC (over half no fear and only 6% very fearful). Victims more likely to be somewhat fearful (43% vs. 30%) but not very fearful (8% vs. 6%) 	<ul style="list-style-type: none"> Little support for victimization/FOC hypothesis Of all IV's only community significantly related to FOC but only (b=.10) and total R squared of all variables is .01
Parker & Ray, 1990	• FOC, victimization, gender, age and selected social factors	• N=1,835 from 1983 in Mississippi	DV: 4-item scale for worry about crime	IV: Have you been a victim in past year and SES variables	<ul style="list-style-type: none"> FOC significantly related to victimization (r=.234), age (r=.153). Victimization strongest (b=.231), followed by age (β =.155), with gender differences for women, victimization (b=.241) and age (β =.129). 	<ul style="list-style-type: none"> For elderly education (b=.358) and community size (β = -.284). (Failed to complete high school)
Fishman, 1996	• Direct and indirect victimization	• N=384 in Israel, questionnaire with 58 questions	DV: used word fear for 19 crimes	SES variables as well as victimization, neighbourhood characteristics, media and living conditions with OLS regression	<ul style="list-style-type: none"> Results indicate whenever age is significantly associated with a fear factor the correlation is negative Fear of violence appears to be negatively correlated with age: violence (b=-.173), fraud (b=-.135) and no relationship between age and fear of property crime or concern for family 	<ul style="list-style-type: none"> In spite of vulnerability of aged, their fear corresponds to their real probability of being victimized and does not appear to be affected by stereotypes of helplessness.
Rountree & Land, 1996	• Crime victimization, FOC, precautionary behaviors or restricted activities, neighbourhood context influence crime risk perception	• N=5,090 in 300 neighborhoods in Seattle	DV: includes crime risk perception by perception of neighbourhood as unsafe and number of precautionary measures taken. 24% of respondents see their neighbourhood as unsafe and on average take 4 precautionary measures	IV: include micro and macro predictors of FOC and restricted routine activity and past victimization by burglary in past 2 years	<ul style="list-style-type: none"> Hierarchical logistic and linear regression Older sampled residents less likely to feel unsafe (-0.010) and previous victimization sig. positive effects on risk perceptions (0.382) and routine activities (0.698). 	<ul style="list-style-type: none"> The more integrated the neighbourhood, the more cautious are residents activities (higher income leads to both > risk of burglary and income to pay for protection)
McCoy et al., 1996	• Life situation, victimization and FOC	• N=1,448 people 60 and over, by telephone interview in 1986	DV two measures: NCS question, without reference to night (might result in lower fear but more content validity) and some problems become more serious with age given list of 13 to rank and FOC in list	IV: SES, status characteristics of health, physical vulnerability, mental health 8-item index and victimization any one a victim in last year in HH	<p>OLS regression:</p> <ul style="list-style-type: none"> 4/5 or 78.8% felt very safe 70.1% FOC not a problem Less than 10% said fear was very serious. <p>Life status variables were significant but substantively unimportant (small betas)</p>	<ul style="list-style-type: none"> While not part of study, dissatisfaction with neighbourhood was highest at (β =.342)
Beaulieu et al., 2007	• Fear of victimization and FOC in older men	• N=156, 60 and older men in Quebec using data from 2005 and 2006	DV: worry about victimization by emotion, cognition and behavior by a number of scales (at least two for each dimension)	DV: prior victimization scales, depression, social functioning scale to measure social support networks	<p>Means, men reported:</p> <ul style="list-style-type: none"> moderate level of worry about victimization (4.2/10) practiced avoidance behaviors (5.9/30) protection (4.1/14) saw themselves as low risk of being victim (25.5/160) Victimization in next year as low 1.5/10). 	<ul style="list-style-type: none"> Men were healthy, good social networks and not depressed. Logistic regression revealed previously victimized 8x more likely to be worried, and social network increased worry by 5x NCS question increases with age to 5x in men over 80 but not by age for cognitive assessment of risk or adoption of protective behaviors
Russo & Roccatò, 2010	• Between indirect and direct victimization and FOC longitudinally and between concrete and abstract FOC	• N=1,701 in two waves 2006 and 2007 in Italy	DV FOC : think of microcriminality: how would you define the situation in your area of residence and part 2 was for Italy as a whole(the first was concrete fear operationalized, the second abstract fear	IV: sociodemographic variables, direct victimization and indirect victimization	<ul style="list-style-type: none"> Recent direct victimization most effective victimization predictor of both concrete and abstract FOC while indirect victimization occurring in 12 months prior to first wave did not influence fear and age was not significant in any model 	<ul style="list-style-type: none"> Prediction of abstract FOC 2007 age 60 and > direct vic. (β = -.002) and indirect (β =.001). Prediction of concrete FOC age 60 and > direct (β = -.010) and 60 and > and indirect (β = -.004).
San-Juan et al., 2012	• Self-protective behaviors, victimization and vulnerability and age • No sig. differences in victimization by age group	• N=1,700 in Spain by telephone interview	FOC and victimization closed-ended questions and Likert scales. Primary question: What do you do to avoid the risk of being the victim of a crime?	Avoidance and active safety measures	<ul style="list-style-type: none"> Used χ^2 test and found that among those over 65 active safety was used exclusively more frequently than expected (28%) and same for both sexes. 	<ul style="list-style-type: none"> Young more than old preferred using avoidance measures in both genders: males 18-25 (32%) vs. over 65 (16.7%), females 18-25 (46.2) vs. 14.6%. The elderly do not live in fear and their fears and behavioral restrictions are rational

Table B3. Physical/Social Vulnerability Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Lebowitz, 1975	• Early study analyzing the relationship between age and fear, and age, income, and fear	• N=1,504 Using data from a 1973 national sample of US adults	DV: Any area around here within a mile afraid to walk at night	IV: sex, age and employment status	<ul style="list-style-type: none"> • Negative relationship for FOC with older rural dwellers (24% vs. 19% for younger) • Positive relationship for older urban dwellers (53 vs. 71% for younger). • With low income, FOC was greater for older people than young (48% to 37%) with increasing income lowering FOC for older adults (48% to 35% for younger) 	<ul style="list-style-type: none"> • Found that there was no general age differential in reported fearfulness of walking around one's neighbourhood rather gender, living alone, poverty and living in large urban areas affect FOC
Toseland, 1982	• Attempting to identify the factors contributing to FOC	• N=1,499, 1976 GSS by personal interview	DV any area within a mile afraid to walk alone at night. Claims obvious it is asking about FOC	IV: include 10 SES, 7 psychosocial and 4 crime related variables	<ul style="list-style-type: none"> • 44% said they were afraid (yes/no) and 12 predictors explained 45.7% of the variance in FOC • Most important were sex (.84), size of place (.25), satisfaction with neighbourhood (.26), and age (.18) 	<ul style="list-style-type: none"> • Claim obvious that age is important but it is only weak. • Suggest special programs for vulnerable such as women, elderly urban and living single
Maxfield, 1984	• Examines the cause of fear through a comparative analysis of three different neighborhoods in San Francisco	• N=telephone surveys 1977	DV: How safe do you feel being out alone in your neighbourhood at night	IV: three different neighborhoods, reported crime, perceived crime, incivilities and know a robbery victim	<ul style="list-style-type: none"> • Found that age is a less important predictor of fear in high-crime areas than it is in low crime-areas suggesting that in neighborhoods where crime is high and visible, "everyone is more afraid" 	<ul style="list-style-type: none"> • Age as a measure of physical vulnerability is not related to fear in neighborhoods where residents express the greatest concern about crime.
Ortega & Myles, 1987	• Assess effects of age, race and gender on FOC as interactive or additive and test age as leveler (attenuates other variables) or age as double jeopardy (amplifying negative consequences)	• N=3,018 in 8 Chicago neighborhoods with 1979 survey data	DV: Is there an area right around here-that is, within a mile-where you would be afraid to walk alone at night?	IV: age, sex, race, victimization, education and income	<ul style="list-style-type: none"> • Study of race, gender, age, and FOC, age was found to have stronger effects on FOC with aging for Blacks than for Whites although the effect is stronger for women than for men (women showed a 15.1% increase in FOC with age vs. a 5.5% increase for men) 	<ul style="list-style-type: none"> • Results suggest the net effect of age, race, gender and their interactions is consistent with double jeopardy
O'Bryant et al., 1991	• FOC and perceived risk among older widows	• N=300 urban Metropolis, recently widowed (average days 530) and aged 60 to 98	DV: Are you afraid to be out after dark in this neighbourhood	IV: SES, health, income, family, housing and neighbourhood	<ul style="list-style-type: none"> • Slightly over half indicated they were afraid (54%) yes/no only response 	<ul style="list-style-type: none"> • For those living alone for the first time physical and social environmental cues which create perceptions that certain neighborhoods are high crime area may be more fear provoking
Chiricos et al., 1997	• Racial composition in neighbourhood and FOC	• N=1,850 adults in Florida	DV: On a scale of one to ten with ten representing the most fear and one representing the least fear, how much do you fear being robbed by someone who has a gun or knife (someone breaking into your house to steal things, someone stealing your car, someone attacking you physically).	IV: intervening variable of perceived risk, how safe would you say you feel being out alone in your neighbourhood at night (home alone at night). Race, gender, age, income, victimization and what would you say is the most important problem facing the country today?"	<ul style="list-style-type: none"> • Found that FOC was lower for older adults with those 65 and over reporting a mean of 14.8 and those 18 to 29 reporting a mean of 17.2 (scale of 30) with bivariate measurements also revealing weak, lower fear for both older Blacks and Whites • Fear is significantly lower for Whites who are older or have a higher income (although only the result for White older adults was significant ($r = -.14$ vs. $-.01$, $p < .05$)) 	<ul style="list-style-type: none"> • The perception that one is in the racial minority in one's neighbourhood elevates fear among Whites but not among Blacks. • All effects of perceived racial composition on fear are indirect and mediated by the perception of risk of crime. • When no other factors are taken into account, FOC among Whites increases consistently as the percentage of Blacks in the neighbourhood is perceived to increase with the highest levels reported for neighborhoods with a Black majority.

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Paintazis, 2000	• Uses vulnerability to explore perceptions of safety among people living in poverty using BCS 1994.	• N=14,500 aged 16 and older	DV: How safe walking alone in this area after dark and how safe home alone	IV: income, gender, age	<ul style="list-style-type: none"> • Poor people are twice as likely to feel unsafe walking in the dark as wealthy people • Poor women are significantly more likely to report feeling unsafe as poor men (67% to 34%) • Poor older people are more likely to feel unsafe walking in the dark than are poor young people (62% vs. 46%) 	• Results that suggest poverty impacts feelings of safety in older people more than age itself
Killias & Clerici, 2000	• Different measures of vulnerability self and interviewer rated in public spaces	• N=726 people in Switzerland from interviews in 1997	DV: Three questions how respondents feels—safe or unsafe: walking in neighbourhood, riding public transportation and walking home from public transit	IV: assessments of personal risk, place of residence, HH composition, incivilities, age and gender	• Found stronger associations for gender and self-reported vulnerability than for age. For example, age was significant in only two models (walking after 10 p.m. and walking home from the bus, but in both cases was in third place and small ($r=.1407, p < .01$) and ($r=.1184, p < .01$))	• Concluded that in comparison to demographic and contextual (neighbourhood variables) physical vulnerability seems to play an important role in the genesis of FOC, but age was weak
Shields, King, Fulks, & Fallon, 2003	• FOC and crime victimization	• N=301 older residents in Ohio, average age 72	DV: how safe feel in neighbourhood	IV: demographic, (age, education, gender, employment, income health and depression) social network and crime victimization, fear related to victimization and social support	<ul style="list-style-type: none"> • A specific relationship between age, education, FOC was found indicating that FOC among those aged 65 and older was related only to a respondent's education level, with those more educated reporting less fear 	• Perceived safety not related to age
Franklin & Franklin, 2008	• Multilevel analysis of vulnerability, disorder and social integration models of FOC	• N=2,599 in Washington	DV: NCS safe walking alone in your neighbourhood day and night and affective dimension (FOC) 7-item scale asking how worried about each situation (Scale 28)	IV: race, age, sex, education and income	• Found a weak but statistically significant relationship between increased age, gender, race, and income in lowering FOC (affective), while the same variables increased perceived risk with increased age (cognitive)	• Age was statistically significant, although the effect size was very weak ($\beta = .01, p < .05$) for perceived risk and ($\beta = -.02, p < .05$) for worry of victimization
Taylor et al., 2009	• Physical limitations and FOC by race/ethnicity and age	• N=1505 in Dade County 2000 sampling detailed and used WHO screening process questions for disability	DV: 10-item scale of Ferraro and LaGrange scoring from 10 to 40 with mean of 19.243	IV: activity limitation scale, exposure to crime scale, mastery scale, perceptions of stigma scale and SES variables	<ul style="list-style-type: none"> • There is a negative relationship between age and FOC (-.012 not significant) with very little variation in FOC scores among people with activity limitations. • High limitations for 18 to 49 mean for FOC 21.61 and those 70 to 93, 20.95 	• Suggests factors other than vulnerability are more important in determining FOC
Rader et al., 2012	• FOC and vulnerability testing for interactions between physical and social vulnerabilities	• N=2,610 from panel study in 2006	DV how often have you felt unsafe in your neighbourhood in last year	IV: age, gender, health, race, education, income and marital status	• Used Logistic regression. 37% reported feeling unsafe at least once but only 6% at least weekly.	• Results support the notion of both physical and social vulnerabilities as significant predictors of fear at the individual level, which are mediated by one another to varying degrees.
San-Juan, Vozmediano, & Vergara, 2012	• Study of self-protective behaviors motivated by FOC as a consequence	• N=1,700 adults in Spain between 18 and 95 years of age, telephone survey.	DV: Taking additional security measures for home and avoiding certain areas or streets	IV: sex, age, place of birth and residence, number of people living in HH, income and education and prior victimization	<ul style="list-style-type: none"> • Younger people more typically practiced avoidance • Middle-aged people used both methods • People over 65 tended to rely exclusively on home security measures • 28% of both genders over 65 did not use any self-protective measures 	<ul style="list-style-type: none"> • There are sex and age differences in self-protective behaviors against crime. • But elderly do not live in FOC, previous reports exaggerated, and fear when experienced is rational

Table B4. Social Disorder Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Norton & Courlander, 1982	<ul style="list-style-type: none"> • Crime prevention programs and police patrol and crime education and predicting both would create high security consciousness and thereby lower FOC 	<ul style="list-style-type: none"> • N=152, 55 and older in six town area in US age range 55 to 91 	FOC and security conscious behavior	Prior victimization, media reports and discussion of crime with others, presentations and police presence	<ul style="list-style-type: none"> • FOC scale with 11 measures 54.7% moderate to no fear and 45.4% high fear • Correlations between FOC and restricted activities due to media ($r = -.36$) and discuss crime with other ($r = .38$) 	Program increased security consciousness but also increased fear, by way of vicarious victimization
Golant, 1984	<ul style="list-style-type: none"> • Seniors use of community at night in relation to FOC as a predictor variable 	<ul style="list-style-type: none"> • N=400, 60 and older in Illinois by structured interview 	DV frequency of nighttime activity often do you go out at night	IV: SES, demographic, stage in life, environmental constraints (one of which was FOC)	<ul style="list-style-type: none"> • 53% went out 2-3/month • Older people less likely to go out a night were more likely to be afraid of crime ($\beta = -.182$) and had less access to transportation ($\beta = .092$). 	Vulnerability theory insufficient to explain night time use of community
Brown et al., 2004	<ul style="list-style-type: none"> • Incivilities, place attachment and crime • Hypothesized: weaker place attachment, more observed incivilities, more perceived incivilities and weaker social ties predict crime 	<ul style="list-style-type: none"> • N=349 interviews on 58 blocks Salt Lake City undergoing decline 	police reports of crime	Home attachment, incivilities, perceived incivilities, social ties, home ownership	<ul style="list-style-type: none"> • Home attachments stronger among owners ($r = 0.31$), and higher attachment correlated with fewer physical incivilities ($r = -0.32$). 	Incivilities predict crime less well in socially cohesive blocks suggesting social cohesion can buffer physical environment effects. Perceived incivilities may be useful predictors of FOC but observed incivilities more useful in predicting crime
Franklin et al., 2008	<ul style="list-style-type: none"> • Multilevel analysis of vulnerability, disorder and social integration models of FOC 	<ul style="list-style-type: none"> • N=2,599 in Washington 	DV: global cognitive perceived risk by NCS safe walking alone in your neighbourhood day and night. DV: affective dimension (FOC) 7-item scale asking how worried about each situation (Scale 28)(usually is asked how likely to occur	IV: race, age, sex, education and income	<ul style="list-style-type: none"> • Disorder explained most fear, affectively and cognitively; social integration and vulnerability third. • Elderly reported higher risk (but is the NCS question) and lower fear 	NCS question continues to exaggerate FOC in older adults
Pitner et al., 2011	<ul style="list-style-type: none"> • Perceptions of neighbor safety 	<ul style="list-style-type: none"> • N=85 Midwest US average age 61 and range 40 to 89 telephone interviews and mailed surveys 	22-item questionnaire addressing neighbourhood safety issues	Environmental crime variables of community care and vigilance and physical and social incivilities	<ul style="list-style-type: none"> • Community care 22.6/30 and 4.6/10 on incivilities and 6.1/10 for neighbourhood safety concerns 	Physical incivility (11%), crimes against property (7%), community care and vigilance (5%), and gender (4%)
Vilalta, 2011	<ul style="list-style-type: none"> • Assessed whether gated communities or apartment buildings provide lower levels of FOC when home alone. 	<ul style="list-style-type: none"> • N=3,474 households from 2005 and 2007 Mexico City Metropolitan Area (MCMA) surveys on victimization and institutional efficacy 	DV: self-reported levels of FOC when home alone.	IV: two dichotomous independent variables: Residents in gated communities (IV1) and residents in building apartments (IV2) measured as 1=No and 2=Yes. Social networks, victimization, social disorder, social and physical vulnerability,	<ul style="list-style-type: none"> • Neither residing in a gated community ($p = 0.346$) nor in an apartment building ($p = 0.190$) suggested a significant difference in the levels of FOC when home alone holding other variables constant 	The main theoretical implication of this study is that it cannot provide evidence to support all existing theories of FOC, particularly, victimization theory

Table B5. Social Capital Theory Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Lee, 1983	• Social integration	• N=2,832, 55 and older in Washington	DV 7-item scale measuring anxiety and worry about safety of self and property	6 dimensions of social integration	• Bivariate: strongest previous victimization ($r = .25$) for men and $.23$ for women and multivariate ($\beta = .199$ for men and $\beta = .200$ for women)	Hypothesized: That social integration related to FOC not supported
Kennedy & Silverman, 1984	• Social contact	• N=136 over 65 in Edmonton using data from 1978	DV walking alone at night 5 point Likert scale	4 measures of social contact	• Frequent social contact with friends highest at $.13$ not significant	Hypothesized: That social interaction reduces fear not supported (although abstract claims it is).
Ross & Jang, 2000	• Social ties with neighbors buffer disorder and reduce FOC	• N=2,482 • 1995 Illinois, telephone interview	DV: fear of victimization (# of days in week feared crime) and mistrust of others (# of days mistrusted someone)	V is perceived disorder in neighbourhood, controlling for age, gender, MS children, education and income	• Fear and mistrust are higher with neighbourhood disorder (fear $.424$) and (mistrust $.315$)	Age and informal integration interaction not measured but older adults are no more fearful and older persons are more trusting
Kanan & Pruitt, 2002	• Neighbourhood integration	• N=514, 18 and older • 1988 data Tennessee, 81 neighborhoods	DV (3): worry about being a victim of crime, how safe at night in neighbourhood and rate neighbourhood on safety	IV neighbourhood integration personal investment, affect or attachment, and social cohesion	• Logistic regression: neighbourhood integration 0 % for DV 1, 3% for DV 2, and 2% for DV 3. • Highest relationship across three models and DV's was 0.019	Hypothesized that neighbourhood integration reduces fear for older adults not significant and negative an inverse relationship between age and fear
Gibson et al., 2002	• Social integration operates through perceptions of collective efficacy in predicting FOC	• 3 cities in US 1997 data, n=411 for Council Bluffs, 668 for Boise and 580 for Spokane	DV FOC 1-item NCS question walking at night	IV included multiple item indexes for collective efficacy social integration, disorder and prior victimization integration	SEM: • Council Bluffs: Coll. eff. $\beta = .24$, disorder $.34$ and gender and age $.16$. • Boise: Coll. Eff. $.22$, disorder $.28$, gender $.17$ and age $.12$. • Spokane: coll. Eff. ($\beta = .24$, disorder $.26$, gender $.24$ and age NA)	Age and social integration/efficacy interaction not measured but age as a contributor to FOC is significant but weak
Shields et al., 2003	• Determinants of perceived safety	• N=301, average age 71, Ohio data 1999	DV FOC is 2 category safe/not safe—how safe felt in neighbourhood	IV 3 categories of demographic (7 variables), social network (4 Variables) and 21 forma), and criminal victimization (3 measures)	• Logistical Regression: 71% felt very safe	Only education was related with those with most educated least afraid $.1287$, $p < .05$
Kruger et al., 2007	• Social capital and FOC	• N=1,862 from census tracts in Michigan	DV FOC 4-item scale	IV: SES, and social support, social contact and social capital measured as willingness to help and trust levels	• Older adults sig less social support, greater neighbourhood social capital and lower FOC	Relatively strong effect for social capital reducing FOC ($-.507$)
Ferguson & Mindel, 2007	• Test of social capital theory	• N=1,367 • 1995 Dallas telephone survey, age ratio-level	DV FOC multiple items (4-point ordinal scale assessing victimization)	12 IV: predominately multiple item scales	• SEM showed following outcomes for social capital: police presence Increased coll. Eff. ($.135$), as did social support networks ($.472$), neighbourhood satisfaction < FOC ($-.141$) and collective efficacy > neighbourhood sat. ($.173$)	Overall r^2 for FOC was 0.508 from 12 predictor variables including age. No difference noted between younger and older respondents on FOC. Older people less likely to be victimized ($\beta = .117$) saw less incivility ($-.227$), had higher levels of perceived risk ($.098$) and had higher social support $.243$. But high levels of social networks did not reduce FOC
Roman & Chalfin, 2008	• Neighbourhood social capital or collective efficacy • data from 2007 • District of Columbia.	• N=803 • mean level of FOC 1.54 on a 3 point scale, 483 no fear, 209 some and 111 high fear, average age 45	DV FOC, was an ordered categorical measure of the degree to which FOC prevents an individual from walking outdoors	Soc capital a 10-item construct representing community cohesion, using a 4-point scale	• Age, gender and race associated with > FOC. • Black 1.707OR, female 1.524 and age 1.018 (each additional year of age 2% higher odds moving to next category of response).	Collective efficacy only increased fear among Black respondents with no significant effect elsewhere.
Franklin et al., 2008	• Analysis of three models of FOC, one being social integration	• N=2,599 in 21 cities across Washington using 2003 data	DV Perceived risk NCS walking alone at night and Worry of victimization seven-item index	IV: include demographic, disorder and social integration measures and city-level measurements	• All demographic variables significant but age in individual model and combined model never exceeds $.01$	Disorder model explains more variance in both cognitive and affective dimensions of FOC

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Marczak, 2008	• Explores whether past victimization, age, gender, community attachment and media exposure influence FOC	• N=118 residents of Vancouver split into two groups of property and personal victimization	DV: A FOC survey containing 54 questions	IV: Social capital measured as community attachment	• Found that social capital, measured as community attachment, had only a negligible impact on FOC.	Prior victimization, gender, and age had larger effects on FOC
Gainey et al., 2009	• Direct and indirect effects of demographic var. and social capital	• N=628 from telephone interview US SE city, age continuous and average age 52	DV crime-specific measure and multi-item scale	IV all multi-item scales and included victimization, social and physical disorder and social capital	• Four models used and age not significant. in any: ($\beta = -.07, -.01, -.05$ and $-.03$).	Social capital added 3% to explaining model variance, measured as trust, ($\beta = -.19$)
Oh & Kim, 2009	• This study tests the impact of aging combined with five measures of neighbourhood attachment on FOC.	• N=1,123 over 65 years of age, residents of Chicago in 1994 surveyed about neighborhoods perceptions, over 343 neighbourhood clusters	DV: Measured by 3 items, all of which actually indicated perceived risk of crime: "Take a big chance to walk alone after dark," "People know areas where trouble is expected," and "Many people are afraid to go out at night."	IV: gender, race, marital status, length of residence, homeownership, and experience of crime victim.	• Looked at the impact of five interaction variables of aging and neighbourhood attachment on FOC and found three variables significant in explaining FOC (neighboring ($\beta = -.05, p < .05$), social cohesion ($\beta = -.17, p < .01$), and informal social control ($\beta = 0.06, p < .01$), age was weak and significant ($\beta = .01, p < .001$) when measured continuously (not categorically).	Our analyses confirm that all five interaction variables are insignificant in explaining FOC. The findings show that rising FOC among urban elderly residents helps increase their interactions with neighbors (neighboring) and their perceived level of social cohesion to and trust of neighbors. In short, this study supports a model where an interaction predictor of aging and FOC increases neighbourhood attachment. The most surprising effect noted by the authors was an unexpected association between higher FOC ratings and higher social cohesion and trust for older adults.
Kitchen & Williams, 2009	• Social cohesion, community building and QoL. Crime Capital of Canada 2008 MacLean's	• Three iterations and n=2001 (959), 2004 (995), and 2007(1,036). Telephone survey Saskatoon	DV single item: How would you describe your safety from violent crime?	IV thirteen variables	• Qualitative and quantitative (Log Reg). 2007 FOC overall 2.69/5 and ranges from 2.47 (18-24), 2.72 (25-64) and 2.71 (65 and >)	FOC does not necessarily affect QoL but lower QoL is an important condition influencing the FOC
Scarborough et al., 2010	• Neighbourhood cohesion	• Self-report survey Kansas n=1,181	DV FOC questions closely related to NCS and GSS questions	IV number of people known by name in community	• Social cohesion negative effect on FOC of $\beta = -0.066, p < .05$ and age showing a positive relationship $\beta = .066, p < .05$. • Disorder highest at .337 and gender second with .193	Age and social cohesion show a relationship but both weak.
Alper & Chappell, 2012	• Tests predictive power of three models—vulnerability, disorder and social integration	• N=628 from 2008 telephone survey SE US city	DV measured as both fear of property crime and fear of violent crime (each with one item). Asked how often worry.	IV: include gender, age, education, race, victimization, disorder, neighbourhood trust and organizational participation	Bivariate and all six models (3 theories over 2 DV's) — age was never significant. • Bivariate. (-.067) • violent was -.035, .008, .003 • property -.016, .027, .010	Age not a factor in social integration and FOC

Table B6. Built Environment Theory Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Sherman, Newman, & Nelson, 1975	• Survey of older adults in public housing in NY to explore effects of different living arrangements and victimization age integrated, segregated and mixed	• N=229	DV 14 page interview of structured questions on safety and housing type	IV: housing type; age integrated, segregated and mixed	• A very early study of age segregation vs. integration and FOC. • Less for older adults living in age-segregated buildings (96% felt safe in age segregated vs. vs. 67.2% in age integrated)	Supports age segregation to reduce both victimization and FOC
Lee, 1982	• Residential location and fear	• N=4,069 in Washington state 55 and older	3 Measures, walking alone at night; 7-item fear of victimization and by four types of crime Reliability of scale reported and good	Residential location 8 point continuum from farm to cities Reliability of scales good	Bivariate: • FOC by 7-item victim scale not sig ($r=.05$) for both genders • urban more FOC walking in dark ($r=.25$ for men and $.27$ women) and probability of victim ($r=.06$ for men and $.09$ for women)	7-item scale fear of victimization scale from 7 to 27 and average for men 14.82 and 15.05 women (not extremely high) 4-item problem of victimized scale was 4 to 16 and average 8.01 for men and 8.39 for women again not high
Kennedy & Krahn, 1984	• Effects of urban-rural city of origin, length of residence, age and FOC	• N=736 in two Western Canadian cities from 1981. One hour structured interview questionnaire	DV FOC by walking alone at night	IV: size of city or origin, size of city or residence SES and age in single year	• 79.9% felt neutral to very safe walking alone at night	R for FOC and size of place of origin is insignificant, .176 by size of city of residence older adults feel more safe ($b=-.180$ negative) and older people growing up in larger cities are not more likely to feel unsafe than younger from same background
Ward et al., 1986	• Testing Lawton and Nohomow theory of environmental press	• N=1,186 people 60 and older NY and average age 70.6	DV was FOC how safe do you feel alone in your neighbourhood (no mention of crime or night) so authors say more a study of perceived safety than FOC (but title refers to FOC?)	IV: personal and SES characteristics incl. functional health, mastery scale neighbourhood characteristics, subjective well-being, and lifestyle	• Found overall that FOC was a minor issue for older adults with 84% feeling safe to very safe and only 6% mentioned crime as worst thing about their neighbourhood • Neighborhood age concentration did not reduce FOC ($r = -.11$). was associated with neighborhood satisfaction; $r = .25$) and moral ($r = .17$)	FOC neither typical nor salient. Perceived safety < by ($r = .17$) 62% felt safe in high competence vs. 50% in low competence group and unrelated to instrumental helpers
Normoyle & Foley, 1988	• Building height age segregation on FOC and older adults test of Newman's theory of defensible space (1972)	• N=945 elderly (60 and older) using survey among residents of 42 public housing sites in 15 cities	DV, FOC using question measuring FOC when home alone perceived crime problem asked to say whether a big problem or not (45% said a big problem	IV: included SES, building height, segregation, length of residence and victimization experience and crime rate	• Used hierarchal regression; approximately 20% reported feeling unsafe or very unsafe in the public housing site • Effect of building height was opposite and sig. FOC was lower by $-.35$; increased age did not >, FOC ($r = -.10$, $\beta = -.02$)	Perception of crime problem increased with age segregation ($\beta = .28$).
Oh, 2003	• Impact of victimization and perceptions of disorder on social bonding among elderly urban residents	• N=8,782 adults in 343 neighborhoods in Chicago	DV: Neighbourhood-level social bonding of the elderly was measured in four dimensions: friendship, social cohesion and trust, informal social control, and neighbourhood participation	IV age, length of residence, crime victimization, neighbourhood disorder (physical and social)	• Found a significant reduction in social bonding among the elderly when encountering an environment of incivilities	Two impacts of age on neighbourhood friendship suggest that as people get older, the number of their local friends falls. But crime victimization and the two perceived disorder variables (physical and social), however, have no substantial influence on neighbourhood friendship.
Brown et al., 2004	• Incivilities, place attachment and crime	• N=349 interviews on 58 blocks Salt Lake city undergoing decline	DV: Police reports of crime	IV: Home attachment, incivilities, perceived incivilities, social ties, home ownership and SES	• Age negatively associated with police reports (older people made fewer reports to the police; home incivility (older adults maintained their homes in better condition), and perceived incivility (older adults perceived less incivility in their neighborhoods	Older adults less disturbed by incivilities—objective and perceived.

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Mawby, 2004	• Evaluation of burglary reduction initiative in the UK that targeted vulnerable groups to reduce FOC and crime	• N=628 HH's received service from 2000 to 2002. 210 responses received to survey post service	DV postal survey measuring experience of crime and perception of service	IV: installation of burglary alarm system	<ul style="list-style-type: none"> • 94% felt safer after installation • 48% less likely to move but no significant change in behavior (people did not go out more often). • Those with poor health and lower income expressed greater FOC 	Author also noted that it was the least vulnerable and most affluent who were more likely to feel the service had improved the quality of their lives.
Brugge, 2006	• FOC in seniors housing complex in Vancouver	• N=102 older residents living in an age-heterogeneous housing complex	DV: 5 DV's including subjective assessment of neighbourhood safety, perceived crime rate, fear of specific crimes, and safety evening and late night in neighbourhood	IV: age, sex, education, length of residence, family and friend visits, health, neighbourhood context variables and prior victimization	• Exploratory study focused on a number of possible environmental determinants of fear such as adequate fencing, sidewalk lighting.	Findings suggest that FOC is significantly correlated with gender and social disorder variables although study concludes that in terms of FOC neighbourhood context variables have limited explanatory power based on this pilot study
Lee et al., 2008	• Australian study	• N=5,582 older adults completed cross-sectional survey, average age 73.9	DV: NA	IV: NA	• Found only a slightly lower proportion of the general population had installed security devices and logistic regression analysis indicated that older adults living in detached houses feel particularly vulnerable to burglary	Their exploratory study found that more than 70% of older adults used security screens and key-operated deadlocks as their main security devices, with only 2.7% reporting no security procedures. respondents living alone had the lowest prevalence of home security devices, and those over 80 years of age used the least number of security devices
Franklin et al., 2008	• Multilevel analysis of vulnerability, disorder and social integration models of FOC	• N=2,599 in Washington	DV: NCS safe walking alone in your neighbourhood day and night and affective dimension (FOC) 7-item scale asking how worried about each situation (Scale 28)	IV: race, age, sex, education and income	• The disorder model accounted for the greatest proportion of variation in two measures of FOC (cognitive and affective),	Age was statistically significant, although the effect size was very weak ($\beta = .01, p < .05$) for perceived risk and ($\beta = -.02, p < .05$) for worry of victimization
Cozens et al., 2008	• Investigates the perceptions of the elderly in relation to crime and nuisance and FOC associated with different housing types in UK	• N=40 people all White 65 and older	DV: qualitative and quantitative questions: Would you feel safe walking here, feel safe in your home and avoid this location?	IV: photographs of different kinds of housing available in UK	• Responses strongly supported CPTED and Newman with high rise flats showing high fear levels at 95/100 with only 6/100 for semi-detached housing	Small sample size but results the authors believe need more research.
Hinkle & Weisburd, 2008	• This study aimed to improve knowledge of the relationship between disorder and FOC in the context of the broken windows hypothesis by using a micro-place level research design involving a police crackdown on disorder and minor crime at hot spots.	• N=733 interviews 18 and older	DV: The primary dependent variable, resident fear, four-level ordinal measure of FOC created from responses to a variation of a standard fear question (see Ferraro, 1995, walking alone at night in neighbourhood	IV: social and demographic control variables, age, race and gender, crime and disorder, observed disorder, crime, pre-intervention fear, and extra police presence	• Results support link between disorder and FOC, but also suggest paradoxically that interventions to reduce FOC by reducing disorder may themselves significantly increase the probability of feeling unsafe, an effect known as the "security paradox"	Any fear reduction benefits gained by reducing disorder may be offset by the fact that the policing strategies employed simultaneously increase FOC. These findings suggest the importance of a careful focus on "how" broken windows policing programs are implemented.
DeLone, 2008	• Public housing in Nebraska and FOC	• N=426 interviewed 4 of the 12 high rise public housing towers were used two mixed age	DV 4-item scale with scale of 24	IV: demographic, type of victimization, social disorganization measures, social integration measures and tower-type	<ul style="list-style-type: none"> • Direct effect between type of tower and no support for a relationship between age and FOC. • Largest sig. level for age in all five models was ($r = -.071$) • As one ages increased fear decreased ($\beta = -.033$) 	<ul style="list-style-type: none"> • Victimization ($>$ fear, $r = 0.825$); fear positive relation to social disorganization ($r = .301$) • Social integration inverse to fear ($r = -.125$) and fear $>$ in mixed age towers ($r = .381$); elderly-only towers should be maintained and not just age relation as residents in mixed towers overall more afraid

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Hadjiyanni & Kwon, 2009	• Interior design and security. Directions from academicians, designers, artists, and educators help frame the paper's thesis that electronic surveillance can act as a connecting mechanism that connects people to people as well as people to the environment	• N=NA Instead: the security paradox. According to Ivy (2002) "...when security systems assert themselves most forcefully fear, discomfort, and even danger often flourish; conversely, the absence of visible protection can promote the feeling of well-being"	DV: NA For the most part, the public perceives surveillance as "someone is watching" rather than "someone is protecting me" and that someone is watching with the primary aim to control	IV: NA	• Provided some support for the "security paradox" referred to above whereby security systems can increase fear while the "absence of visible protection can promote the feeling of well-being"	Not enough understanding of how electronic surveillance impacts people of different ages
Vilalta, 2011	• Testing if FOC when home alone is reduced by gated community or apartment living	• N=1,995 in 2005 and 1,476 in 2007. Used 2005 and 2007 Mexico City surveys on victimization	DV self-reported levels of FOC when home alone 4-item scale	IV 2 dichotomous: • residents in gated communities • residents in building apartments	• Results are non-significant for both hypotheses and physical vulnerability for gender supported for > FOC when home alone—not age	Still not clear if gated communities and apartment buildings reduce FOC
Pitner et al., 2011	• Perceptions of neighbor safety	• N=85, 81% female, median age 61	22-item questionnaire addressing neighbourhood safety issues	IV: Environmental crime variables of community care and vigilance and physical and social incivilities	• Collective action by older residents to reduce both social and physical incivilities results in self-reports of decreased FOC which in turn is related to stronger place attachment and improved health and well-being	Study also suggests that age is associated with reporting fewer social incivilities
Chappell, Monk-Turner, & Payne, 2011	• assessing the impact of physical and social disorder on quality of life	• N=746 by telephone survey US	DV: QoL index of 6 questions range 6-24	IV: race, age, income, education, employment, seeing family and friends and health	• Found physical disorder plays a more significant role than social disorder in producing quality of life	However they were unable to find any age effect, although a Bach. degree and health positively associated with QoL and income negative
DeDonder et al., 2012	• age friendly cities approach and how neighbourhood as a physical surrounding can either promote or hinder feelings of unsafety in later life	• Belgian Ageing studies, N=25,980	DV 8-item scale Elders Feelings of Unsafety	IV: perceives quality of physical design of neighbourhood	• Gender $\beta = 0.162$, age 0.105, road safety 0.163 but total regression model only explained 12% of the variation in feelings of unsafety	Feelings of unsafety in later life, not only a criminological perspective is important; also aspects of age-friendly communities (WHO 2007)
Alper & Chappell, 2012	• Very recent study of the predictive power of vulnerability, disorder, and social integration models. on FOC	• N=628 US city from 2008 telephone survey up to 76, mean age 50.5, age continuous	DV: Fear of: • having someone break into your home • having your property vandalized • having property stolen from you • having yourself or family assaulted or harmed.'	IV: gender, age, education, prior victimization, disorder, neighbourhood trust	• Disorder explained more of the variance in FOC than either vulnerability or social integration (18.3%), age was not significant in any model	Overall, the independent variables are more strongly correlated with fear of property crime than fear of violent crime.

Table B7. Psychological/Mental Health Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Lindesay, 1997	• Phobic disorders and FOC	• N=120 60 cases and 60 controls and mean age 71.9 • main fear was agoraphobia (53.3%) and in no case was the presenting phobia FOC	Series of questions addressing FOC including NCS question	Mental health, physical health	• Cases showed more fear for personal safety and property crime than of controls. Prevalence of phobias for this age group is defined as 10% and evidence suggest that over ¼ of problematic FOC is associated with this group.	No evidence to suggest elderly people in general are overwhelmingly afraid of crime or that this is a significant problem for them
McKee & Milner, 2000	• Physical and mental health and psychosocial limitations related to FOC	• N=60 people 65 and older, opportunistic sample	DV a catastrophizing What worries you about personal and property crime measures depth and time	IV: SES, crime prevalence scale, crime awareness and experience, neighbourhood safety, social support and psychosocial functioning	• Fear for crime against property, mean = 3.8/11 • Only 11% reported neighbourhood as unsafe even with inflated estimates of crime	Physical and mental health explained significant variance in outcome measures and do not support previous research suggesting older people re prisoners of fear
Beaulieu et al., 2004	• Mental health issues or psychological distress and FOC in elderly	• N=529 Quebec Longitudinal Study of Aging, inter-cohort prospective analysis	DV: in the last month have you been afraid of being robbed or attacked	IV: psychological distress, hassle's, negative affect and life events scales	• 5% of older adults expressed FOC over 3 test periods, 57% no fear and 38% at least once over 5 years	Chronic FOC correlated with higher individual scores on mental health scale
Clarke, 2004	• FOC and phobias	• N=361 in Australia 18 and older	DV: Feelings about crime study questionnaire in which was embedded the Fear Questionnaire	IV anxiety disorder measures	Average FOC for personal 32.04/67 and 8.31% has high fear • fear of property crime averaged 19.74/39 and 9.14 had high fear described as moderately low • percentage of people reporting a high level of the subtypes of FOC was low at below 10%	As FOC increase the level of phobic fear decreases while significant results were weak, all the correlations between the phobia types and FOC were below -.16 producing an R squared of at most 2% crime and anxiety phobias are independent
Stafford et al., 2007	• FOC and subjective measures of physical, general and mental health	• N=7,537 in England from 50 to 75	DV index of 4 items with fear scale from 0 to 12	IV: SES and physical health, QoL, physical activity and most recent job grade as civil servant	• Mean FOC scores was 2.63 out of 12 a very low level of fear and ranged from 2.89 for people 50-54 and 3.0 for 70-74. • Vigorous physical activity, contact with friends and high involvement in social activities reduced FOC	FOC associated with poorer mental health, reduced physical functioning on objective and subjective indicators and lower quality of life; Greater fear was reported by those in lower job grades.
Jackson, 2009	• Psychological definition of vulnerability rather than physical or social and FOC with a focus on explaining irrationality	• N=479 from London with a questionnaire	DV: four different question sets related to seven types of crimes	IV SES, gender, age	• Statistics not provided for age but notes that the bivariate analysis found a significant negative effect of age on worry about crime and the older they were, the less worried	Psychological vulnerability as important as physical and social
Kitchen & Williams, 2009	• QoL and crime perceptions in Saskatoon, crime capital of Canada with a specific focus on QoL	• N=959, 995 and 1,036 in 2001, 2004 and 2007 resp. neighbourhood telephone survey	DV: what are the significant correlates of FOC in Saskatoon from 2001 to 2007	IV: 13 SES, race	• Bivariate and multivariate interesting inverse relationship between FOC of violent crime and low SES neighborhoods; mean fear score was 2.85, 2.92 and 2.69 out of five.	Age was not a significant variable influencing FOC in Canada's crime capital FOC does not necessarily affect QoL but QoL is an important condition influencing FOC
Cossmann & Rader, 2011	• Considers the relationship between self-reported health and FOC.	• N=918 using data from the General Social Survey (GSS), 2006.	DV: GSS question afraid to walk in neighbourhood at night	IV: We used four GSS questions related to health status: one subjective and three objective measures	• 1/3 afraid to walk in neighbourhood at night • Individuals who report excellent health are 18 percent less likely (p<.01) to report being fearful of walking in their neighbourhood at night than those who report good health	The evidence suggests that FOC may be an outcome caused by poor health, rather than poor health being caused by FOC. ***Only 4% of sample over age 0f 60 and not significant in either male or female models.
Olofsson et al., 2012	• FOC and psychological and physical abuse in Sweden	• N=9,360 in 2006 public health survey between 65-84	DV: have you ever refrained from going outside because of FOC in last 12 months	IV: SES and mental and physical health	• Logistic regression: Afraid to leave house because of FOC: 2/5 th of women and 1/5 th of men said yes and generally strongly associated with poor health and small increase with age	Psychological and physical abuse have a stronger impact on physical and mental health than FOC

Wallace, 2012	<ul style="list-style-type: none"> This study examines the pathways between neighbourhood disorder, FOC, and three health outcomes 	<ul style="list-style-type: none"> N=1,773 from Community, Crime and Health Survey 	<p>Mediating variable: The CCH measures FOC with a series of variables that both types of FOC. I am afraid to walk alone at night and in the past week, how many days have you feared...” being robbed, attacked or injured, or your house being broken into.</p>	<p>DV & IV Self-rated health: mental health and four disorder questions, and race, sex, age, having children, income, employment, education level, chronic disease, and smoking.</p>	<ul style="list-style-type: none"> Higher levels of disorder perceptions significantly related to higher levels of all three fear levels of crime variables and people with higher perceptions of disorder are less likely to rate their health positively. People who say they are more afraid to walk alone at night rate their health more positively; however, the significance is moderate ($p < 0.10$) and the coefficient is small (0.073) 	<p>Results show that FOC does mediate the relationship between disorder perceptions, self-rated health and depression, though the mediating pathways are weak. However, for FOC, only general FOC mediates the relationship between disorder and health, and the indirect effect is small and only moderately significant ($p < 0.10$). Presence of a disorder—FOC—health link, is a weak one.</p>
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Table B8. Generalized Insecurity Hypothesis Empirical Results

Reference	Measurement	Sample Size	DV	IV	Result	Significance
Dammert & Malone, 2003	• FOC and public insecurities in Chile	N=2,376 from 2001	• Fear of general violence insecurity index of crime • fear of government, civil society • fear of assault or robbery related to specific crimes	IV: social identity variables of sex, age, education and income.	• Age not significant in any model ($r = -.0004$ and $-.017$); demonstrating that results are equally valid for men and women of all ages at all levels of income and education; • For every one-unit increase in insecurities scale, fear of violence increase by .44 and fear of assault or robbery increases by .43; victims of crime .36 more fearful of violence and .34 of assault Insecurity scales range ($r = .443$ to $.48$)	FOC can only be resolved with the inclusion of policies aimed to deflate economic and social insecurities
Dammert & Malone, 2006	• The role of "other insecurities as defined by UN	N=8,108 Survey data gathered by International Labor Organization countries of Argentina, Brazil and Chile	DV two with one measuring FOC by fear of general violence and the second by fear of assault or robbery	IV: of sex, age, education and income, victimization, and insecurity scale based on UN identified insecurities, community involvement, trust in police, trust in press, victimization	• OLS regression; age insignificant across all models ($r = -.001$); victimization ($r = .366$); other insecurities ($r = .435$, $.506$ and $.506$) very high	Feelings of economic, political and social insecurity correlated very highly with FOC
Elchardus et al., 2008	• Two paradigms of FOC - Rational fear or general malaise	N=3,251; aged 19 to 36 in Belgium did not use older people because malaise and FOC thought to be too high	Two DV's one for general feelings of insecurity using 7 items and fear of specific crimes using 5 items	IV: age, gender, education, incivilities, positive perception of police, personal perceived vulnerability	• Symbolic paradigm explained 10.5% more variance (r squared from $.162$ to $.267$) with weak but significant for traditional model; age significant but small for general insecurity ($\beta = .107$, $.126$, $.089$) and for specific crimes ($\beta =$ also small ($\beta = .039$, $.052$ both sig. and $.15$ not significant))	Pursue research using symbolic paradigm based on early results
Britto, 2011	• Economic insecurity and FOC	N=1,196 short survey, average age 33.	DV 7-item scale on specific examples of crimes	IV is economic insecurity using a 3-item index and control variables of SES, education, income incivility measures and community control measures	• Age was negatively related to FOC but very young student sample and very small ($\beta = -.007$); gender ($\beta = .567$) and risk ($\beta = .466$) explained most variance and economic insecurity was significant but very small ($\beta = .077$)	Some support for economic insecurity but minimal.
Hummelsheim et al., 2011	• assesses the association between national welfare state regimes and public insecurities about crime	N=43,000; Europe, 23 countries by 2004/2005 ESS	DV is NCS question	IV: country variables of social protection policies and individual level SES	• 5 of population with FOC ranging from low of 9.7% in Slovenia to 40% in Estonia; age and fear U shaped R squared ($.427$); gender ($r = .486$); education ($r = -.180$);	Benefits in kind to family 64.6% reduction in FOC; education; 63.9; employment rate, 50%; higher social expenditure was associated with lower FOC
Hirtenlehner et al., 2011	• Concerns about modernization and community and FOC	N=653 from survey in 2011 in Austria	DV 5-item index of 5 specific crimes	IV four dimensions of late modern insecurity: economic, social FOC and incivility	• Used SEM economic risks ($\beta = .28$ and social issues ($\beta = .23$) and incivility ($\beta = .36$); generalized insecurity explains 67% of variance in crime and expanded community concern model explains 46%	Good support for social insecurity; age not measured
Vieno, Roccato, & Russo, 2013	• test of radical hypothesis that FOC is mainly social and economic insecurity in disguise	N=16,306, in 27 countries using 2006 Eurobarometer	DV is NCS question	IV: SES, size of residence (town, village), expectations about future, social marginalization, and country level predictors	• OR for age 1.01 and significant but substantively unimportant; OR for size of city (1.68); marginality 1.31 bad welfare 1.32	Provides good support for radical hypothesis that FOC is mainly social insecurity

Table B9. Data Extraction Table for Conceptual Papers

Reference	Theoretical Issue Reviewed	Construct Reviewed	Conceptual Contribution	Significant Conclusions	Future Research Recommendations
Lawton & Nahemow, 1973	• External environment and aging	Developmental aspects of the individual and environment	Ecological psychology of later life; neighbourhood as imp. Ecological unit and environmental press	• Decline associated with low environmental warmth and fostering of dependency	Behavioral maps; environmental plasticity; people can be both too well for their environment and too impaired; augment the demand aspects of the environment
LaGrange & Ferraro, 1989	• FOC and aging	The measurement of FOC	The NCS measure consistently overestimate FOC in older adults	• Relationship between age and fear is negative when measured by specific crimes rather than NCS question.	The development of a measurement instrument with much greater content validity than fear of walking alone in one's neighbourhood
Killias, 1990	• Vulnerability	FOC	Vulnerability has three dimensions: exposure to risk, seriousness of consequences, and loss of control	• Rate offences according to their seriousness; loss of control to be measured with self-assessed physical condition and social isolation and greater focus on situational variables associated with FOC	Provide evidence of situational circumstances that exacerbate FOC to assist policy makers design ways to reduce FOC to acceptable levels
Harper and Laws, 1995	• Rethinking the geography of ageing	Age-related changes in relationship to environment	Aging as an organizational principle of life	• Much of our understanding of aging has been informed by psychology and sociology and too little from geography	Humanistic geographical studies of place and space (Sixsmith); political economy and aging,
Clarke, 2003	• Fear in FOC and phobias	fear	FOC does not meet DSM IV criteria for a phobia	• Intensity of FOC unknown	Understanding what distinguishes FOC from a phobia will lead to most effective interventions
Jackson, 2006	• Introducing FOC to risk research	Career of the concept of FOC and politics of fear	FOC may be an individual response to community social order and a generalized attitude toward the moral trajectory of society	• People may use the language of "worry" and "crime" to express conflicts, insecurities and anxieties regarding the social world. Has important implications for the basic diagnosis of FOC as a social problem and whether police and governments should be concerned with fear reduction	Further research addressing the emotion and psychology of risk
Semmons, 2007	• Harms of Fear	Is FOC an intangible cost of crime	Argues that FOC is seriously under-developed at the conceptual, theoretical, and operational level	• Both "fear" and "crime" need reconceptualization. • Relationship between age and fear has been demonstrated to be unsound by quantitative analysts	Believes that FOC as an intangible cost of crime is potentially useful, but must wait in reconceptualization of both fear and crime
Walklate, 2008	• FOC as a construct	Contemporary inadequacies of the FOC debate	Four different ways of understanding victimhood: cultural, political, interactional, and existential	• In need of a more holistic approach to fear that involves decentering crime	Further research into interplay between local fears and global vistas of fear
Hirtenlehner, 2008	• FOC	Is FOC measuring generalized insecurities	FOC measuring unspecific insecurity whose roots can be found in changes within late-modern societies	• FOC is a cipher for a general unease	A more thorough study of the affective component of incivility-related irritants that lead to expressions of FOC
Rader, 2010	• Theoretical reconceptualization of FOC	FOC	More appropriate to use the construct of "threat of victimization which has 3 components: FOC as the emotional component; perceived risk as the cognitive indicator and constrained behaviors as the behavioral indicator	• Will broaden the phenomenon under study, can study fear, perceived risk and constrained behaviors simultaneously instead of independently and also able to consider other IV: • Different categories of fear have different correlates	Able to study the reciprocal effects between the three aspects of threat of victimization; could focus more on identifying correlates of perceived risk and constrained behaviors rather than just fear
Gray, Jackson, & Farrall, 2011	• New definition of FOC	Between specific worries and diffuse anxieties in emotional responses to crime and between productive and counter-productive (functional) effects on well-being and precautionary activities	Create an ordinal scale.	• Different categories of fear have different correlates	Call for more longitudinal research
Lorenc et al., 2012	• FOC and mental health and environment	Links between FOC and social and built environments	Theoretical attempt to produce a synthesis of the representation of pathways between FOC, environments, crime and health and well-being	• Remain limited by questionable reliability of many standard measures of FOC	Need more research on pathways in order to develop effective interventions and meta-theory construction of theories and evidence in order to inform evidence synthesis of complex social interventions