

Georgia State University
ScholarWorks @ Georgia State University

Criminal Justice Dissertations

Department of Criminal Justice

4-30-2018

Elder Victimization and Routine Activities: An Examination of the Predictors of Fraud and Burglary for those Age 60 and Older

Susannah Naomi Tapp

Follow this and additional works at: https://scholarworks.gsu.edu/cj_diss

Recommended Citation

Tapp, Susannah Naomi, "Elder Victimization and Routine Activities: An Examination of the Predictors of Fraud and Burglary for those Age 60 and Older." Dissertation, Georgia State University, 2018.
https://scholarworks.gsu.edu/cj_diss/11

This Dissertation is brought to you for free and open access by the Department of Criminal Justice at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Criminal Justice Dissertations by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

ABSTRACT

ELDER VICTIMIZATION AND ROUTINE ACTIVITIES: AN EXAMINATION OF THE
PREDICTORS OF FRAUD AND BURGLARY FOR THOSE AGE 60 AND OLDER

BY

SUSANNAH NAOMI TAPP

MAY 2018

Committee Chair: Dr. Mark D. Reed

Major Department: Criminal Justice and Criminology

As the elderly population continues to grow, the victimization of the elderly becomes an increasingly important topic. While there is a great deal of research on victimization, most of that research has focused on young adults, those who commit the majority of crimes. What research on the elderly and crime does exist has focused on either fear of crime or elder abuse. The criminal victimization of the elderly is not considered. The current study tested the applicability of routine activities lifestyles theory to the criminal victimization of the elderly for two crimes: burglary and fraud. Using multiple waves of data from the Health and Retirement Study, the roles of target vulnerability, exposure to motivated offenders, presence of guardians, and engaging in risky behavior on criminal victimization were examined. A series of binary logistic regressions were run to test the impact of these factors. Additionally, two subsamples, looking at family related factors, were examined. The study found that findings based on studies of younger individuals that prior victimization is one of the strongest predictors of victimization could be applied to the elderly. Most individuals age out of crime and victimization, but others who do not. Additionally, being Hispanic, having financial difficulties, and, in some cases, relationship quality and problems with family members also influenced the odds of victimization.

ELDER VICTIMIZATION AND ROUTINE ACTIVITIES: AN EXAMINATION OF THE
PREDICTORS OF FRAUD AND BURGLARY FOR THOSE AGE 60 AND OLDER

BY

SUSANNAH NAOMI TAPP

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree
of
Doctorate in Philosophy
in the
Andrew Young School of Policy Studies
of
Georgia State University

GEORGIA STATE UNIVERSITY
2018

Copyright by
Susannah Naomi Tapp
2018

ACCEPTANCE

This dissertation was prepared under the direction of the candidate's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements of the degree of Doctor of Philosophy in Criminal Justice and Criminology in the Andrew Young School of Policy Studies of Georgia State University.

Dissertation Chair: Dr. Mark D. Reed

Committee: Dr. Mary A. Finn
Dr. Brent Teasdale
Dr. Volkan Topalli

Electronic Version Approved:
Sally Wallace, Dean
Andrew Young School of Policy Studies
Georgia State University
May, 2018

DEDICATION

To my parents, Gary and Robey Tapp. Thank you for your constant support and everything that you have done for me. I love you.

ACKNOWLEDGEMENTS

I would first like to thank my dissertation chair, Dr. Mark Reed, for all of his help throughout the dissertation process. I would also like to thank my committee: Dr. Mary A. Finn my original chair for her continued involvement, Dr. Brent Teasdale for introducing me to this dataset and always being available for questions, and Dr. Volkan Topalli for his help with professional development. They all took the time to serve on my committee, even when they were all busy with their own obligations and responsibilities. I want to thank my father, Gary Tapp, for reading drafts of my dissertation. Also thank you to Dr. Eric Sevigny for helping me with learning Stata. Thank you to my original mentor, Dr. Brian Payne, for giving me opportunities for research, work, and publications that he has given me, and to Dr. Brenda Blackwell for her continued support after leaving Georgia State. Thank you to Dr. Sheryl Strasser of Public Health for her help with the latest information on elder abuse research. Finally, thank you to the entire department of criminal justice and criminology at Georgia State University.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
CHAPTER I: INTRODUCTION.....	1
CHAPTER TWO: REVIEW OF THE LITERATURE.....	9
Routine activities theory.....	10
Lifestyles theory.....	10
Lifestyles routine activities theory.....	11
Suitable target.....	11
Motivated offender.....	20
Capable guardian.....	26
Risky behavior.....	33
Gap in the literature.....	38
Current Study.....	39
CHAPTER 3: METHODS.....	43
Data.....	43
Sample.....	45
Inclusion variables.....	49
Dependent variables.....	50
Time ordering.....	50
Independent variables.....	53
Control variables.....	61
Plan for analysis.....	62
Missing data.....	64
Descriptive statistics.....	66
Bivariate logistic regression.....	66
CHAPTER 4: RESULTS.....	68
Analysis.....	68
Analysis of missingness.....	68

Descriptive statistics of the imputed samples	71
The full sample.....	75
Burglary full sample.....	75
Fraud full sample.....	77
The parent sample	79
Burglary for the parent sample.....	81
Fraud for the parent sample.....	84
Married parent sample.....	86
Descriptive statistics.....	86
Burglary for the married parent sample.....	87
Fraud for the married parent sample.....	90
CHAPTER 5: DISCUSSION.....	92
Lifestyles-Routine Activities theory	95
Suitable target.....	95
Motivated offender.....	101
Capable guardian.....	104
Risky behavior.....	107
Limitations	110
Policy implications.....	113
Future directions in elder victimization research	115
REFERENCES	120
VITA.....	130

LIST OF TABLES

Table 4.1 Analysis of missingness.....	70
Table 4.2 Correlation matrix.....	73
Table 4.3 Means with imputed data.....	74
Table 4.4 Burglary victimization for the full sample	77
Table 4.5 Fraud victimization for the full sample	79
Table 4.6 Burglary for the parent sample	83
Table 4.7 Fraud for the parent sample	85
Table 4.8 Burglary for the married parent sample	89
Table 4.9 Fraud for the married parent sample.....	91

LIST OF FIGURES

Figure 3.1 Multiple imputation process	48
Figure 3.2 Wave to use	52

CHAPTER I: INTRODUCTION

Based on official statistics, the elderly are at low risk for criminal victimization.

According to the 2015 National Crime Victimization Survey, those over age 65 had the lowest rate of violent victimization (5.2 individuals victimized per 1,000 members of the population) of any age group (Bureau of Justice Statistics, 2016). Even rates of property victimization are lower for the elderly, with burglary rates from 2003 to 2013 of 17.8 victimizations per 1000 households compared to 29.4 per 1000 households for all age groups combined (Mason, 2014). Since the elderly are reportedly low risk targets, researchers have not examined the correlates and predictors of criminal victimization among the elderly or whether criminological theories used to explain the victimization of younger people can be applied to the elderly. Ageist views and a general devaluation of the elderly may also have contributed to a lack of research on elder victimization (Nelson, 2005).

Even if the elderly are at lower risk for criminal victimization than the young, the problem will likely increase dramatically as the elderly population grows. The elderly population (defined as those age 65 or older) is growing rapidly with the aging of the Baby Boomer cohort. In 2014, the elderly represented 14.5% of the total population in the United States, but by the year 2040 there will be over 82 million elderly, roughly 21.7% of the population (Administration on Aging, 2016). Even if rates of victimization of the elderly remain low relative to those of younger individuals, the number of elderly individuals in the population will mean that there are more elderly victims. These victims are more vulnerable to suffering negative consequences of victimization such as injury (Payne, 2011; Lachs et al., 2000) meaning that there will be an increased need for victim services. This tremendous rise in the elderly population has resulted in

elder victimization becoming recognized as a more serious problem (National Center for Victims of Crimes, 2013).

The elderly face many age-related physical and mental health limitations that make the consequences of victimization for them especially severe and costly (Payne, 2011). Weakened bones, decreased skin elasticity, and poorer overall health increase the likelihood of injury and the time to recover from injury (Payne, 2011). Financial victimization can also be especially damaging because the elderly are often retired and may not be capable of returning to the workforce, so they have no way to recover lost finances (Hafemeister, 2003). Additionally, while the elderly are at low risk for most crimes, they are disproportionately likely to be victims of theft, fraud, and physical abuse (Kratcoski & Edelbacher, 2016). However, these crimes are not prioritized in criminological research, so information on elderly victims is still lacking. With the rapid growth of the elderly population, elder victimization is becoming an increasingly important problem to study in light of its broad social, healthcare, criminal justice, and public policy implications.

The majority of what is known about crimes against the elderly comes from research on elder abuse. Elder abuse is defined as “an intentional act, or failure to act, by a caregiver or another person in a relationship involving an expectation of trust that causes or creates a risk of harm to an older adult” (Centers for Disease Control and Prevention, 2016a). Elder abuse definitions vary based upon at what age one becomes “an older adult,” who is considered a caregiver, and what constitutes harm. Thus, estimates of elder abuse vary but generally rates of elder abuse are higher than those normally reported by official crime statistics. Crimes by strangers, as defined by the Centers for Disease Control and Prevention (CDC) (2016a) would not be considered forms of elder abuse because there is no relationship between victim or

offender. While acknowledging that elder victimization is not always criminal, for the purpose of simplicity for the remainder of this dissertation, the term “elder victimization” will refer to criminal victimization of someone age 60 or older by any offender, and the term “elder abuse” will refer to actions by a trusted individual that are harmful, but may or may not be against the law. These terms are not mutually exclusive, as some instances, such as cases of assault by an intimate partner, are both elder criminal victimization and elder abuse.

While official rates of elder victimization are low, rates of elder abuse are not. The National Elder Mistreatment Study (NEMS) is the largest nationally representative study of the prevalence of elder abuse to date. Looking at data drawn from 5,777 participants, Acierno and colleagues (2010) found that 10% of those over the age of 60 had experienced some form of abuse (physical, sexual, emotional, or financial) or neglect within the past year (Acierno et al., 2010). Using the expected size of the elderly cohort in 2040 (82 million), a continuation of this rate would mean that over 8 million people a year would suffer from one of these types of abuse by 2040. Another study found that 5.2% of elderly individuals had been financially abused by a family member (Kratcoski & Edelbacher, 2016). Correlates of elder abuse include poor health, low income, past life trauma, and low levels of social support (Acierno et al., 2010). Even allowing for the fact that not all elder abuse is criminal, elder victimization is a more serious problem than what is reflected in official statistics. Additionally, one of the greatest barriers to pursuing elder abuse cases is that victims often do not want anything to happen to their abusers. In cases of criminal victimization, the state, not the victim, is responsible for deciding if the harm rises to the level of a criminal charge.

The two criminological theories most commonly used to explain victimization of all age groups are lifestyles theory and routine activities theory. Routine activities theory (RAT) looks at

whether the conditions necessary for a crime, contact between a motivated offender and a suitable target in the absence of a capable guardian, are met (Cohen & Felson, 1979). Lifestyles theory was designed to look at how differences in individual behaviors affect the chances of being victimized (Pratt & Turanovic, 2016). The theory argues that the risk of victimization exists on a continuum and that the more individuals engage in risky behaviors, the greater their odds of victimization become (Nelsen & Huff-Corzine, 1998).

In most studies, lifestyles theory and RAT are integrated to create a single theory of victimization (usually called L-RAT) that considers both the conditions necessary for victimization to occur and the ways in which the behaviors of the individual can alter the chances of becoming a victim (McNeeley, 2014). Some research has looked at the applicability of L-RAT for elder abuse (Payne & Fletcher, 2005) but L-RAT has not been extended to consider victimization of the elderly as a distinct population for crimes. At first, lifestyles and routine activities theory (L-RAT) seems to be a poor explanation for elder victimization. Sampson (1987) finds that age is the strongest predictor of victimization under L-RAT, with young adults most likely to be victimized and the elderly the least likely, but he adds that many correlates of being young also increase the opportunity for victimization. He further cautions that his findings are specific to crimes committed by strangers and that crimes such as family violence have different risk factors (Sampson, 1987). Spending time at home would seem to be a protective factor against predatory victimization, and the elderly tend to spend more time at home than younger individuals (Nelsen & Huff-Corzine, 1998), but their risk for family violence actually would increase with time spent at home.

A great deal of research has examined what makes certain individuals more likely to be victimized than others. Many people are exposed to motivated offenders through their routine

activities such as going to work, school, and other public places, but most people are not victimized. Some individuals are more attractive to offenders than others. Target vulnerability among the elderly is important to consider because the elderly become increasingly vulnerable as they age (Greve, 1998). Cognitive impairment makes elders less able to evaluate situations, make good financial decisions (Langan & Means, 1996) and be aware of risk making them targets for fraud. Those with mental illnesses often have conflicts in their social interactions increasing the likelihood of both offending and victimization (Silver, 2002) with those with serious mental illnesses being 11 times more likely to be victimized than those in the general population (Teplin, McClelland, Abram, & Weiner, 2005). Physical impairments leave the elderly less able to defend themselves or their property (Payne, 2011). Offenders see the elderly as easy to manipulate and overpower, making them more attractive targets (Carlson, 2006). Those who need assistance with activities of daily living have over three times the odds of experiencing elder abuse and those with cognitive impairments have over eight times the odds of experiencing elder abuse compared to individuals who are cognitively competent (Lachs, Williams, O'Brien, Hurst, & Horwitz, 1997).

Targets, no matter how vulnerable, will not become victims unless they come into contact with motivated offenders. Many other criminological theories such as strain, social learning, and the general theory of crime focus on what motivates offenders and increases the likelihood of any individuals being more at risk of offending than others. L-RAT is more concerned with what brings individuals into contact with potential offenders than why some individuals decide to offend. Anyone going into the public sphere will come into contact with a certain number of motivated offenders. The elderly, however, are most likely to be victimized in their own homes (Payne, 2011), meaning that motivated offenders must make an effort to cross paths with their

elderly targets. While offender motivation is not a primary factor in RAT, the elder abuse theory of the “impaired” offender, defined as someone who suffers from a mental illness or a substance abuse problem and is unable to live independently, suggests that those who rely on the elderly, especially for financial support, are more likely to offend (Centers for Disease Control and Prevention, 2016b). Dependent individuals (e.g., without stable housing, with drug and alcohol problems (Penhale, 2010) who are unemployed (Rosen, 2014), and suffer from mental illnesses) are more likely to be abusive (Centers for Disease Control and Prevention, 2016b) than those not dependent on the elderly. This dependence increases the motivation to commit financial offenses.

The elderly who are connected with impaired family members can increase their risk of victimization in multiple ways. First, elderly persons with financially dependent, mentally ill, or chemically dependent relatives are at increased risk for financial and property victimization, often because dependent family members are motivated by a need for money (Penhale, 2010; World Health Organization). Those with serious mental illnesses may not be able to care for themselves, so they live with their parents. As parents age and their capacity to be caregivers declines, an unstable living situation can be created (Penhale & Kingston, 1997). Elderly parents and adult children both lack the ability to serve as capable guardians putting both at risk of victimization. Those who are chemically dependent engage in deviant activity, increasing the exposure of their elderly family members to motivated offenders.

Family members without impairments, and even some with impairments (Greenberg, 1995) may serve as “capable guardians,” and their presence decreases the likelihood of victimization. They can help their elderly family members manage finances, accompany them on outings outside the home (Greenberg, 1995), and screen and monitor other individuals with whom the elder has contact. However, not all family members are equally involved or willing to

be involved in the lives of their elderly relatives. Presumably, family members with stronger relationships with their elderly relatives will be better able and willing to serve as capable guardians (Williamson & Shaffer, 2001).

While negative relationships can increase the risk of victimization, the National Elder Mistreatment Study (NEMS) found that social support was a significant protective factor against elder abuse (Acierno et al., 2010). Those with supportive individuals in their lives have capable guardians to protect them from victimization. Research on elderly couples and domestic violence suggests that relationship quality prior to impairment influences coping ability (Williamson & Shaffer, 2001). Those in strong and healthy relationships are able to adapt to changes in their partners' abilities, but relationships that are already strained get worse when one partner becomes impaired (Williamson & Shaffer, 2001). A strong relationship with family should attenuate the effect of impairment on abuse, while negative relationships will compound the risk by decreasing guardianship and increasing potential motivation to offend.

As the elderly population grows, the number of elderly crime victims will grow as well. While the elderly may represent a small percentage of crime victims, they will still constitute a large and growing number of victims, especially victims of crimes such as fraud, and these victimizations will be costly to society (Kratcoski & Edelbacher, 2016). A clear understanding of why the elderly are victimized is greatly needed. Through an investigation into the risk and protective factors for elder victimization, health care and criminal justice professionals will be in a better position to prevent elder victimization and re-victimization in the future.

The current study contributes to the literature on elder victimization by looking beyond elder abuse and examining the general applicability of L-RAT to the criminal victimization of the elderly population. Data from multiple waves of the Health and Retirement Study (HRS), a

nationally representative, longitudinal survey of those persons aged 50 and older, is used to examine predictors of criminal victimization among the elderly. The current dissertation tests the impacts of having a physical or cognitive impairment, having an impaired or deviant family member, and quality of relationship with family on risk of fraud and burglary victimization. It further tests the social support hypothesis that impairment is only a risk factor for those who already have strained family relationships. The goal is to identify risk and protective factors of elder victimization using L-RAT to determine whether age specific victimization theories and policies are needed. Additionally, it seeks to identify which individuals among a group of vulnerable individuals, those with cognitive impairments, are most at risk, which will help provide targeted interventions and ensure scarce resources are given to those most in need.

CHAPTER TWO: REVIEW OF THE LITERATURE

As the criminal victimization of the elderly is believed to be low, it has not been prioritized in research. While the relationship between age and crime is generally accepted, Hirschi and Gottfredson argue that this is a spurious relationship. Instead they argue crime is age invariant (Hirschi & Gottfredson, 1983), which would suggest that victimization would be as well. The reason that certain age groups have higher or lower rates of victimization is that behavior changes with age. For example, young children are most likely to be victimized at home by family members because they spend most of their time at home with their families.

The majority of what is known about the victimization of the elderly is based on research on elder abuse. The concept of elder abuse first came to the attention of the public in the late 1970s and early 1980s. Historically, it was first viewed as a healthcare issue, then shifted into a social service issue, and only recently began to be considered as a criminal justice issue. Research has revealed that elder abuse is a larger problem than initially suspected, and it is a problem that will only grow as the elderly population increases (Acierno et al., 2010).'

Elder abuse research has focused primarily on the response of professionals with less attention given to preventing elder abuse and even less to understanding elder victimization. In order to better protect the elderly, researchers must examine the risk and protective factors associated with criminal victimization. The literature review will discuss the evolution of lifestyles and routine activities theory, their integration, and the current status of the theory. It will then discuss previous research on how differences in target suitability, offender motivation, and the presence of capable guardians impact victimization of the elderly.

Routine activities theory

Cohen and Felson (1979) proposed routine activities theory (RAT) to explain the increase in crime rates when normal correlates of crime were low. They argued that the main reason crime rates rose during the 1960s was that there were more opportunities for offending. Women working outside the home meant houses were vacant during the day, and there were few neighbors home to watch for signs of trouble, which led to a rise in burglary rates. Similarly, the invention of small, portable electronics increased the ease of their theft. Finally, prosperous economic times meant that more people had possessions worth stealing. Cohen and Felson (1979) stated that the necessary and sufficient conditions under which crime can occur are the meeting of a suitable target and a motivated offender in the absence of a capable guardian.

While originally RAT was used to explain offending patterns at the macro level, it has gone on to become one of the leading theories within victimology. By definition, the circumstances that create an opportunity for crime create an opportunity for victimization, so RAT argues that victimization can occur as long as a suitable target and motivated offender meet in the absence of a capable guardian. Unlike many criminological theories, RAT does not consider why offenders offend. Changes in the availability and suitability of targets and the presence of guardians increase or decrease opportunities for victimization to occur (Cohen & Felson, 1979).

Lifestyles theory

Lifestyles theory is a victimization-specific theory that looks at why some individuals are more likely to be victimized than others. According to this theory, some individuals engage in behaviors and activities that increase the likelihood of victimization (Miethe, Stafford, & Sloane, 1990). While lifestyles theory was technically proposed prior to RAT, there is a great deal of overlap between the two theories. Given that lifestyles and RAT are essentially based on the

same concepts and “do not differ from one another in any significant way,” (Svensson & Pauwels, 2010, p. 610), they are generally considered as a single theory. The integrated lifestyles and routine activities theory (L-RAT) considers the role of the intersection of the suitable target and motivated offender in the absence of a capable guardian at the individual level but examines how differences in both daily activities and risk taking behavior influence the likelihood of victimization.

Lifestyles routine activities theory

The integrated L-RAT is one of the strongest theories of victimization but, as is the case with most theories in criminology and victimology, has focused on those at peak ages of crime and victimization. Certain groups, such as young and male individuals engage in many routine activities such as school, work, deviant behavior, and leisure activities that increase their exposure to potential offenders (Kennedy & Forde, 1990) that most elderly individuals do not. Additionally, behaviors that are risky for the elderly may not be risky for younger individuals. Because of older individuals’ different routine activities, more research on the applicability of L-RAT to the elderly is needed. Research on the roles of target attractiveness, offender motivation, guardianship, and risk taking behaviors will be discussed.

Suitable target. Although routine activities theory assumes that there are always motivated offenders, not all individuals are at equal chance of being victimized. The everyday routines and lifestyles of some individuals, such as those living in high crime areas, come into contact with a greater number of motivated offenders, but contact only creates a situation under which victimization can occur. Others are naturally more vulnerable to victimization. For instance, women, children, and the elderly are physically weaker than men and young adults, so

they are less able to defend themselves from physical attack (Sparks, 1981). Offenders encounter a number of potential targets, but some are more appealing than others.

Prior victimization. Research on repeat victimization has found that certain individuals are more likely to be victimized than others, with past victimization being one of the strongest predictors of future victimization (Lauritsen & Davis Quinet, 1995). Other traits that increase victimization risk include being male, having more serious cognitive impairment, having more limitations in ability to perform instrumental activities of daily living (IADLs), living with the offender, and being married to an abusive partner (Pot, van Dyck, Jonker, & Deeg, 1996).

Past victimization predicts future victimization, in part, because some victims may change their behaviors after being victimized in ways that make them more vulnerable. The state dependence hypothesis proposes that past victimization changes future behavior (Clay-Warner, Bunch, & McMahon-Howard, 2016). While former victims can decrease their risk and can engage in self-protective behaviors, stop participating in risky behaviors, or otherwise lower their chances of being seen as a suitable target, victimization can lead to changes that make the individual more vulnerable. Psychological damage from victimization can make individuals fearful or anxious which makes them appear to be easier targets (Lauritsen & Davis Quinet, 1995). In intimate partner violence, women are often threatened with harm or death in addition to being physically victimized (Tjaden & Thoennes, 2000), which can decrease their attempt to resist in the future. Victimization can also lead to retaliation which brings individuals into dangerous situations with known offenders and can create a cycle of retaliation (Jacobs & Wright, 2006). While the reason for repeat victimization is likely to involve a combination of factors, research on repeat victimization shows that there are some individuals who are more vulnerable than others and this makes them more attractive targets.

While many individuals come into contact with potential offenders, most are not victimized. Individual characteristics influence the attractiveness of a target. Finkelhor and Asdigian (1996) identify three such characteristics: target vulnerability, target gratifiability, and target antagonism. Target vulnerability is based on how easy an individual is to victimize. Physical impairments make individuals more dependent on others for care and less able to protect themselves. Target gratifiability refers to something that the potential victim has, such as expensive jewelry, that the offender wants (Finkelhor & Asdigian, 1996). The perception that the elderly are wealthy makes it more gratifying to target them (Hafemeister, 2003). Finally, target antagonism refers to a behavior or possession a potential target has that causes anger, jealousy, or other negative emotions in the offender (Finkelhor & Asdigian, 1996). Mental illness often leads to erratic behavior or aggressive behavior among those with Alzheimer's and dementia, and these changes in behavior may aggravate and stress their caregivers. The next section looks at the effect of characteristics of the individual and the likelihood of victimization.

Aging and cognitive impairment. Cognitive impairments lessen the ability to protect oneself. With age, the ability to manage finances declines (Mears, Reisig, Scaggs, & Holtfreter, 2016). Elderly individuals often need help in managing their finances because of cognitive impairment, and often they simply ask family members or friends for assistance. This gives those individuals access to information and creates an opportunity for fraud with the added perception that the elderly will never know if they were victimized (Payne, 2011). The elderly are also attractive targets because they possess a greater proportion of financial resources than other age groups and tend to be more trusting and less financially savvy than younger individuals (Hafemeister, 2003). These factors make the elderly especially vulnerable to fraud.

A study by the AARP (2011) found that increasing age was a risk factor for some forms of fraud, including investment schemes and identify theft. However, the elderly were less likely to self-identify as fraud victims and to report their victimization than younger individuals (AARP Foundation 2011). Elderly women, in particular, may not have ever handled their finances before but are forced to when their male partner dies (Payne & Gainey, 2009). Their lack of knowledge makes them more vulnerable and, as a result, elderly widows are at increased risk for fraud victimization (DeLiema, 2015). Elderly fraud victims are unlikely to report their victimization, making elder victimization a larger problem than reflected by official statistics (Elder Financial Protection Network, 2017).

Initial studies of fear of crime found that the elderly were the age group most likely to be afraid of crime despite having the lowest risk of victimization. More recent work has criticized past measures of fear of crime and found that those at greatest risk of victimization (young adults) actually are the most fearful (Ferraro & LaGrange, 1992). Fear of crime may be directly related to risk of victimization. One study found that only 5% of elderly individuals were chronically fearful, but those who were fearful reported poorer overall health and greater cognitive distress than those who were not fearful (Beaulieu, Leclerc, & Dubé, 2004). While the study viewed poor cognition as a consequence of fear, it is also possible that cognitive disorders and poor health increased the perceived vulnerability of victimization and fear. This fear may be justified, as impaired elders are less able to protect themselves than non-impaired elders.

Mental illness. Mental illness can prevent individuals from being able to protect themselves from harm. Additionally, some of the behaviors that they engage in as a result of mental illness can antagonize others and lead to victimization. Individuals of any age with mental illnesses are more than four times more likely to be violently victimized and over 50

times more likely to be victims of theft than members of the general population (Teplin, McClelland, Abram, & Weiner, 2005).

A limited amount of research has looked at the role of mental illness of the elderly and elder abuse, although elderly individuals commonly report mental illnesses, especially depression. Around 20% of elderly individuals have some form of depression and 40% of those living in nursing homes or other facilities experience depression (Mental Health Foundation, 2016). One study on elderly homeless individuals looking specifically at mental illness found that those with a mental illness were at increased risk of being victims of theft or physical assault (Dietz & Wright, 2005), although this was a unique population and results may not generalize to the elderly population as a whole. Another study using data from the HRS 2008 wave did find that those with depression were over three times as likely to be victims of fraud compared to those who were not depressed (Lichtenberg, Stickney, & Paulson, 2013). A reciprocal relationship exists between depression and victimization with those who are victimized becoming more depressed and then victimized again (Sweeting, Young, West, & Der, 2006). Depressed individuals are less able to protect themselves than those who are not depressed (Clay-Warner et al., 2016).

Research on the relationship between Alzheimer's and dementia and elder abuse is much more prolific, although there is some controversy over whether Dementia, including Alzheimer's disease, should be considered a mental illness, brain disorder, or both. Dementia is a term that covers disorders that affect brain structure causing symptoms of confusion and memory loss. It is frequently treated as mental illness, and can be difficult to differentiate because mental illnesses such as schizophrenia and bipolar disorder can be mistaken for dementia (Regan, 2016) and dementia and some mental illnesses share some symptoms such as erratic behavior (American

Senior Communities, 2018). Differentiating dementia and mental illness is also difficult because there are high rates of comorbidity with around 41% of those with dementia also having psychosis, which increases as the brain function deteriorates, and 40% have both dementia and depression (Regan, 2016). While not all of those with dementia also have mental illness, the similarity in symptoms may help explain why those with dementia are at increased risk of experiencing elder abuse. Studies find that 47-52% of those with dementia experience some form of elder abuse (Cooper et al., 2009; Wigglesworth et al., 2010).

Overall, cognitive impairment and mental illness increase the attractiveness of a target in many ways. Impaired individuals may be less able to protect themselves, may antagonize others, and be less able to identify potential threats. When compounded by greater physical vulnerability, the elderly are highly vulnerable. When relationships between family members are already strained, this can be especially risky.

Disability. Physical disabilities also make targets more vulnerable to victimization, from childhood to late life. Disabled individuals are 1.5 times more likely to experience physical violence than those who are not disabled. Those with mental illnesses over three times more likely to be victims of violence than those who do not suffer from mental illnesses (Sobsey & Nehring, 2006). Disability has been previously identified as a correlate of family violence, doubling the chances of experiencing child abuse (Kendall-Tackett, Lyon, Taliaferro, & Little, 2005) and intimate partner violence, including elderly intimate partner violence (Band-Winterstein & Eisikovits, 2009; Coker, Smith, & Fadden, 2005). The child abuse disability model argues that disability places strain on families in a variety of ways. Insurance, for example, may cover basic medical necessities such as getting a child a wheelchair, but not modifications for the home needed to accommodate the wheelchair. Families must pay for these

modifications, and as many as 84% of families pay these extra expenses out of pocket (Tomes, Barker & Maralani, 1997).

Financial difficulty is already a risk factor for child abuse, and when it is combined with the extra time it takes to care for a disabled child and the adjustment of expectations, the results often lead to increased parental frustration, strained parental relationships, divorce, poverty, and other stressors (Prevent Child Abuse America, 2017). Additionally, adults do not see disabled children as reliable sources of information. For example, teachers and therapists may dismiss claims of abuse from disabled children, thinking that these children are not able to differentiate appropriate and inappropriate behavior (Oosterhoorn & Kendrick, 2001). The same attitude is used with elderly individuals who either have dementia or another form of mental illness. Social attitudes toward disability also influence risk as some see disabled individuals as deserving of victimization or worse others believe disabled individuals have such poor quality of life that abuse is of little consequence (Sobsey & Nehring, 2006).

Children with more serious disabilities may be unable to report inappropriate behaviors (Prevent Child Abuse America, 2017), and this may also be a problem for impaired elders. A fear of reporting out of loyalty to abusers is also a problem faced by both impaired elders and disabled children (Oosterhoorn & Kendrick, 2001). Similarly, disabled elders may need equipment, home modifications, and other costly items. Adults living with their disabled partner or parent will have to take on these financial responsibilities. Having an additional person in the home who needs time and care can put strains on the rest of the family.

Disability has also previously been identified as a risk factor for intimate partner violence (IPV), with disabled women 1.4 times more likely to be abused than those who are not disabled (Sobsey & Nehring, 2006). Disabled individuals abused by their partners face additional issues

as they may also be dependent on the insurance and health coverage of their partner. They often internalize shame because of their disability status that forces them to accept treatment they otherwise would not (Olkin, 2003). Adults are also not guaranteed the same care as children. Parents are legally required to care for a disabled child or the state will step in and provide that care for them. Independent but physically impaired adults can become victims of disability-related abuse but may not want to give up their personal freedom (Olkin, 2003). This means that they are often more willing to accept poor treatment (Nosek, Foley, Hughes, & Howland, 2001). Similar situations arise for cognitively competent elders who are physically limited but not willing to give up their independence.

Disability allows new opportunities for conflicts to develop or escalate into abuse within families. Disability-specific abuse includes withholding walking and mobility equipment, food, or medication, where vulnerability is a direct cause of abuse (Nosek et al., 2001). One area where disabled elders have been studied is elder intimate partner violence. A disability can also make it more difficult to leave abusive situations. Elderly women are often dependent on the pensions of their husbands, so leaving the abusive situation would leave them without financial security (Straka & Montminy, 2006). Their lack of work experience combined with their advanced age makes their options for finding work extremely limited, so living with family is their only option (Zink, Jacobson, Regan, Fisher, & Pabst, 2006). When relatives are aware of this “trap situation” and the power that they hold, they can take advantage of their loved one.

Disability can also shift the power structure in a relationship, allowing women and children to be the more physically powerful family members for the first time. Women who have previously experienced IPV have the opportunity to retaliate if their partners become disabled (Howze & White, 2010). While the majority of elder abuse cases are not caused by retaliation for

past child abuse (Payne & Gainey, 2009), family members who believe they deserve compensation for having to care for an elderly relative have the opportunity to take advantage of an elder's disability.

Disability can also confine individuals to the home, especially if they are dependent on others for assistance. This can create social and physical isolation, which increases victimization risk (Renzetti & Maierm, 2002; Spano & Nagy, 2005). Consistent with RAT, studies have found that having an individual who is a homemaker and living with fewer other individuals decreases the risk of burglary victimization because a guardian is present (Tseloni, Wittebrood, Farrell, & Pease, 2004). However, isolation within the home also increases vulnerability because there is less guardianship provided by outside individuals who can recognize and report a problem. Those who spend time mainly at home, such as the elderly and children, are more likely to be killed within their own homes by members of their family than individuals in any other age group (Messner & Tardiff, 1985). While disability is generally correlated with increased risk of victimization, one study found that physical disability did increase the likelihood of victimization once other factors were considered for children (Turner, Vanderminden, Finkelhor, Hamby, & Shattuck, 2011).

One age specific consequence of victimization is that the elderly were found to be more likely than younger people to be victims of theft-related homicide by strangers (Kennedy & Silverman, 1990). This is partly due to the vulnerability of the elderly. Elderly individuals have more health issues and weaker bones, less elastic skin, and other physical traits that increase their likelihood of injury (Payne & Gainey, 2009), so they may die from victimizations that would not have been fatal for others. Their aged bodies are less resilient than those of younger individuals, so they suffer more serious health consequences of victimization, including death (Kennedy &

Silverman, 1990). Nelsen and Huff-Corzine (1998) also found that increased age was a predictor of death as a result of a theft. Not only are the elderly more vulnerable targets, they are also more vulnerable to the consequences of victimization. The double marginalized status of disabled elders makes the correlates of disability and victimization understudied.

Motivated offender. One element of L-RAT is that for a crime to occur, a suitable target and a motivated offender must meet. The likelihood of encountering one or *more* motivated offenders varies based on the behaviors in which potential victims engage. Those who live in high crime areas, especially neighborhoods that are socially disorganized, are at increased risk of victimization because they live near a greater number of motivated offenders than those in low crime neighborhoods (Andresen, 2006). Similarly, those who go out at night come into contact with more potential offenders than those who stay at home. However, theories of elder abuse and most other theories of crime contend that motivation to offend changes based on characteristics and circumstances of the offender. Offenders can be motivated by a psychological drive to offend, such as an emotional response or to gain something specifically, such as money, from the offense (Sasse, 2005). Those with no psychological drive and nothing to gain have no motivation to offend, even if a suitable target is present and vulnerable. In contrast to L-RAT, the elder abuse research has focused on the motivations of offenders as a cause for elder abuse and is central to two main theories of elder abuse. Early theories of elder abuse argued that caregivers were pushed to offend because of the stress of caring for difficult elderly relatives.

The caregiver burden hypothesis theory of elder abuse argues that those caring for the elderly experience increased strain, frustration, and anger. Being overworked, undervalued, and underpaid leads caregivers to buildup frustration that can result in abuse (Payne, 2011). When either the elderly individual or his or her family members has a mental illness or cognitive

impairment, seemingly irrational behavior that the rest of the family is not prepared to handle can result leading to risk of abuse (Allen, 2017). Additionally, even those who attempt to provide care may lack the training necessary to address the needs of individuals with Alzheimer's and dementia. This can leave the elderly vulnerable to others such as home healthcare and nursing home aides (Alzheimer's Society, 2017).

Alternatively, the impaired offender hypothesis argues that it is the abuser who is more likely to be dependent on an elderly relative. For those dependent on the elderly, conflicts over finances, housing, or treatment for drug, alcohol, and mental illnesses can occur, and those who use drugs and alcohol and engage in risky behavior come into contact with potential offenders to whom they may expose their elderly relatives.

Caregiver burden. The caregiver burden hypothesis that emerged from the elder abuse literature suggests that caregivers can become abusive because of the stress associated with caring for the elderly (Brandl & Raymond, 2012). Elderly individuals were assumed to be difficult and caregiving to be stressful. There is certainly some truth to the fact that caregiving is a difficult and stressful task. Cognitive disorders such as Alzheimer's and dementia can lead to behavioral changes and result in aggressive behavior against caregivers. The Bureau of Labor Statistics found that nursing assistants are the employees most likely to experience workplace violence (Gates, Fitzwater, & Succop, 2005). Nursing home employees in one study reported being hit, kicked, bit, spit at, yelled at, called racial slurs, and numerous other physical and verbal assaults (Gates, Gillipse, & Succop, 2011). Aides and nurses are expected to accept abusive behavior from residents, which causes stress, job dissatisfaction, and lower quality of patient care (Gates, Fitzwater, & Meyer, 1999).

Agnew's general strain theory argues that some of the conditions that make crime more likely are failure to achieve positively valued goals, loss of positively valued stimuli, and confrontation with negative stimuli (Agnew, 1992). Having to care for individuals who are rude or combative is a negative experience. Some caregivers may simply not be capable of providing appropriate care to severely impaired elders and are unintentionally abusive or neglectful (Ramsey-Klawnsnik, 2000). Other caregivers resent the fact that they could be spending their time and resources elsewhere. The limited or absent compensation they receive for the work that they do can lead to resentment and anger (Alzheimer's Foundation of America, 2016). The likelihood of offending is further increased when strain is high and the burden is perceived as unfair (Agnew, 2001).

Caring for a family member with Alzheimer's or dementia can create strain for the caregiver and, if the caregiver was pushed into that role, may be seen as an unfair burden. Alzheimer's patients may experience a variety of symptoms, including depression, agitation, confusion, hallucination, sleep issues and sundowning (behavioral problems that begin at dusk and continue into the night), suspicion, repetition, and wandering (Alzheimer's Association, 2017). For family members, this can lead to a loss of positively valued stimuli as caregivers have to spend more time on care and less pursuing activities they enjoy. At early stages, individuals with Alzheimer's may seem normal and are able to live and function independently. As the disease progresses, individuals begin to have trouble expressing thoughts and performing everyday tasks, and may behave aggressively for no apparent reason (Alzheimer's Association, 2017). Having to provide care, especially to a combative individual, can be considered an experience of negative stimuli. Eventually, Alzheimer's disease is fatal, although it takes around 10 years for the disease to fully progress (Alzheimer's Association, 2017), requiring many years of full or partial care.

Caring for someone with Alzheimer's becomes increasingly time-consuming as the disease progresses, which can prevent caregivers from having the time to spend attaining their goals, another source of strain. Eventually, caregiving needs may be greater than what the average person can accommodate in the home (Alzheimer's Association, 2017). Most cognitively impaired individuals are cared for by family members as many individuals cannot afford alternative sources of care such as nursing homes, and some cultures oppose the use of nursing homes (Ploeg, Lohfeld, & Walsh, 2013). This means many families are forced to take on the care themselves, which can result in a variety of financial, emotional, and time costs leaving them overwhelmed (Ramsey-Klawnsnik, 2000). Those forced into caregiving roles out of necessity must find ways to cope with the situation. This creates another condition of strain that increases the chances of committing crime (Agnew, 2001).

Moving Alzheimer's patients to assisted living facilities does not eliminate their risk of victimization. Nursing assistants who are assaulted experience increased levels of stress and anger and they have to find ways to cope in order to maintain their jobs (Gates et al., 1999; Gates et al., 2005). Caregivers who become angry and lack appropriate coping resources are likely to use retaliatory violence. One study in the Netherlands found that 10.7% of those caring for an impaired elder had been physically aggressive and 30.2% reported being verbally aggressive but not physically aggressive (Pot et al., 1996). Elderly individuals who are more abusive to their caregivers are more likely to be abused in turn or receive substandard care (Gates et al., 2011). While being victimized is not an excuse for becoming abusive, better training for individuals caring for those with Alzheimer's and dementia is needed (Scott, Ryan, James, & Mitchell, 2011).

Family caregivers are even less likely to be prepared for the challenges of caring for a cognitively impaired elder. Despite such difficulties, family members can come together to accept the changes that will come with a diagnosis of Alzheimer's and make the best out of a bad situation (Alzheimer's Foundation of America, 2016). High quality relationships prior to impairment increase the chances of a successful caregiving relationship (Grafstrom, Norberg, & Hagberg, 1993; Williamson & Shaffer, 2001). Caregiver burden is not, as some evidence suggests, the direct cause of elder abuse. While impairment and elder abuse are correlated, the level of caregiver burden experienced does not differentiate caregivers who are and are not abusive (Pot et al., 1996). Most elderly individuals, especially those living in the community, are not abusive.

While impairment may not lead to aggressive behavior, it does lead to other factors such as a decreased ability to use self-protective behaviors that may increase the chances of victimization. While disability and lack of oversight create the opportunity, the role of offender motivation and victim characteristics, as well as whether or not a guardian can step in also determine whether or not victimization will occur.

Impaired offenders. The lack of support for the caregiver burden hypothesis resulted in a closer examination of other correlates of abuse. Elder abuse victims were often abused by their dependent relatives and were themselves independent (Pillemer & Finkelhor, 1989). The impaired offender theory in elder abuse suggests that the younger offender is dependent on the elderly victim, often because of the offender's mental illness, substance abuse issue, or housing problem. In this case, it is the adult child who is seen as a burden on the family, creating stress and tension (Greenberg, 1995). Mental illness is especially burdensome for families compared with other impairments of adult children (Seltzer, Greenberg, Krauss, & Hong, 1997).

Although the majority of individuals with mental illnesses are not violent, mental illness increases the likelihood of violent offending. Individuals with a mental illness are two to eight times more likely to be violent (depending on the specific disorder) than individuals without a mental illness (Corrigan & Watson, 2005). After the deinstitutionalization movement, many individuals with psychiatric disorders returned to the community and their care was to be facilitated through community based mental health services. As a result, many mentally ill individuals are dependent on family members who are often elderly for housing, money, assistance with daily tasks, and companionship (Labrum & Solomon, 2015a). This puts elderly family members into contact with potential motivated offenders who would previously not have lived at home. Research indicates that between 16% (Greenberg, Seltzer, & Greenley, 1993) and 38% (Wolfe & Pillmer, 1989 as cited by Labrum & Solomon, 2015a) of all elder abusers have a mental illness (with one study finding 75% (Pillmer, 1985), often a serious mental illness such as bipolar disorder, major depression, or schizophrenia (Labrum & Solomon, 2015a).

Family life creates conflict that can lead to violence even under normal circumstances (Straus, 1979) and any added stressor, including living with an individual with a mental illness, increases the likelihood of conflict. Just as those caring for the elderly experience caregiver burden, parents of adult children with mental illness may be disappointed in their child's inability to be independent and need for continued care (Pickett, Cook, Cohler, & Solomon, 1997). This can lead to increased family conflict, which increases the likelihood of family violence occurring. One study found that over half of the mentally ill individuals violently victimized someone in their family with whom they shared a residence. Mothers were especially likely to be victims (Estroff, Zimmer, Lachicotte, & Benoit 1994). Another study found that almost half of all relatives of an individual with a mental illness had been victimized by that

person (Labrum & Solomon, 2015b). When an elderly individual has a physical impairment and needs assistance from an adult child with a mental illness who also needs assistance, a highly stressful situation emerges (Lefley, 1987). Both are vulnerable and household victimization such as burglary home invasions may be more likely to occur because they are not perceived as being able to guard their property.

Substance abuse is identified by some studies as the best predictor of elder abuse (National Committee for the Prevention of Elder Abuse 2000), especially for male violence against parents (World Health Organization). When individuals have both a mental illness and a substance use problem, risk of violence is further heightened. One study found that participants with both mental illness and substance abuse disorders were more than twice as likely to behave violently than those experiencing mental illness or substance abuse alone (Swanson et al., 1990). While substance use may be a coping mechanism, substituting self-medication for medication compliance significantly increases the likelihood of violent behavior (Swartz et al., 1998). In addition to compounding mental health issues, substance use can increase the need for money to support a substance abuse habit, inability to work, housing problems and the motivation to take advantage of elderly relatives (National Committee for the Prevention of Elder Abuse 2000). In both the caregiver burden and impaired offender hypotheses, changes in offender motivation determine whether or not abuse will occur. As these theories were designed specifically to address elder abuse, they focus on the relationship between the potential victim and offender and assume a relationship of trust. These theories have not been tested in elder victimization more broadly where the victim and offender may not have a relationship at all or may be strangers.

Capable guardian. Even when a motivated offender and a suitable target meet, victimization will not occur if there is a capable guardian to protect the target. Guardians can be

defined as a person, such as a friend, bystander, or police officer or thing such as a burglar alarm or dog, that makes it more difficult for crime to occur (Hollis, Felson, & Welsh, 2013).

Individuals serve as their own guardians by engaging in self-protective measures. Legally established guardians such as police officers can also protect individuals from becoming victims simply by their presence. Informal guardians such as family and friends can also take on the role of protectors to ensure that their family members and loved ones are protected. The next section discusses these three forms of guardianship.

Self-guardianship. Although RAT argues that individuals come into contact with motivated offenders due to legitimate activities, lifestyles theory argues that there are behaviors that make people more or less likely to be victimized. Individuals' risk of victimization varies based on the people with whom they associate, places they go, and behaviors in which they engage. While certain behaviors increase the chances of victimization, others lower risk. Self-protective behaviors are ways in which individuals decrease their likelihood of victimization and can be as simple as locking the door when leaving the house, which reduces the home's attractiveness as a target to would-be offenders (Allen, 2013).

Recently, the concept that the elderly are overly fearful of crime when they are unlikely to be victimized has been challenged. The elderly are, in fact, appropriately fearful of crime given their vulnerability due to age and physical limitations (Greve, 1998). Women, physically frail individuals, and those who live in low income neighborhoods are more fearful of crime presumably because they know that they are at greater risk (De Donder, Verté, & Messelis, 2005). However, Greve (1998) argues the real reason that the elderly have low rates of victimization is because they are aware of their level of risk, so their level of fear is appropriate. Their knowledge leads them to engage in self-protective behaviors such as carrying a weapon

and not engaging in risky behaviors by not taking public transportation at night and avoiding certain streets or areas of town (Greve, 1998). Previous research has found that females, who are victimized much less frequently than males, are more afraid of crime and victimization, engage in more self-protective measures and defensive measures (May, Rader, & Goodrum, 2010). It is possible that because of their greater vulnerability, females and the elderly have a greater fear of crime and take measures to guard themselves, which lower their chances of victimization.

While most elderly individuals generally engage in self-protective behaviors and lower their own risk of crime, those with cognitive impairments may not be able to do so. Alzheimer's disease causes hallucinations, delusions, confusion, and memory loss. Roughly 60% of those with Alzheimer's will wander away from home and not be able to return because they do not remember their name or address. In less advanced cases, wandering, confusion, and getting lost may still occur (Alzheimer's Association, 2017). Clearly, these individuals reach a point where they are no longer capable of self-guardianship, so they need to rely on other sources of guardianship.

Formal guardians. Children and the elderly are unique groups in that their identification as vulnerable groups has resulted in the creation of social guardianship agencies. Adult protective services (APS) was created in 1975 in the United States under Title XX of the Social Security Act. The act provided funding to states to help elderly and other vulnerable adults, although states had discretion, resulting in variations in APS agencies by state as no federal guidelines were initially put in place (Mukherjee, 2011). APS is designed to identify elderly victims and provide them with needed services and interventions (Daly et al., 2005). However, APS is a reactive agency and depends on others to report cases of suspected elder abuse. Mandatory reporting policies were created to force professionals, including physicians, police

officers, and others who come into frequent contact with the elderly, to report cases of suspected elder abuse (Payne & Gainey, 2009).

The criminal justice system is supposed to serve as a guardian to all citizens, but it does not do a good job of protecting the elderly. Police tend to view the elderly as bothersome, and judges and prosecutors can be reluctant to pursue elder abuse cases (Payne, 2011). While APS serves as a guardian, it works with the victims, not the offenders. APS cannot punish elder abusers. APS is also a victim-focused agency and considers the wishes of the victim. Some victims would rather stay in an abusive situation than be forced into a nursing home (Beaulaurier, Seff, Newman, & Dunlop, 2005). APS's ability to serve as a guardian is limited by their desire to respect the wishes of their clients even when those wishes allow victimization to continue.

Mandatory reporting rules were meant to increase guardianship over the elderly. By requiring those with specialized knowledge to report, victims of elder abuse who otherwise would have been missed could be identified and helped (Payne & Gainey, 2009). APS may not become involved in all cases of elderly criminal victimization. APS primarily deals with impaired individuals and, although policies vary by state, usually include those of a certain age as well (Mukherjee, 2011). Elder abuse also encompasses behaviors that are not illegal such as emotional abuse and some forms of neglect. Elderly victims of crimes may not be reported to APS if they are not viewed as impaired or at continued risk of abuse.

Mandatory reporting policies created some additional issues preventing successful intervention in elder abuse cases. Medical professionals were not trained to identify elder abuse (Halphen, Varas, & Sadowsky, 2009) and many, especially psychologists, were concerned about violating the confidentiality of their patients by reporting (Zeranski & Halgin, 2011). Similar to

APS, medical professionals want to respect the wishes of patients, which sometimes means allowing abuse to go unreported. Most recently, some states have included those working in financial industry as mandatory reporters (Stiegl & Klem, 2007) but again, professionals were not trained on elder abuse when these policies went into effect. While guardians may be in place, they may not be capable or have the knowledge needed to serve as a barrier to crime. When they are capable of intervention, they may be unable to recognize elder abuse, conflicted about intervening, or uncertain of what they should do.

A second group of professionals specifically tasked with protecting the elderly are long-term care ombudsmen. The Long-Term Care Ombudsman program was created as part of the Title VII Older Americans Act. In 1972 the Act funded state level ombudsman's offices to respond to complaints against nursing homes, assisted living, and other related facilities and to advocate on the behalf of their residents (Dong, Chen, & Simon, 2014). However, this program specifically focuses on individuals in some form of assisted living facilities or nursing homes and does not provide guardianship for those living in the community.

Recently, there has been a broader consensus that views elder abuse as a problem too complex to be handled by any one agency. Abused elders and their families have a diverse set of needs, wishes, and limitations making a collaborative response necessary (Payne, 2011). While not nationally standardized or consistent across states, multidisciplinary teams (MDTs) have formed to address elder abuse. These teams can include professionals from healthcare, social work, criminal justice, finance, and others who work together to examine and address issues related to elder abuse (Teaster, Nerenberg, & Stansbury, 2003). MDTs have not been empirically evaluated and doing so is difficult as there are no standard requirements. This means they may look at issues related to forms of elder abuse that are not necessarily forms of elder criminal

victimizations. Their highly specific approach allows MDTs the flexibility to better address the needs of the individual community in ways that other service providers cannot. Agencies such as law enforcement and even sometimes APS are limited in their response options because of the limits on legal definitions of victimization as a crime and elder abuse as harmful, but not always criminal behavior. APS can respond to elder abuse but not always criminal victimization and the police can only respond when a criminal violation has occurred.

Family ties. Family members can make natural guardians if they live with or are in close contact with elderly individuals. Their presence alone may deter some offenders who can simply choose a more vulnerable target. Social support, defined as “the process through which social relationships might promote health and well-being” (Cohen, Underwood, & Gottlieb, 2000, p. 4) is one of the greatest protective factors against elder abuse (Acierno et al., 2010). Similarly, a lack of social support has been identified as a risk factor for elder abuse (Kratcoski & Edelbacher, 2016).

While not all individuals make good guardians, the lack of any guardians is a key component of L-RAT. Social isolation, a proxy for lack of capable guardians, is a risk factor for intimate partner violence (Renzetti & Maierm, 2002), robbery and assault (Spano & Nagy, 2005), and theft (Nelsen & Huff-Corzine, 1998). The more socially isolated individuals are, the less likely it is that anyone will observe and report crime that does occur. Social isolation can be the result of physical isolation such as living in a rural area (Spano & Nagy, 2005), but it can also occur in densely populated areas such as public housing if residents are not integrated into the larger community (Renzetti & Maierm, 2002). The elderly tend to be more socially isolated than younger individuals because their social networks are smaller, and they are less likely to be working in the public sphere.

Family members who have their own impairments may not be capable of serving as guardians. Mentally ill individuals may behave in ways that others find frightening or confusing, which can damage their social bonds to others. For Alzheimer's and dementia patients who behave erratically or even violently, their behavior can lead caregivers to distance themselves and provide less guardianship, increasing the risk of victimization (Isaksson, Graneheim, & ÅStröm, 2009). Those with mental illness or substance use issues may not be capable of serving as guardians for themselves or others leaving the elderly and their relatives vulnerable. Alternatively, those with less severe mental illnesses may still be able to provide assistance and prevent social isolation of their parents, meaning their presence decreases one's chances of victimization (Greenberg 1995).

Those with drug and alcohol problems engage in traditionally defined risky behaviors. They may conduct illicit activity at the home of their elderly relatives, increasing the exposure to motivated offenders for all those living in the residence (National Committee for the Prevention of Elder Abuse, 2000). Having family members with mental illness can also lead to stigmatization and social isolation of the family (Corrigan & Miller, 2004), decreasing the social network of the elderly parents. This prevents guardians from recognizing and intervening in abusive situations.

Whether family members serve as capable guardians or end up becoming motivated offenders may depend on the quality of the relationship before impairment occurs (Williamson & Schaffer, 2001). Some elderly parents report their adult children with mental illnesses contribute by doing household chores, providing transportation, cooking, and offering emotional support (Greenberg, 1995). Mental illness does not prevent someone from providing social support.

Researchers need to look further at the reasons why impairment of either the elderly individual or his or her family leads to vulnerability and the reasons for social tolerance of elder abuse.

Risky behavior. The risk from strangers, it was originally argued, outweighs the risk from family, even when conceding that family violence occurs (Felson, 1986). The assumption that the home is a safe haven has been challenged because there are many forms of victimization that occur within the home, which actually may make spending time away from home a protective behavior for some (Pratt & Turanovic, 2016). For example, women who are employed, spending more time away from the home, were less likely to be re-victimized by an intimate partner (Goodman, Dutton, Vankos, & Weinfurt, 2005). Similarly, when the elderly are victimized, it is most often within their own homes (Payne, 2011); therefore, being away from home may serve as a protective measure.

Lifestyles theory is concerned with differential risk of victimization based on behavior, and the integrated L-RAT recognized that while individuals may naturally encounter motivated offenders, others engage in behaviors that increase their risk. Again, spending time at home is not considered risky by traditional studies. Exactly what behaviors can be considered risky varies from study to study, and there is continued debate over whether behaviors such as going out at night are inherently risky or whether they lead to other behaviors, such as drinking and going to bars, that are risky (Pratt & Turanovic, 2016). Generally, behaviors identified as increasing risk of victimization identified by lifestyles research include using alcohol and other drugs and engaging in criminal activity (Turanovic, Reisig, & Pratt, 2015). The elderly are believed to rarely engage in criminal activity (Kratcoski & Edelbacher, 2016), which limits their exposure to offenders. Spending a proportionally greater amount of time in the home theoretically decreases their victimization risk but leads to their being most often victimized in the home (Payne, 2011).

Alcohol and other drugs. Studies on risky behavior involving alcohol and drugs have long been identified as a risk factor for a variety of different types of victimization. Alcohol lowers inhibitions, increases aggression, and decreases self-guardianship increasing vulnerability (Mustaine & Tewksbury, 1998). Alcohol use can also increase the chances of engaging in other risky behaviors such as delinquency that also increase risk for victimization (Windle, 1994). Alcohol use also often puts individuals in other risky situations such as being out late at night and spending time in bars that further increases risk (Parks & Zetes-Zanatta, 1999). The increase in victimization may not be purely due to intoxication itself, but the correlation between alcohol use and victimization is strong.

Intoxicated individuals have a heightened risk of experiencing violent victimization as (McClelland, Michael, & Teplin, 2001), and around half of sexual victimizations involve victims who were drinking at the time of their assault (Testa & Livingston, 2009). Adolescent girls who reported binge drinking or smoking marijuana were significantly more likely to be sexually assaulted than girls who did not use substances (Champion et al., 2004). Alcohol use has also been found to be a consistent predictor of intimate partner violence, although a reciprocal relationship exists. In a meta-analysis of 55 studies, Devries et al. (2014) found that alcohol use increased the likelihood of both IPV and subsequent alcohol use. This suggests that women use alcohol as a coping strategy when they experience IPV and it is not as much a risky behavior as a behavior that allows for a pattern of victimization to occur.

Although alcohol use as a risky behavior is generally associated with younger individuals, problematic use of alcohol is common among the elderly. Consistent with research on younger individuals, drugs and alcohol can make the elderly more vulnerable to abuse as it impairs judgment and memory (WHO, n. d.). . In 2008, an estimated 40% of those aged 65 and

older currently drank alcohol. Elderly men are especially likely to use alcohol as a coping strategy late in life, sometimes due to abuse by others. Similar to intimate partner violence victims, drinking and abuse may have a reciprocal relationship, leading to an ongoing problem.

The effect of alcohol on the body changes with age, meaning elderly individuals can drink the same amount as younger individuals but experience different results. Age lowers alcohol tolerance and increases the chances of negative consequences from drinking. Alcohol use and abuse also increase the chances of developing chronic health problems from drinking (National Institute on Alcohol and Alcoholism, n. d.), which further increase vulnerability. Abusers often encourage the elderly to drink to make them more vulnerable and less able to resist or even incapacitate them. One Canadian study found that between 15 and 20% of elderly individuals with substance abuse problems experienced financial, physical, or psychological abuse (Dietz and Wright (2005). Another study found that homeless elderly individuals with drug or alcohol problems were at increased risk of physical assault and theft victimization (WHO, n. d.). Excessive alcohol appears to be a risky behavior for individuals of all ages.

Online activity. Cohen and Felson (1979) noted that changes in technology changed the likelihood of victimization by increasing the attractiveness of targets. Crime rose when small, portable electronic devices became popular because they were easy to steal. Recent changes in technology, specifically the introduction of the internet, have also increased the opportunities for victimization (Chen, Beaudoin, & Hong, 2017). The internet brings offenders into contact with potential victims whom they could not otherwise reach, increasing the likelihood that motivated offenders will encounter suitable targets (Reisig & Holtfreter, 2013). Going online can be considered a risky behavior because it means an individual can be reached by an unknown number of motivated offenders. Additionally, the average person is not aware of how dangerous

internet use can be. One study found that the average internet user engages in seven or more behaviors that increase the risk of being the victim of fraud (Sauer, 2014).

L-RAT has recently been applied to online victimization. The internet is not inherently risky but it creates a space where victimization can occur. The internet provides a large pool of potential targets, some of whom are more attractive to offenders than others. Both time spent online and risky behaviors impact online victimization. About 65% of individuals using the internet are contacted with at least one scam email every year (Sauer, 2014). Welsh and Lavoie (2012) found that for girls, the amount of time spent online was moderated by willingness to disclose personal information - a risky behavior for cyber stalking. Similarly, Mitchell, Finkelhor, and Wolak (2001) found that both the amount of time spent online, talking to strangers, and participating in chat rooms increased the likelihood of online sexual harassment. Other risky behaviors associated with online activity can include making online purchases, using online banking, and entering sensitive information into sites on the internet (Chen et al., 2017; Dong et al., 2014; Reyns, 2011).

The relationship between technology use and elder victimization is understudied as the elderly were not initially believed to use technology. Although some might find it surprising, many elderly people use the Internet. Internet use among the elderly is growing, especially for the “younger old” (those under the age of 75). The Pew Research Center reported that in 2012, 59% of those over 65 used the internet, 47% had high speed broadband connections in their homes, and 27% used social networking sites (Smith, 2014). While this practice allows the elderly to expand their social networks, access health information, and keep in touch with friends and family, it also puts them into contact with more motivated offenders. Generally, those who are currently elderly are more trusting than younger individuals and less knowledgeable about

internet safety (Carlson, 2006). This trust makes them vulnerable and potential targets for online scams.

Of course, the elderly are already viewed as easy targets for scams with an estimated five million elderly fraud victims per year (Carlson, 2006). Fraudsters often target the elderly because of the belief that the elderly are more likely to be wealthy and are more gullible than younger individuals (Payne, 2011). Impairment heightens the risk of financial exploitation, with an estimated 15% of those with Alzheimer's experiencing financial exploitation (Dong et al., 2014). The Internet creates many opportunities for financial exploitation, and internet fraudsters seek out elderly victims. Most frequently, the elderly are victimized by phishing schemes, identity theft, and fraudulent online auctions (Carlson, 2006). Cognitive impairment can further increase the vulnerability of the elderly to internet crime, because cognitively impaired individuals will be less likely to identify warning signs of fraudulent activity.

Some individuals are also more likely to be lured by internet fraud schemes than others. Low self-control also leads to a decrease in considering risks and consequences of actions. The general theory of crime argues that crime and analogous behaviors are caused by a lack of self-control (Gottfredson & Hirschi, 1990). Those with low self-control are more impulsive and tend to seek immediate gratification which can lead to engaging in risky behavior (Schreck, Stewart, & Fisher, 2006). They also tend to be less diligent in taking precautions and self-protective measures than those with higher self-control. This lack of self-guardianship may explain why low self-control is correlated with higher rates of both violent and property crime victimization (Schreck, 1999). While self-control is believed to be stable across time, diseases such as Alzheimer's and dementia can increase impulsivity and poor decision making as the disease

progresses (Rochat et al., 2008). Consequently, those with cognitive impairments are at increased risk for internet victimization.

Gap in the literature.

Criminologists have largely ignored the victimization of the elderly. The problem of elder victimization has only recently been recognized as serious (National Center for Victims of Crimes, 2013). There is a lack of research available on the subject. Even within the public health and social work frameworks, the majority of research on elderly victimization has focused on elder abuse. By definition, elder abuse involves a relationship and an assumption of trust between the victim and the offender (CDC, 2016a). Theories of elder abuse cannot be expected to be applicable to other forms of elder victimization, especially crimes by strangers.

Identifying a good theory of elder victimization is becoming increasingly important as the elderly population grows, and criminological research has focused mainly on adolescents and young adults. L-RAT, the most common theory in victimology, may be the most appropriate theory of elder victimization because the elderly are more likely to avoid risky situations than younger individuals (Greve, 1998); yet, other research suggests that withdrawing from the public sphere actually creates risk through social isolation and a lack of social guardians (Teaster, Roberto, & Dugar, 2006). The current dissertation primarily seeks to address two gaps in the literature on elder victimization. First, it examines the degree to which L-RAT can be applied to an elderly population exploring what are the risk factors for victimization and, second, investigates what is the impact of quality of family relationships on risk of elder victimization.

L-RAT has primarily been applied to younger, often college age individuals. Its applicability to other age groups, specifically the elderly, has not been studied widely. Elderly individuals have different daily activities and engage in different types of activities than younger

individuals. They are most likely to be abused in their own homes by known offenders (Payne, 2011). The literature has suggested that social isolation is a predictor for elder victimization rather than going out in public, a risk factor based on traditional L-RAT (Cohen & Felson, 1979). L-RAT may need to be modified to account for differing behaviors among different age groups. Alternatively, the elderly may have low rates of victimization precisely because they avoid behaviors already identified as risky (Greve, 1998), thus making L-RAT a good explanation of elderly victimization. If L-RAT is an applicable theory for elder victimization, it is important to identify what makes some elderly individuals more vulnerable as targets. Any age specific risk factors for victimization need to be identified so that they can be addressed in the future. Finally, the elder abuse literature has proposed that whether or not impairment predicts victimization depends on the quality of the relationship prior to the impairment; however, this theory has not been extended to elder victimization. Having a strong social support network prior to impairment may attenuate some of the risks that come with cognitive and physical decline.

Current Study

The extant literature on elder victimization has established that the elderly are victimized more often than is reflected in official statistics and may be at even greater risk of fraud than younger individuals (Elder Financial Protection Network, 2017). The elderly generally have different patterns of behavior than younger individuals, and the factors that increase vulnerability of young individuals may not be applicable to older adults. The elderly are especially vulnerable due to physical and financial limitations (Greve, 1998; Payne, 2011). Impaired elders are especially vulnerable. Impairment has been identified as being at increased risk for elder abuse, but the explanations for this have focused on victim antagonism (Gates et al., 2011) or caregiver burden (Pillemer & Finkelhor, 1989). While mental impairment is a risk factor for elder abuse,

the level of burden is not (Gainey & Payne, 2006), and those with strong, positive relationships with family prior to impairment appear to be protected from some of the relationship deterioration that leads to victimization (Williamson & Shaffer, 2001).

Target attractiveness has been recognized as a predictor of victimization. The elderly make desirable targets as they are seen as wealthy, trusting, and lacking technological experience (Carlson, 2006). Cognitive disorders make it difficult for the elderly to recognize signs of fraud. Elderly women may lack experience handling finances (Payne & Gainey, 2009), making them easy to be taken advantage of. Physical disability has been identified as a predictor of victimization within family violence (Coker et al., 2005; Kendall-Tackett et al., 2005), but it is relatively unstudied in elder victimization outside of elder intimate partner violence (Band-Winterstein & Eisikovits, 2009). Impaired elders are expected to be more suitable targets because they are less able to protect themselves, thus making them vulnerable to victimization.

L-RAT literature in general has not examined offender motivation. The theory implies that there will always be offenders present, but this may not be the case. The elder abuse literature on nursing home and assisted living caregivers has found that experiencing victimization, low pay, and poor coping skills increase the likelihood of offending (Gates et al., 2011). The greater the level of strain and anger experienced, the more likely they are to become motivated offenders (Agnew, 1992). While this offending is usually physical violence, desire to retaliate or compensate oneself for the time and stress associated with caregiving can lead to financial crime. The elder abuse literature has identified financial need as a risk factor for elder financial abuse, suggesting that the need for money, often for drug or alcohol, motivates offending (Pillemer & Finkelhor, 1989). This suggests that impaired offenders would be most

likely to commit property or financial victimization. This theory has not been extended to elder victimization in general.

Additionally, research has not looked at risky behavior by proxy, which is created by having a relative who engages in risky behavior and brings that behavior back to the home. For mental illness, the role of delusions and impairment predicts violent behavior (Link, Stueve, & Phelan, 1998). What is not examined is the fact that impaired individuals do not make good guardians. This can lead to increased risk for both the elderly and families as neither can protect the other and create fractured relationships with other family members (Lefley, 1987). This would leave the family vulnerable to financial and property crime. Having a family member with a drug, alcohol, or mental health issue or a financially dependent relative is predicted to increase the odds of being a victim of fraud or burglary.

Finally, the role of family members to serve as guardians has not been explored sufficiently, even within the elder abuse literature. Family members are most often identified as potential offenders, not guardians. Family members are identified as being overworked caregivers forced to put up with difficult elders or as impaired individuals forcing their elderly relatives to care for them (Pillemer & Finkelhor, 1989). Most elderly individuals have family members who are not abusive, as the majority of elders are not abused, even allowing for underreporting. Social support has been identified as a protective factor against elder abuse (Acierno et al., 2010). This makes examining the quality of relationships between family members of the elderly seems to be a natural extension of the research on elder abuse.

Mentally impaired elders and adult children have both been assumed to create negative family environments that lead to abuse and victimization (Kendall-Tackett et al., 2005; Nosek et al., 2001). While impairment of one or both individuals can lead to abuse and victimization, it

does not have to if there are positive family relationships. Impaired elderly individuals are still able to maintain meaningful bonds with their family, and these bonds may prevent caregivers from being abusive (Pickett et al., 1997; Williamson & Shaffer, 2001). Impaired adult children can also have good relationships with their parents even if they are dependent on them for monetary assistance. They can also still provide social support and help their aging parents maintain their households and continue to live in the community (Greenberg, 1995). Cognitive impairment is predicted to moderate the relationship between relationship quality and victimization. For those with poor quality relationships but no impairment, the role of social support is less critical as these individuals can protect themselves. Those with poor quality relationships who are impaired lose the ability to engage in self-guardianship and lack others to provide guardianship for them.

CHAPTER 3: METHODS

Data

The current study includes data from eight waves (1998, 2000, 2002, 2004, 2006, 2008, 2010, and 2012) of the Health and Retirement Study (HRS). The HRS is a longitudinal study funded primarily by the Division of Behavioral and Social Research of the National Institute on Aging of the National Institutes of Health and is the largest and most comprehensive study of retirement in the United States. It is a nationally representative sample of individuals age 50 or older (Sonnega et al., 2014). The initial wave of the study included 11,359 participants. Participants remain in the study until death, but additional participants are added to the study every two years.

When possible, spouses of those selected for inclusion in the study are also included, even if they are under 50. Spouses were originally included regardless of age because of concerns involving the underrepresentation of women in the study, due to the lack of elderly women who worked outside the home (Juster & Suzman, 1995). Participants continue to be included in the study until death and are re-interviewed every two years whenever possible. Informants can be used if original participants are unable to participate at subsequent waves.

The Health and Retirement Survey was initially designed to study community dwelling adults in the United States born between 1931 and 1941 (ages 51 to 61 at wave one). This age range was chosen because the study aimed to collect information on individuals before and after their retirement. The initial wave of the HRS had a final sample size of 11,359 participants born between 1931 and 1941. A response rate of between 82% and 84% was reported for wave one (Juster & Suzman, 1995). While a longitudinal study of individuals across their entire working career would have been ideal, the funding and time needed for such a large-scale project was not available, so age 50 was chosen as the lower bound for inclusion (Juster & Suzman, 1995). A

second study, the Asset and Health Dynamics Among the Oldest Old (AHEAD) was originally created as a separate study to look at individuals over the age of 70, but this study and the original HRS were merged in 1998. The original AHEAD survey had a response rate of close to 80%, leaving a final sample of 8200 participants from the AHEAD survey (Juster & Suzman, 1995). Additional cohorts have been added every two years since then (Sonnega et al., 2014). Those who are institutionalized (in prison, jail, or a long term care facility such as a nursing home) at the time of an interview, as is the case with most studies on the elderly are not included, but they may be included if they are living in the community at a later wave. Proxy informants can also be used for individuals not capable of participating on their own.

For the initial core sample, the unit of observation used for the HRS is an eligible financial unit. Households were eligible if at least one individual born between 1931 and 1941 was living there at the time of the survey. In the case of two unrelated individuals living in the same household, one was randomly selected to be included in the HRS. When a household contained a married couple where at least one partner was born between 1931 and 1941, both partners were surveyed even if only one was born during that same time period. Participants were selected using a complex four-stage sampling design to ensure a nationally representative sample. The survey intentionally oversampled blacks and Hispanics with additional funding from the National Institute Office of Minority Affairs to ensure a sufficient number of each group was available for analysis (Juster & Suzman, 1995). Residents of Florida were also oversampled because a disproportionate number of elderly individuals live in the state of Florida and one of the goals of the study was to examine areas where there are dense populations of elderly individuals and Florida is such a place (Juster & Suzman, 1995).

Due to the unique design of the HRS, each cohort has a different sample size at each wave of the study. The HRS has implemented a number of sub-studies using individuals from the HRS looking at factors such as diabetes, memory, and Internet use. The initial purpose of the study, as its name implies, was to look at physical health and economic characteristics of older adults. Beginning in 2004, the HRS piloted a supplemental survey, known as the Leave Behind Questionnaire (LBQ), looking at the psychological and emotional health of participants. Included in the LBQ were questions about quality of relationships with friends and family, religious preferences, daily activities, and quality of life. Half of all participants in the 2004 wave were randomly selected for inclusion in the pilot study. Those selected were left a questionnaire at the end of the initial survey that they were to be returned to researchers at a later date. In 2012 10,079 participants were eligible to complete the leave behind questionnaire. The other 10,475 were eligible to complete the LBQ in 2014.

Participants not selected for the initial LBQ in 2004 were selected to complete the LBQ during the next wave of the study. The 2004 study asked about burglary victimization, the 2006 version asked about burglary and physical assault, and the 2008, 2010, and 2012 versions of the LBQ asked about burglary, fraud, and physical assault. Additionally, random samples of 1,500 participants were selected to participate in subsample modules; that is, short sections asking for more in-depth information on selected topics (Sonnega et al., 2014) such as relationships with animals (2012), credit card use (2010), and activities during retirement (2008). Although data for the 2014 wave of data were available, the victimization questions were not asked in the 2014 version of the LBQ, so it was not included in the current study.

Sample

This study primarily used data from five waves of the HRS: 2004, 2006, 2008, 2010, and 2012. Participants who were eligible to complete the LBQ at least one time were included in this

study. For those who completed the LBQ more than once, the most recent year of completion was used. Questions about victimization, the dependent variables, were only asked in the LBQ. In every year that participants enter the survey, half are randomly selected to take the LBQ in that year and half are randomly selected to take the LBQ in the following data collection period two years later. Those who entered the HRS in 2012 and were not selected to complete the LBQ were deemed to be missing completely at random and were excluded from analysis. Data for those never eligible to complete the LBQ (and never able to answer lifestyle or victimization questions) were considered to be missing completely at random (MCAR), meaning the probability of being missing does not depend on any observed variable or characteristic of the missing participant. Those never eligible to complete the LBQ are considered MCAR because for each new cohort of individuals entering the HRS one half are randomly selected to complete the LBQ that year. The other half are assigned to complete the LBQ in the following wave. Since selection is random, there is no reason to think that those who were never eligible to complete the LBQ are different from those who are selected to complete the LBQ at a single wave. The exception is individuals who died before their year of eligibility; this will be discussed later. MCAR data can be handled using complete case analysis or listwise deletion without affecting the outcome of the study (Salgado, Azevedo, Proença, & Vieira, 2016). Those who were never eligible to complete the LBQ were MCAR. Selection to complete the LBQ was random, so there is no reason to think those never eligible were substantively different from those eligible. Since these participants were MCAR, they were removed from the data.

There was a subset of participants who entered the HRS and were not eligible for the LBQ in their year of entrance but died before the year that they would have been eligible to complete the LBQ. These individuals were not missing at random since death cannot be

considered a random event. This is a limitation of the data that cannot be overcome at the present time. Those who were eligible to complete the LBQ but did not complete it or were missing on variables of interest were considered missing at random. While there is no official test to determine whether data are MAR, data are missing at random (MAR) when the observed data and the missing data are similar to one another. Since the missing information is related to the known information, the known information can be used to estimate what the scores on missing variables would have been for individual participants (Enders, 2001). While it is possible that data were missing based on the outcomes of interest, there is not a clear indicator that these values are NMAR. This means that multiple imputation is likely appropriate.

Multiple imputation through chained equations can be used to determine what missing values would have been (see Figure 1). During the imputation phase, estimates of all missing values in the original data are created based on known values. For example, if three values were missing on the fraud variable and 10 iterations of the multiple imputation process were run, 30 values would be estimated or imputed, 10 for each missing value. This would result in 10 datasets with no missing data on the fraud variable. Each dataset would have three imputed values, one for each of the missing cases. In the analysis phase, these complete data sets are used to run the analyses. For example, 10 logistic regressions for the fraud outcome would be run, one for each of the 10 complete datasets. In the final phase - the pooling phase - the results from the analyses on the completed datasets are aggregated to create one final set of output based on the 10 imputed (Enders, 2011). Multiple imputation allows complete case analyses to be used for the remainder of the study and prevents a large drop in sample size due to nonresponse. For this study, multiple imputation of chained equations (MICE) was used.

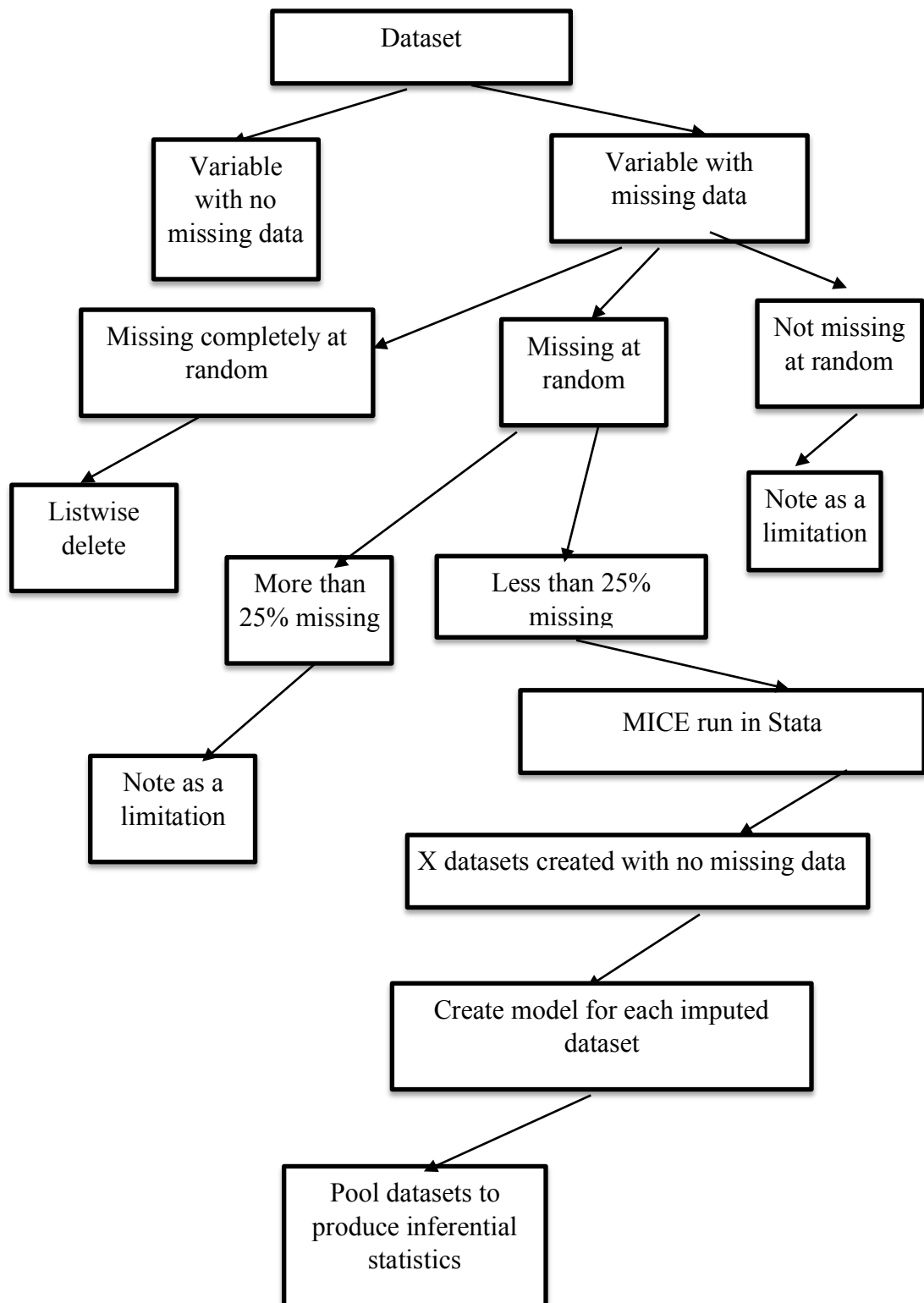


Figure 3.1 Multiple imputation process

Inclusion variables. Only individuals who were eligible to be asked questions about their burglary victimization (eligible for the LBQ in years 2004, 2006, 2008, 2010, or 2012) were included in the burglary outcome data, and those eligible to be asked about fraud victimization (eligible for the LBQ in 2008, 2010, or 2012) were included in the fraud victimization data set. Those who were never eligible to be asked about victimization at any wave ($el=0$) such as those who entered the HRS in 2012 but were not selected for the LBQ that year, were not included in the study. Those who had participated in a previous wave of the HRS but died before the year they were eligible for the LBQ were not asked about their victimization experiences ($death=1$) and therefore were not included in the study. Additionally, those missing on primary sampling unit, respondent level weight, or strata were excluded.

Since the current study is concerned with the victimization of elderly individuals, only those persons aged 60 or older when they reported being victimized if they were victimized or reported that they were age 60 at the time interviewed if not victimized ($age60=1$) were included in the analysis. Participants in the newest waves of the study could enter at age 50, and spouses of any age were included, so there were individuals who were under age 60 included in the study, but they were not the focus of the current study. As some participants experienced multiple forms of victimization at different time points (burglary victim in 2008 and fraud victimization in 2011), two data sets were created, one for each outcome of interest. Both contained the same number of cases, 13,095, but the variables used for the individuals differed. For example, someone who was a victim of burglary only used variables from the wave prior to victimization used in the burglary dataset but the variables from the most recent wave completed used in the fraud dataset. Those who were never victimized had the same wave of data used in both datasets.

Dependent variables. The same dependent variables were used across the different analyses. Burglary victimization was measured based on the original question “Were you robbed or did you have your home burglarized in the past five years?” (0=no, 1=yes). Those who answered “yes” were then asked the year in which the event occurred. The age at time of burglary in years was calculated by subtracting the participant’s birth year from the year that they were burglarized to determine the age at which the burglary occurred.

Fraud victimization was measured similarly but for the questions “Have you been the victim of fraud in the past five years?” and, for those who answered “yes” were asked the year in which their victimization occurred. Again, this year uses the year of victimization and subtracts the year of the participants’ birth. Those who were victims when they were age 60 or older were coded as “1” and those who were not victims or were victimized before age 60 were coded as “0.”

Time ordering. Since the survey asked participants to look back in time about when they were victimized, participants might answer “yes” to being a victim and having a cognitive impairment or dependent family members during the same wave of data. This did not allow determination of whether the independent variables in question preceded the victimization. To establish time order, the year of victimization was used to determine which survey year from which to examine the independent variables of interest. To account for time ordering, a use variable was created, indicating the wave of data to use for measuring the independent variables.

Participants who reported that they had been victimized reported the year in which the victimization occurred. For example, for those who reported being victimized in 2011 or 2012 and those who reported that they had not been victimized in the 2012 wave, independent variables from the 2010 data set were used. This variable was created using the contingencies of

what year the participant was victimized and what previous data the participant provided. For example the 2010 data (use10=1) was used if any of the following conditions were true:

1. The participant's year of victimization was equal to 2011 or 2012 and provided data at the 2010 wave
2. If the participant had last completed the LBQ in 2010 and reported not being a victim at that time
3. The participant reported being victimized in the 2012 LBQ but did not provide a year of victimization and had provided data at the 2010 wave.

In Stata the code would be written as:

```
gen use10=1 if (yrvic1==2011 & com10==1)
replace use10=1 if (yrvic==2012 & com10==1)
replace use10=1 if (vic==0 & el10==1 & el12 !=1)
replace use10=1 if (vic12==1 & yrvic !=1 & com10==1).
```

¹ The actual variable was named based on the type of victimization considered. In the fraud data, the yr fraud and fraud variables were used, and in the burglary data the yr burg and burg variables were used.

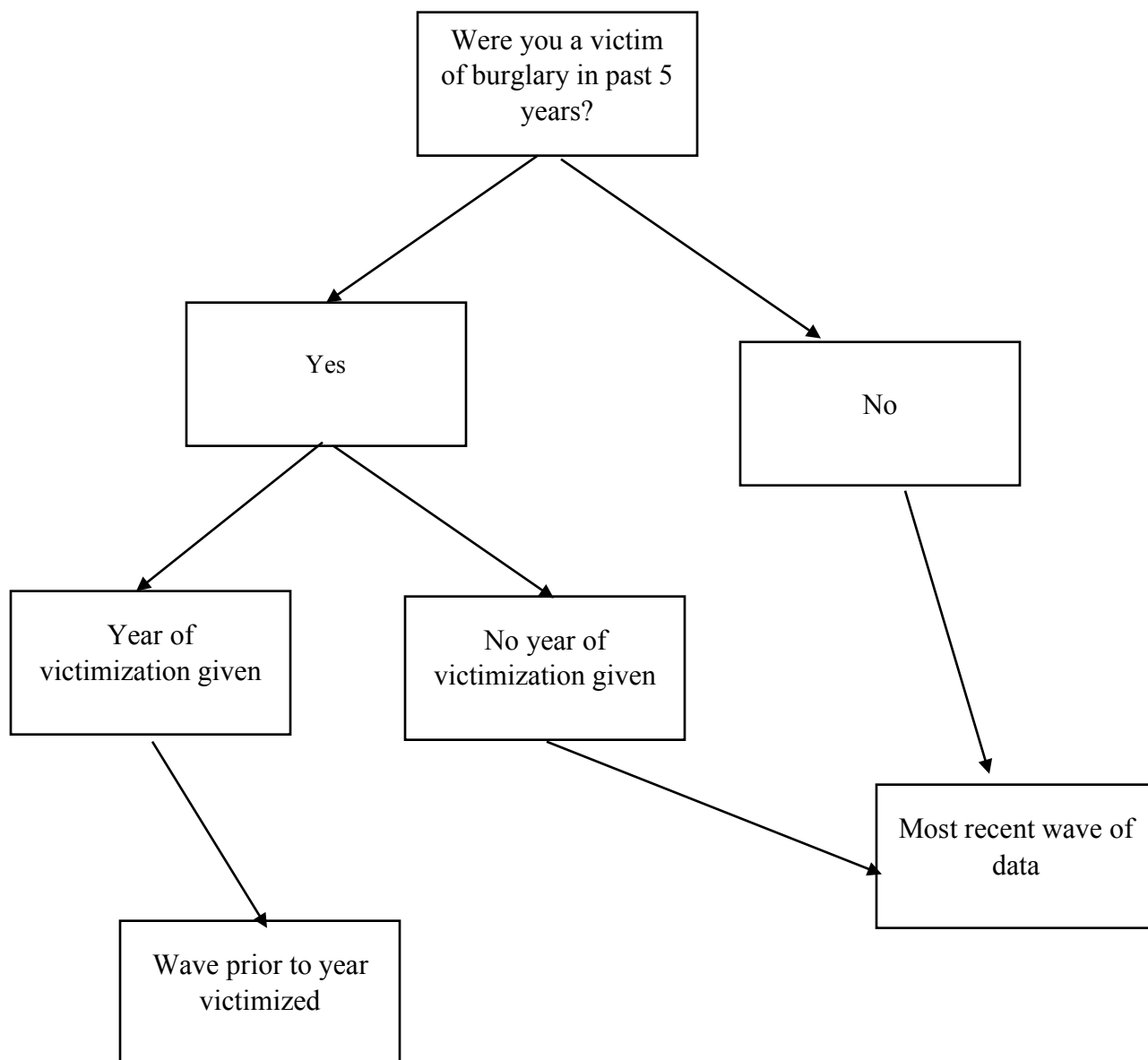


Figure 3.2 *Wave to use*

For those participants who only had data from one survey wave (they entered the survey in 2012 (n=333), so they only provided information in that time period, and had no previous information or they reported victimization in their first year of inclusion in the study), the independent variables and victimization variables for the same survey were used. While this is a limitation, it was decided the cost of losing these participants due to the low percentage of participants reporting victimization (under 450 or 6% at each time period) excluding participants purely because they were new to the study in 2012 would create power issues that would be a greater limitation than uncertain temporal order although not many participants would have been lost. Those lost would be new to the HRS in 2012 and selected to complete the LBQ in 2012.

For questions asking about relationship quality, data from the wave prior to first reporting any impairment (cognitive or physical) was used when available. This was meant to determine relationship quality prior to impairment, as impairment can damage relationship quality. For those who reported impairment the first year that they entered the study, relationship quality from the nearest wave was used. This is a limitation as some relationship quality may deteriorate as a result of impairment, but the literature suggests this is primarily for those who already have low quality relationships and should not impact the overall results (Williamson & Shaffer, 2001). Only those who reported having at least one living child (child=1) member were included.

Independent variables. The cognitive impairment variable was based on a question that asked whether or not participants had been diagnosed with a memory-related disease. In 2010, this question was changed to two questions to specifically ask whether participants had been diagnosed with Alzheimer's or dementia. For the purpose of this study, those who reported being diagnosed with Alzheimer's or dementia were coded as being diagnosed with a memory-related

disease and coded as “1” and those who did not report having a memory-related disease were coded as “0.”

Difficulty with physical activity. A physical impairment variable was created by asking participants if they had difficulty due to a physical or mental impairment: “walking several blocks,” “jogging one mile,” “walking one block,” “sitting two hours,” “getting up from chair,” “climbing stairs,” “stooping,” “reaching arms,” “pull/push large objects,” “lifting weights,” and “picking up dime.” Each item was coded so that participants who had difficulty with the activity or could not do the activity were coded as “1” and those who did not have difficulty with the activity were coded as “0.” Initially, a sum of the number of physical difficulties was created, but due to a lack of participants reporting multiple physical difficulties, the variable was dichotomized.

Needing assistance with IADLs. A measure of a need for assistance with instrumental activities of dialing living (IADLs) was created using measures created by Lawton (1971). Participants were asked if they had difficulty “[with] meal preparation,” “grocery shopping,” “making phone calls,” “taking medications,” and “managing money.” Each item was coded so that “no” was coded 0 and “yes” was coded 1. Participants were coded as “1,” requiring assistance with IADLs if they answered “yes” to any of the five IADL questions and “0” if they answered “no” to all five IADL questions. This variable was dichotomized due to the low number of participants reporting one or more IADLs.

Need assistance with ADLs. A need for assistance with activities of daily living (ADLs) variable was created using the Index of ADLs (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963), asking whether or not participants reported that they needed assistance with any activities of daily living (ALDs). Original questions asked if participants needed assistance with walking,

bathing, eating, getting in and out of bed, or using the bathroom (Katz et al., 1963).

Traditionally, the items are summed to create a measure of total ADLs needs, but due to the low number of participants' needing assistance with more than one ADL, the variable was dichotomized. Participants were coded as "0" if they did not need assistance with the listed activity and "1" if the participant did need help with any ADLs.

Troubled by pain and pain limits activity. Experiencing pain was measured using two questions. Participants were asked "Are you troubled by pain," with 0=no and 1=yes. Participants who responded that they were troubled by pain were then asked "Does the pain make it difficult for you to do your usual activities such as household chores or work?" This was recoded so that those who said they were limited by pain were coded as "1" and those who were not limited by pain "0."

Trouble hearing. Difficulty hearing was measured by a question asking participants to rate their hearing. To normalize the distribution, those who reported their hearing was "excellent" or "good" were coded as "0" for no problems with hearing, and those who rated their hearing as "fair" or poor" were coded as "1," meaning that they had difficulty hearing. A difficulty seeing variable was created in the same way.

Have financial dependents. A measure of financial dependence was created using the question "In [year], were any children, parents, or other relatives dependent on you for more than half of their support?" Participants were coded as "0" if they had no dependents and "1" if they had at least one dependent.

Gave children financial help. A measure of financial support given was created using the question "Not counting any shared housing or shared food, have you [or your husband/wife/partner] [or your late husband/late wife/late partner] given financial help or gifts,

including help with education, of \$500 or more to any child (or grandchild)?" This variable was recoded so that "0" represented "no" and "1" represented "yes."

Gave relatives financial assistance. A similar variable was created measuring financial support given to other relatives. Participants were asked "Did you [or your [husband/wife/partner] [or your] [late husband/late wife/late partner] give financial help totaling \$500 or more since the previous wave to friends or relatives such as siblings or nieces and nephews?" Participants were coded as "0" if they did not give financial help to relatives and "1" if they did give financial help to relatives.

Spouse or child mental illness. Mental illness and substance dependence of family members were measured using a question from the Psychiatric Epidemiology Research Industry Scale used by Troxel, Matthews, Bromberger, and Sutton-Tyrrell (2003). The original scale was designed to measure chronic stress levels and is comprised of eight items. All items looked at stressors that had been present for at least 12 months. Two of the items from this scale are used in the current study. The item used to measure having a mentally ill family member was an item asked the participants if they had been bothered by "on-going physical or emotional problems (in spouse or child)." Original response categories were 1=No, didn't happen, 2=Yes, but not upsetting, 3=Yes, somewhat upsetting, 4=Yes, very upsetting. This was recoded so that the categories three and four were combined and then dummy coded with "no, didn't happen" as the reference category. Those who did not have other family members were coded as "no" because this question asked about participants being upset by a situation and those who could not experience the situation could not be upset by it.

Spouse or child substance abuse. Substance abuse in family was also measured using the Psychiatric Epidemiology Research Industry Scale used by Troxel et al. (2003). Participants

were asked if they had been bothered by “on-going problems with alcohol or drug use in family member” lasting for 12 months or longer. Original response categories were 1=No, didn’t happen, 2=Yes, but not upsetting, 3=Yes, somewhat upsetting, 4=Yes, very upsetting. This was recoded so that the categories three and four were combined and then dummy coded with “no, didn’t happen” as the reference category.

Family members. To look at guardianship, participants’ social networks and the quality of their relationships were assessed. First, participants were asked do you “have a husband, wife, or partner with whom you live,” “have any living children,” and “have grandchildren.” For each question, data were recoded so that 0=no and 1=yes.

Close to spouse or partner. Social network variables based on those used by (Schuster, Kessler, & Aseltine, 1990) were used to measure closeness to partner. Participants were asked “How close is your relationship with your spouse or partner.” Responses were on a 4-point Likert scale that was reverse coded so that 1=not at all and 4=very close. Additionally, an option of not having a partner coded as 0 was added. The variable was then dummy coded with not having a spouse used as the reference category. This was chosen as the reference category because it contained the largest number of participants.

Number of children. Participants were then asked how many children and how many other family members they had close relationships with. Their verbatim responses were used (Schuster et al., 1990).

Contact with children. The more contact individuals have with others, the more likely someone will notice a problem and be able to intervene. Increased contact should increase capable guardianship. Contact with children was measured by three questions, asking participants how often do you “meet up (both arranged and planned meetings),” “speak on the

phone,” and “write or email” your children. The original options were “three or more times a week,” “once or twice a week,” “once or twice a month,” “every few months,” “once or twice a year,” and “less than once a year or never.” This variable were recoded into a dichotomous variable where 1=contact of any kind more than once a month and 0=less than once a month.

Relationship quality. Relationship quality was measured using seven items using relationship quality/social support scales based on the work of Cohen (2004) and Uchino (2009). Participants were asked how much your children or spouse/partner “really understand the way you feel about things,” “can you rely on them if you have a serious problem,” and “can you open up to them if you need to talk about your worries.” These three items were reverse coded so that 1=not at all and 4=a lot. Additionally, participants were asked how often do your [children\other family members]: “make too many demands on you,” “criticize you,” “let you down when you are counting on them,” and “get on your nerves.” Those items were coded on a Likert scale where 1=a lot and 4=not at all. All seven items were scaled with a maximum possible score of 28 with higher scores indicating a higher quality relationship. The seven items loaded together with an alpha of .801 for children but a two factor solution appeared more appropriate for partners and spouses, however, the full scale was kept for comparability. The alpha for partner/spouse scale was .5.

Self-control. Self-control has previously been found to increase risk-taking behavior and victimization (Franklin, Franklin, Nobles, & Kercher, 2012; Schreck et al., 2006). Self-control was measured using four questions from the self-control section of the personality sub facet traits scale (Roberts, Chernyshenko, Stark, & Goldberg, 2005). Questions asked participants how strongly they agreed with the statements “I am easily talked into doing silly things,” “I often rush into action without thinking about potential consequences,” “I rarely jump into something

without first thinking about it,” and “I am careful with what I say to others.” Each question was answered on a Likert scale where “1” represented “strongly disagree” and “6” represented “strongly agree.” Questions one and two were reverse coded. The responses for the four questions were summed creating a measure of self-control ranging from four to 24 where higher scores represented greater levels of self-control. While this scale had been previously validated, it only had an alpha of .536 and the item “rarely jump into something” item did not load with the other three in factors (.360), but removing it actually lowered the alpha to .523, so all four items were retained in the scale.

Drinking alcohol. The literature on L-RAT has identified alcohol use as a risky behavior that increases the likelihood of victimization, so participant alcohol use was examined. Participant alcohol problems were measured using a series of four questions from the CAGE questionnaire for alcohol misuse (Dhalla & Kopec, 2007). Participants were considered to have a problem with alcohol (coded as “1”) if they answered “yes” to any of the following questions: “Have you ever felt that you should cut down on drinking?”, “Have people ever annoyed you by criticizing your drinking?”, “Have you ever felt bad or guilty about drinking?”, and “Have you ever taken a drink first thing in the morning to steady your nerves or get rid of a hangover?” Responses were originally coded “1” for “yes” and “0” for “no.” This was recoded so that participants answering “no” to all four questions were coded as “0”, indicating that they did not have a problem with alcohol and those who answered “yes” to any of the four questions were coded as having a problem with alcohol (alc=1). The number of participants saying “yes” to any of the questions on alcohol misuse was so small that this question was replaced with a question asking participants whether they drank at least one time a week. Those who said no or who had

answered on a previous question that they had never drank alcohol were coded as 0 and those who responded that they drank once a week or more were coded as 1.

Child physical abuse. Past victimization was measured using one question from the DSM IV's list of traumatic events asking participants about whether or not they experienced physical abuse as children. This was measured as a dichotomous variable (0=no, 1=yes) where participants were asked: "before you were 18 years old, were you ever physically abused by either of your parents?" (Krause, 2009).

Victim of a physical attack. Previous research has indicated that experiencing past trauma, including victimization, is a predictor of future victimization (Lichtenberg et al., 2013). Previous physical victimization was measured using a question from a scale of lifetime traumatic events (Turner & Lloyd, 1995). The scale consists of seven questions, one of which asks participants if, at any point in time, "were you the victim of a serious physical attack or assault in your life?", This was recoded so that "0" represented "no" and "1" represented "yes."

Regularly use the internet. Internet use increases exposure to motivated offenders because electronically people can communicate with those they would not have otherwise been able to reach. To look at internet use, participants were asked: "Do you regularly use the World Wide Web, or the Internet, for sending and receiving e-mail or for any other purpose, such as making purchases, searching for information, or making travel reservations?" Responses were recoded so that those participants who answered "no" were coded as "0" and those who answered "yes" were coded as "1."

Neighborhood physical disorder. Some individuals are exposed to a greater number of motivated offenders simply based on where they live. Living in high crime neighborhoods increases the likelihood of encountering potential offenders. Neighborhoods with high crime

rates also tend to be high in social disorganization (Shaw & McKay, 1942). Neighborhood physical disorder was measured with four questions, asking participants to answer questions about their neighborhood defined as within one mile of their home from the Project on Human Development in Chicago Neighborhoods. Participants were told: “these questions ask how you feel about your local area that is everywhere within a 20 minute walk or about a mile of your home. Please mark one box on each line. The closer your mark is to a statement the more strongly you agree with it. (Mark (X) one box.)” The questions were: “there is no problem with vandalism and graffiti in this area (1) /there is a big problem with vandalism and graffiti (7)” “People feel safe walking alone in this area after dark (1) people would feel afraid walking alone in this area after dark (7),” “This area is kept very clean (1)/this area is full of rubbish and litter (7)” and “There are no vacant or deserted houses or storefronts in this area (1)/ there are many vacant or deserted houses or storefronts in this area.” Answers were then summed so that scores ranged from seven to 35 with higher scores representing greater physical disorder in the neighborhood. The alpha for this scale for the merged data with all participants included was .803. Factor analysis confirmed that all four items loaded together as a single factor.

Control variables. Standard demographic variables were used as controls in the model including *gender* (0=male, 1=female), *race* (white=0, nonwhite=1), whether the participant was *Hispanic* (1=Hispanic), *age* (in years), whether a *proxy* for the participant answered the questions (0=self, 1=proxy), *marital status* (1=married or partnered, 0=not married or partnered), *military service* (1=military, 0=no military), and financial status measured as having received government assistance (*food stamps*) in the past two years (1=yes, 0=no), or having *difficulty paying bills* (1=yes, 0=no).

Strata. Stratification was based on region of the county in which the participant resided. Large cities such as Los Angeles and New York City represented their own stratum. Stratum were also composed based on groups of metropolitan sampling areas (MSAs) such as MSAs in large southern cities or MSAs in the state of Texas. In some cases, the stratum in the original study did not contain enough participants in the subsample to be meaningful. Large MSAs in Washington, Oregon, and northern California were combined with medium MSAs in California and those from the cities of San Diego, CA, Sacramento, CA and Denver, CO. Generally speaking, these areas are geographically similar to one another and do not fit well within any of the other stratum as defined by the original study. Denver, CO, although not as geographically similar to the other areas as others, was paired with Sacramento, CA as its own stratum in the original sampling strategy. A stratum variable was included based on what was constructed for and contained in the data set.

Respondent level weight. Data were weighted based on probability of inclusion in the study. Each participant was assigned an individual level weight. The weighting accounted for factors such as the oversampling of certain racial and ethnic groups, geographic areas, and other features of the complex survey design. The “svy” command in Stata allows for controlling for weighting and stratification and was used for this study.

Plan for analysis

All analyses were performed using Stata 14. First the data sets were merged. Each participant entering the study was assigned a unique identifier (hhidpn) that they kept for the remainder of their time in the study. Data sets were merged using the unique identifier. Figure 1 shows how the year variable to use was selected. For participants who experienced the same type of victimization more than one time, data from the most recent victimization were used. For example, if a participant was a burglary victim in

2005 reported in the 2006 survey and was a burglary victim in 2009 reported at the 2010 wave, data from the 2008 wave was used.

To account for time ordering, participant information from the wave before their year of victimization was used when available. Data before 2004 was largely not used because participants were not asked about their victimization experiences, the outcome of interest, and prior to that point. The exception to this is individuals who reported being victimized in the 2006 or 2008 survey and being age 60 or over at the time of their victimization. In this case, data prior to 2006 were used when available to determine participant characteristics for the time period closest to their time of victimization. Since victimization was bounded by a five year recall period, participants in the 2010 or 2012 waves should not report victimization before 2004.

Since some participants experienced more than one type of victimization but in different years (for example, burglary victim in 2011 and fraud victim in 2008), separate time ordering variables were created based on the time of each victimization. For example, if a participant was a victim of burglary in 2011, their “use” variable for that outcome was “use10” which was set equal to one, but was a victim of fraud in 2009, the “use12” variable was equal to “0” and the “use8” variable was set equal to “1.” For the burglary outcome data set, data on impairment and family relationships from the 2010 data set was used (“use10” =1). For the fraud outcome, the data for the same variables from the 2008 data set (“use8”=1) was used. For participants who were not victimized, data from the most recent wave available was used. Lifestyle variables on the LBQ for the wave prior to victimization were used when possible but, since only half of participants are eligible to take the LBQ at each wave, participants often had not been able to complete the LBQ until after they had been victimized. Demographic data believed to be static (race, gender, military service, etc.) from any wave were used.

Missing data. Initially, descriptive statistics were run on all variables of interest to determine the general characteristics of the sample. The sample was then restricted to those aged 60 or older at the time at which they were interviewed. This is because the HRS deliberately recruited individuals into the study before they were elderly to look at health and economic changes as individuals moved from the workforce to retirement. Missingness was evaluated to determine the number and percent missing on each variable of interest. While there is no agreed upon standard for how much missing data are acceptable, generally under 25% missing is considered safe for imputation (Scheffer, 2002). None of the variables included were missing for more than 25% of the participants. Variables that were more than 25% missing tended to be questions that were asked during one wave of the study. For example, the 2012 LBQ asked “have you ever been an inmate in a jail” (a proxy for exposure to motivated offenders) but this question was not included in either past or subsequent versions of the LBQ. A full description of missing data can be found in Table 1.

Data missing at random (MAR) occurs when the probability of being missing on one value depends on observed information present in the data (Salgado et al., 2016). MAR data can be estimated using information available in the data. In the case of the HRS, individuals who answered some questions on the LBQ but not all questions are MAR and can be imputed. Data were not imputed for questions asking about relationships with children for individuals without children and for family relationships for those without family members other than spouses and children. While this data are missing based on observed values, individuals were purposely excluded from these subsets of questions as the study was specifically interested in individuals with children or with other family members.

Data were not imputed for participants who died before they could complete the LBQ, although they had completed the general HRS. These data were considered not missing at random (NMAR) because it is possible that their reason for being missing, death, is dependent on their answer to questions on victimization. It is possible that they died as a result, direct or indirect, of being victimized making their reason for being missing contingent on the outcome variable of interest. For example, those who are elderly victims of robbery are at an increased risk of dying, so victimization increases the chances of death (Nelsen & Huff-Corzine, 1998). Data that are NMAR cannot be estimated (Salgado et al., 2016).

Imputation. For data MAR, imputation can be used to estimate what responses would have been had participants answered the questions on which they are missing. Data for HRS participants were imputed using imputation by chained equations in Stata. Participants were considered MAR if they were eligible to complete the LBQ at least one wave but either did not complete it at all or completed only portions of the LBQ but were not missing because of death. Since all participants who were eligible for the LBQ had already completed the other sections of the HRS, those missing on individual questions or sections of the LBQ are considered to be missing at random. Three user written add on programs (“ado-files”) are used to perform multiple imputation in Stata with 10 interactions for each variable with missing data. The “mi logit” command is then used to estimate binomial logistic regression equations with imputed data (White, Royston, & Wood, 2011).

Variance inflation factors were measured to check for problems of multi-collinearity. A correlation matrix was also run to identify any variables that were too strongly correlated with one another. For example, the cohort variable was based on the year of birth and was found to be essentially the same as the age variable, which was also calculated, based on year of birth, so it was removed from the model.

Although the HRS used previously validated scales in the LBQ, confirmatory factor analysis was run for each scale included to ensure that the items loaded together.

Since a key variable of interest was the relationships with spouses and children as a protective factor against victimization, subsamples will be created of those with at least one living child (use if (kids==1)) hereafter “parent sample” and those with one living child and a living spouse or partner (use if (kids==1 & mar==1), n=7158)). Data will be imputed separately for each dataset because those who do not have a value on relationship with spouse or relationship with children because they do not have spouses or children are not missing at random. It would not be appropriate to impute a relationship value for those who could not have such a relationship. Data were imputed separately for this dataset because those who did not have a value on relationship with spouse or relationship with children because they did not have spouses or children, they were not missing at random. It would not be appropriate to impute a relationship value for those who could not have such a relationship. Multiple imputation through chained equations was run in Stata for the restricted dataset.

Descriptive statistics. After data were imputed, basic descriptive statistics were run to determine general characteristics of the sample. Descriptive statistics for the main dataset as well as the parent and married samples were run.

Bivariate logistic regression. Separate binomial logistic regressions were run for the fraud and burglary dependent variables. This technique was used because the outcomes were all dichotomous and the independent variables were dichotomous, continuous, or dummy coded. Odds ratios were calculated to examine how the independent variables increased or decreased the odds of being victimized.

Based on the literature, both individual impairment and impaired family members increase the odds of elder abuse, so it is likely that they also increase the odds of victimization for the elderly. Based on finding from elder abuse literature on caregiving, relationship quality attenuates the impact of impairment on victimization. Those who have strong, positive relationships with their family members are less vulnerable to victimization than those who have poor relationships with family. Initially, relationship quality was to be tested as a moderator for the relationship between impairment and victimization; however, the total number of both victims and impaired individuals were both low (see Table 2 for full descriptive statistics), so the introduction of a moderating variable would have resulted in empty cells.

Four sets of hypotheses are proposed, which are consistent with or derived from L-RAT:

H1: Vulnerable targets, defined here as those with physical impairments (those who need assistance with ADLs or IADLs, have vision problems, hearing problems, or having difficulty completing physical tasks) or cognitive impairments (Alzheimer's disease, dementia, or another memory related disease) will have higher odds of victimization than those without physical or cognitive impairments.

H2: Participants exposed to motivated offenders, defined here as those financially dependent relatives or relatives with a mental illness or substance abuse problem, will have greater odds of being victimized than those not exposed to motivated offenders.

H3. As guardianship, defined here as relationship quality with children, partners, or spouses, increases, odds of victimization will decrease.

H4. Those who engage in risky behavior, defined here as drinking alcohol or regularly using the internet, will have higher odds of victimization than those who do not engage in risky behavior.

In order to test these hypotheses, the data from the 2004-2012 waves of the HRS will be merged using the unique person ID. Using the "use" variable, the information from the correct wave will be determined and data on the same variable from other years will be removed. The sample will be restricted to those age 60 and older who were eligible to complete the LBQ in a wave where victimization questions were asked at least once.

CHAPTER 4: RESULTS

Analysis

The current study looks at the impact of the three elements of routine activities theory (RAT) - a vulnerable target, a motivated offender, and the lack of a capable guardian - on the odds of being the victim of burglary or fraud for individuals ages 60 and older using data from multiple waves of the HRS. This was evaluated using a series of logistic regressions.

The initial analysis was primarily concerned with evaluating the importance of increased target vulnerability on chances of victimization. To do this, the first analyses looked specifically at the role of having an impairment (memory related disease, needing assistance with an ADLs or IADL, or having trouble hearing or seeing) and included the full sample of participants who were at least 60 years old, eligible to complete the LBQ at least once, did not die before their year of eligibility, and were not missing on key identity variables id, weight, or strata. The outcome of interest was either being a victim of burglary when elderly or being a victim of fraud when elderly. Whichever outcome was not considered, it also was used as a control variable in the other equation since victimization has been found to be predictive of victimization. The weights and strata of the data were accounted for by using the svyset command (svyset hhidpn [pw = rweight], strata (strata)) where hhidpn is the primary sampling unit, individuals, rweight is the respondent level weight and the svy command when running analyses to control for the complex sampling strategy used by the HRS.

Analysis of missingness. In order to determine whether or not multiple imputation to correct for missing data were appropriate, the missing data on included variables were evaluated. No data were missing on the variables asking whether a proxy was interviewed, the participant being Hispanic or Latino, vision or hearing was good, gender, having grandchildren, or marital

status. Since being over age 60 was an inclusion requirement, those missing on age were also removed prior to imputation. Missingness was examined using the `mdesc` command in Stata 14. This command allows the number and percent missing for each variable to be determined.

The full analysis of missingness is presented in Table 4.1. This table also includes analysis of missing data for some of the restricted samples, which will be discussed later. Missingness ranged from .04% (n=5) missing on having received food stamps since the previous wave (two years) to 15.08% (needing assistance with activities of daily living).

Looking at the restricted data sets, for the sample of parents (have at least one living child at the time of interview), missingness ranged from .8% (number of close children) to 15.29% (bothered by a relatives psychological problems). For the married sample, an additional variable, a scale of items asking about relationship quality with spouse, was added, with 2.5% missing on this question. Full missingness can be seen in the table below (data with no missing values are not shown).

To analyze the datasets once the imputation occurred, the “`mi estimate, or: svy: logit`” command was used. This runs a logistic regression for multiply imputed data controlling for survey design. This command does not produce a pseudo R squared as is the case with complete case analysis, so the pseudo R squared was calculated for each of the 10 imputed datasets using the `loop` command. The 10 pseudo r squared estimates were then averaged to create an overall estimate of what the pseudo r squared should have been.

Table 4.1 Analysis of missingness

Variable	Missing	Total	Percent Missing
Received food stamps since past wave	5	13,342	0.04
Diagnosed with a memory related disease	12	13,342	0.09
Regularly use the internet	12	13,342	0.09
Experience pain	16	13,342	0.12
Race	25	13,342	0.19
Drink alcohol at least once a week	42	13,342	0.31
Give relatives financial help	56	13,342	0.42
Need help with IADLS	84	13,342	0.63
Pain limits activity	86	13,342	0.64
Victim of a physical attack	251	13,342	1.88
Have other family members	261	13,342	1.96
Give n children financial help	334	13,342	2.5
Served in the military	372	13,342	2.79
Have children	436	13,342	3.27
Neighborhood physical disorder	500	13,342	3.75
Burglarized at age 60 or older	512	13,342	3.84
Have difficulty with physical activities	793	13,342	5.94
Victim of fraud at age 60 or older	1,982	13,342	14.86
Need assistance with ADLS	2,012	13,342	15.08
For parent sample			
Number of close children	95	11,838	0.8
Relationship with children	188	11,838	1.59
Contact with children at least once a month	725	11,838	6.12
Bothered by a family members substance use	1,744	11,838	14.73
Bothered by a family member's psychological problem	1,810	11,838	15.29
For married parent sample			
Feel close to partner	110	7,088	1.55
Relationship with spouse	177	7,088	2.50

Descriptive statistics of the imputed samples

Table 4.3 presents the unweighted descriptive statistics for the total sample, the parent sample, and the married parent sample using the imputed data generated using the `mi: mean` command in Stata. Column 1 displays the descriptive statistics for all eligible participants. Additionally, some variables asking about the quality of relationship with children or spouses were excluded because data could not be imputed for those without a spouse or without children on these variables because data were not missing at random. It is inappropriate to estimate the quality for a relationship that did not exist. Instead, the dichotomous variables asking whether or not the participant had a spouse, children, or other relatives were included but quality of relationship variables were excluded. Once the sample was restricted to those with children, grandchildren, or partners, separate descriptive statistics for the subsamples – parent and married parent – are presented in the second and third columns of Table 3.

Looking at Column 1 in Table 4.3, the participants had an average age of 73.672 years old. The majority of the sample was female, 58.2%, which is not surprising. Most participants were white and not Hispanic. Roughly half of the participants were married. Only four percent had been diagnosed with a memory related disease, but 72% reported having difficulty with physical activities. In terms of victimization, 5.7% were victims of fraud when they were age 60 or older and 4.5% had been burglary victims when elderly. In terms of other past victimization, 6.0% experienced physical abuse as children and 7.7% had been victims of physical attacks at any point in their lives. Further discussion of columns two and three of Table 3 will be discussed in more detail when the restricted samples are examined.

Prior to analysis, variance inflation factors (VIFs) were checked for all variables. All VIFs were between 1.00 (having grandchildren) to 2.61 (needing assistance with IADLs) with a mean VIF of 1.32. While there is no exact cutoff for VIFs, as long as VIFs are under 10, multi-collinearity is not usually believed to significantly alter the results (Gordon, 2015). Overall, multi-collinearity does not appear to be an issue for the current analysis. A correlation matrix was also run (see Table 2) to examine correlation between all variables in the initial sample.

Table 4.2 Correlation matrix

	Gender	Hispanic	Race	Attack	IADLs	ADLs	Difficulty	Memory disease	Food stamps	Pain	Pain limits	military	Disorder	Children	Age	Burglary	Married	Alcohol	Fraud	Vision	Hearing	Internet	Proxy	Abuse	Bills	Friend	Depend	Self- control	Grand children
Gender	1.000																												
Hispanic	-0.013	1.000																											
Race	0.027	0.083	1.000																										
Victim of a physical attack	-0.004	0.004	0.039	1.000																									
Need assistance with IADLs	0.028	0.012	0.029	0.012	1.000																								
Need assistance with ADLs	0.022	0.025	0.026	-0.001	0.795	1.000																							
Difficulty with physical activity	0.115	0.018	0.021	0.026	0.095	0.084	1.000																						
memory related disease	-0.017	0.014	0.003	0.007	0.154	0.159	0.042	1.000																					
On food stamps since past wave	-0.001	0.023	0.007	0.050	0.021	-0.011	-0.027	0.013	1.000																				
Troubled by pain	0.068	0.010	-0.012	0.047	0.073	0.054	0.299	0.036	-0.009	1.000																			
Pain limits activity	0.064	0.009	-0.004	0.066	0.102	0.083	0.275	0.031	0.004	0.693	1.000																		
Served in the military	-0.646	-0.060	-0.063	0.027	-0.009	-0.017	-0.054	0.019	0.001	-0.030	-0.019	1.000																	
Neighborhood physical disorder	0.038	0.099	0.173	0.053	0.052	0.050	0.093	0.005	0.040	0.068	0.077	-0.035	1.000																
Have a living child	-0.003	0.018	-0.015	-0.031	-0.005	-0.010	0.012	-0.002	-0.006	0.021	-0.007	0.016	-0.020	1.000															
Age at interview	-0.011	-0.046	-0.072	-0.075	0.173	0.108	0.207	0.101	-0.017	-0.016	-0.011	0.109	-0.025	0.034	1.000														
Burglarized when elderly	-0.009	0.054	0.024	0.048	-0.002	0.004	-0.008	0.039	0.598	0.001	0.009	0.006	0.048	-0.014	0.001	1.000													
Married or partnered	-0.274	-0.002	-0.102	-0.016	-0.088	-0.059	-0.112	-0.013	0.001	-0.017	-0.037	0.161	-0.074	0.116	-0.240	-0.038	1.000												
Currently drink alcohol	-0.149	-0.053	-0.121	0.004	-0.066	-0.061	-0.142	-0.035	-0.003	-0.074	-0.080	0.105	-0.103	-0.020	-0.095	0.010	0.104	1.000											
Victim of fraud when elderly	-0.007	-0.005	-0.011	0.056	0.006	-0.005	-0.015	-0.005	0.074	0.024	0.031	0.003	0.010	-0.004	-0.044	0.127	-0.016	0.036	1.000										
Vision is good	-0.008	-0.118	-0.104	-0.031	-0.164	-0.151	-0.149	-0.083	-0.009	-0.099	-0.114	0.014	-0.116	0.004	-0.108	-0.008	0.068	0.078	0.014	1.000									
Hearing is good	0.141	-0.047	0.004	-0.009	-0.115	-0.104	-0.123	-0.077	0.034	-0.093	-0.109	-0.099	-0.050	-0.016	-0.166	0.014	0.018	0.039	-0.004	0.236	1.000								
Regularly use the internet	-0.014	-0.139	-0.157	0.014	-0.118	-0.103	-0.179	-0.075	-0.019	-0.030	-0.036	0.008	-0.162	-0.015	-0.323	-0.004	0.196	0.214	0.063	0.172	0.126	1.000							
Proxy interviewed	-0.058	0.005	0.009	-0.028	0.306	0.323	0.046	0.170	-0.009	0.058	0.061	0.029	-0.011	-0.001	0.090	-0.012	0.007	-0.051	-0.029	-0.067	-0.098	-0.088	1.000						
Physically abused as a child	0.028	-0.004	-0.015	0.129	0.003	0.007	0.040	-0.016	0.005	0.085	0.094	-0.020	0.017	-0.009	-0.079	0.020	-0.015	0.009	0.012	-0.011	-0.007	0.045	-0.009	1.000					
Trouble paying bills	0.066	0.075	0.141	0.069	0.031	0.045	0.105	0.017	0.014	0.113	0.134	-0.083	0.168	0.025	-0.120	0.019	-0.092	-0.096	0.044	-0.106	-0.032	-0.094	-0.015	0.048	1.000				
Have at least one friend	0.040	-0.093	-0.019	-0.003	-0.051	-0.047	-0.041	-0.017	0.007	-0.043	-0.052	-0.040	-0.064	-0.006	-0.015	0.015	0.010	0.055	0.005	0.087	0.080	0.077	-0.039	-0.020	-0.081	1.000			
Have financial dependents	-0.026	0.002	0.015	0.024	-0.018	-0.018	0.004	-0.012	0.040	0.017	0.022	0.019	0.011	0.048	-0.122	0.035	0.032	-0.002	0.030	0.013	0.011	0.053	0.000	-0.002	0.062	-0.024	1.000		
Self-control	0.011	0.057	-0.027	0.035	0.007	0.015	0.071	0.022	0.017	0.049	0.049	0.000	0.111	0.013	-0.004	0.016	-0.029	-0.024	0.008	-0.084	-0.050	-0.065	0.010	0.037	0.082	-0.032	-0.012	1.000	
Have grandchildren	0.019	0.004	0.007	0.004	0.003	0.002	-0.011	0.002	0.004	-0.006	-0.013	-0.010	0.013	-0.005	0.012	0.003	-0.013	-0.005	0.003	-0.008	0.011	-0.017	0.003	0.004	0.009	-0.004	0.004	0.009	1.000

Table 4.3 Means with imputed data

	Total sample (n= 13,342)		Parent sample (n= 11,838)		Married parent sample (n= 7,088)	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
Gender (female=1)	0.582		0.583		0.462	
Race (nonwhite=1)	0.185		0.178		0.141	
Hispanic (Hispanic=1)	0.084		0.079		0.080	
Age (in years)	73.672	0.074	73.261	0.081	71.771	0.086
Proxy interviewed (proxy=1)	0.072		0.055		0.060	
Married or partnered	0.583		0.610		1.000	
Served in the military	0.244		0.310		0.314	
Have children	0.922		1.000		1.000	
Have grandchildren	0.987		0.996		1.000	
Have other family	0.918		0.924		0.931	
Have at least one friend	0.918		0.919		0.929	
Need assistance with IADLs	0.185		0.165		0.124	
Need assistance with ADLs	0.120		0.104		0.086	
Difficulty with physical activity	0.717		0.712		0.674	
Diagnosed with a memory related disease	0.041		0.028		0.022	
Vision is good	0.742		0.758		0.795	
Hearing is good	0.729		0.740		0.757	
Bothered by pain	0.337		0.327		0.326	
Pain limits activity	0.212		0.193		0.194	
Currently drink alcohol	0.312		0.328		0.375	
Experienced child physical abuse	0.060		0.062		0.058	
Burglarized while elderly	0.045		0.047		0.044	
Victim of a physical attack	0.071		0.070		0.064	
Victim of fraud while elderly	0.057		0.060		0.060	
Regularly use the internet	0.382		0.414		0.498	
Have financial dependents	0.060		0.065		0.070	
Received food stamps since last wave	0.742		0.808		0.177	
Have trouble paying bills	0.279		0.276		0.225	
Neighborhood physical disorder	11.057	0.055	9.975	0.056	9.628	0.069
Level of self-control	9.877	0.035	9.209	0.037	9.091	0.048
Number of close children			2.804	0.035	2.799	0.045
Contact with children once a month			0.904		0.916	
Relationship with children			23.354	0.038	23.278	0.047
Given children financial assistance			0.343		0.389	
Given other relatives financial assistance			0.208		0.076	
Family member psychological problem			0.665		0.728	
Family member with a drug problem			0.256		0.250	
Relationship with spouse					26.403	0.055
Close to partner					.919	

Yes=1 unless otherwise noted

The full sample

Burglary full sample. Table 4 presents the logistic regression results for the elderly burglary victimization model. Those who were Hispanic had 1.969 times the odds of being burglarized as non-Hispanics, all else equal. Consistent with previous research, being a victim of a physical attack and being a victim of fraud while elderly both significantly increased the odds of being burglarized when elderly. Fraud victims had 4.921 times the odds and physical attack victims had more than two times the odds, holding constant other factors.

Two variables – self-control and proxy interviewed – decreased the odds of burglary victimization at a statistically significant level. Consistent with the literature, higher levels of self-control were significantly related to lower odds of burglary victimization. For a one unit increase in self-control, the odds of burglary victimization were multiplied by a factor of .943, holding constant other factors. Participants whose survey was completed by a proxy respondent had .492 times the odds of being the victim of burglary, holding constant other variables.

Looking at factors that increased the odds of burglary victimization, Hispanics had 1.969 and nonwhites had 1.440 times the odds of being burglarized since age 60, controlling for other variables. Those who had grandchildren had 5.476 times the odds of being victims of burglary, holding constant other factors. Regular use of the internet and having financial dependents also significantly increased the odds burglary victimization. Those who regularly used the internet had 1.543 times the odds of being victims of burglary as elders, controlling for other variables.

Having received food stamps since the last wave showed the greatest association with increased odds of burglary with those who had received food stamps, having over 27 times the odds of being burglarized than those who had not received food stamps, holding constant other factors. Due to the highly skewed nature of the burglary variable as well as the food stamp

variable, the standard error term is high (4.56). Therefore, this association should be interpreted with some caution. The having grandchildren variable also has a high standard error (2.88) because it is also highly skewed. If these two variables are removed from the model, the only variables that predicted burglary victimization were being Hispanic, having been the victim of fraud, and having been the victim of a physical attack.

The pseudo R squared was calculated for each of the imputed datasets and their average taken to determine the overall explanatory power of the model. Overall, the model explained around 30.45% of the variance in burglary victimization. However, with the food stamp variable removed, the model only explained 11.90% of the variance.

Table 4.4 Burglary victimization for the full sample

	Odds Ratio	Std. Err.	[95% Conf. Interval]	
Gender	1.070	0.179	0.768	1.489
Hispanic	1.969**	0.475	1.224	3.170
Race	1.440*	0.256	1.013	2.047
Victim of a physical attack	2.158**	0.453	1.424	3.270
Need assistance with IADLs	0.560	0.209	0.261	1.204
Need assistance with ADLs	1.491	0.822	0.470	4.730
Difficulty with physical activities	1.110	0.237	0.713	1.726
Diagnosed with a memory related disease	0.652	0.194	0.362	1.173
Received food stamps	27.024**	4.561	19.396	37.653
Troubled by pain	0.944	0.205	0.616	1.449
Pain limits activity	1.607	0.426	0.949	2.722
Served in the military	1.151	0.196	0.825	1.607
Neighborhood physical disorder	0.993	0.011	0.972	1.015
Age at interview	0.992	0.008	0.977	1.008
Married or partnered	0.865	0.113	0.670	1.117
Currently drink alcohol	1.251	0.173	0.953	1.644
Victim of fraud	4.921**	1.193	2.962	8.174
Vision is good	0.867	0.133	0.640	1.174
Hearing is good	1.025	0.163	0.749	1.403
Regularly use the internet	1.543**	0.233	1.147	2.077
Have financial dependents	1.331	0.310	0.840	2.111
Proxy interviewed	0.492*	0.168	0.248	0.975
Experienced childhood physical abuse	1.410	0.334	0.883	2.252
Have grandchildren	5.476**	2.880	1.947	15.402
Level of self-control	0.943**	0.016	0.912	0.976
Have at least one friend	1.066	0.229	0.698	1.626
Difficulty paying bills	1.086	0.177	0.785	1.502
cons	0.002	0.002	0.000	0.012

*= significant or $p=.05$, **= significant at $p>.01$, Pseudo $R^2=.3045$

Fraud full sample. Table 5 presents the logistic regression results for the elderly fraud victim model. Similar to the burglary outcome, past victimization was a significant predictor of being a victim of fraud when elderly. The odds of fraud victimization were multiplied by 4.822 for those who had also been burglary victims and by 1.755 for those who had been the victim of a physical attack, controlling for other factors. Increased age slightly decreased the odds of fraud victimization with a one year increase in age associated with the odds of fraud victimization

being reduced by a factor of .985, holding constant other factors. Using the internet regularly increased the odds of fraud victimization by 1.774, controlling for other factors. Those who had trouble paying bills and those who had been on food stamps since the past wave also had higher odds of fraud victimization, all else equal. Those who drank alcohol at least once a week had significantly higher odds of fraud victimization, holding constant other factors.

Pseudo R squared values were calculated for each of the imputed datasets and then these values were averaged. Using this method, the model explained 12.71% of the variance in fraud victimization for elderly individuals.

Table 4.5 Fraud victimization for the full sample

	Odds Ratio	Std. Err.	[95% Conf. Interval]	
Gender	0.925	0.120	0.716	1.195
Hispanic	0.996	0.201	0.670	1.481
Race	1.064	0.165	0.782	1.449
Victim of a physical attack	1.755**	0.273	1.290	2.386
Need assistance with IADLs	1.128	0.347	0.595	2.136
Need assistance with ADLs	0.794	0.418	0.255	2.470
Difficulty with physical activities	0.802	0.126	0.582	1.105
Diagnosed with a memory related disease	1.131	0.301	0.665	1.921
Received food stamps	2.738**	0.452	1.950	3.847
Troubled by pain	1.241	0.186	0.923	1.669
Pain limits activity	1.037	0.182	0.734	1.467
Served in the military	0.947	0.142	0.704	1.274
Neighborhood physical disorder	1.000	0.010	0.980	1.021
Age at interview	0.985**	0.006	0.973	0.998
Married or partnered	0.923	0.102	0.743	1.146
Currently drink alcohol	1.225	0.132	0.991	1.515
Victim of burglary	4.822**	1.132	2.953	7.873
Vision is good	1.159	0.138	0.917	1.464
Hearing is good	0.859	0.098	0.686	1.075
Regularly use the internet	1.774**	0.203	1.417	2.222
Have financial dependents	1.175	0.228	0.800	1.725
Proxy interviewed	1.017	0.229	0.652	1.586
Experienced childhood physical abuse	1.232	0.230	0.853	1.778
Have grandchildren	0.941	0.376	0.424	2.092
Level of self-control	1.000	0.014	0.973	1.027
Have at least one friend	1.040	0.173	0.751	1.441
Difficulty paying bills	1.532**	0.176	1.221	1.923
cons	0.079	0.056	0.020	0.321

*=significant at $p>0.05$, **= $p>.01$ *Estimated Pseudo R square=.1271*

The parent sample

For some analyses, those without children and spouses were excluded if the variable of interest was a measure of relationships with these relatives, but initially multiple imputation was used for the entire data set. Those for whom variables were not applicable (for example, how often do you have contact with your children for someone without children) were coded as -1, legitimate skip so that values would not be imputed for them. These participants are not missing

at random for these questions, so all those coded as -1 or NA for questions asking about children were removed from the analyses for the parent sample. It was not logical to impute values for questions that were not applicable to certain participants. For this reason, the sample was limited to participants with at least one living child. Since over 99% of the parent sample also reported having grandchildren, and having grandchildren was a significant predictor of victimization in the full sample, the sample was further restricted to those who were both parents and grandparents. This resulted in a final sample of 11,828 participants who had both children and grandchildren and met the previous criteria used for the full sample.

Additional variables were added to the model that specifically dealt with having children. The variables of the relationship with children scale, number of close children, having contact with children at least once a month, having a spouse or child with a psychological problem and having a spouse or child with a drug or alcohol problem were added. Two questions on grandchildren were added but neither was significant in any further analysis, so they were not included. Prior to imputation, VIFs were checked to identify issues of multi-collinearity, and all VIFs were between 1.04 (giving relatives financial assistance and having a spouse or child with a substance use problem but not being bothered by it) and 2.37 (needing assistance with IADLs) with a mean of 1.32, indicating that there were no issues of multi-collinearity that would be problematic for the analyses. Data were imputed using MICE with 10 iterations for the parent sample resulting in full data.

Looking at the descriptive statistics (see Table 2, column 2 for full descriptive) involving the parent data, participants averaged almost three children they considered close and 88.7% reported having contact with their children at least once a month. Looking at financial assistance, 33.9% reported giving children financial assistance and 20.8% had given financial assistance to

other relatives. The average score on the child relationship quality scale was 23.345.

Interestingly, over 30% of the sample had a child or spouse with a mental health issue and nearly 13% with a drug or alcohol issue. Originally, data were coded so that those bothered by the problem and those aware of the problem but not bothered were coded as separate groups.

However, this caused the model to not converge, so two dichotomous variables of whether or not the problem existed were created. It is worth noting that 11.79% of participants had a child or spouse with a mental health issue but were not bothered by it and 3.43% had a child or spouse with a drug or alcohol problem but were not bothered by it (see table 2 for all means).

Burglary for the parent sample. Table 6 presents the logistic regression results for the parent sample for the burglary outcome. As was the case in the full sample, the parent sample indicates that those who were Hispanic, had been on food stamps since the past wave, and regularly used the internet had significantly higher odds of burglary victimization, holding constant other factors. Other forms of victimization, including a physical attack at any point in the lifetime or fraud when elderly, significantly increased the odds of being a victim of burglary for the parent sample, holding all else equal. However, the findings revealed that child physical abuse did not have a significant impact. Self-control was again a protective factor with a one unit increase in level of self-control resulting in the odds of fraud victimization being multiplied by .963, controlling for other variables. Having a proxy interviewed instead of the participant reduced the odds of being a burglary victim by .505 holding constant other factors. Oddly, needing assistance with IADLs was associated with a decrease in the odds of burglary victimization but other impairment variables were not once other factors were held constant.

Looking at variables specific to the parent sample, a one unit increase in relationship quality was associated with the odds of victimization being multiplied .963, all else equal. While

having a spouse or child with drug or alcohol problems was not significant, having a spouse or child with a psychological disorder significantly increased the odds of burglary but only when, strangely, the participant was not bothered.

Overall, the model explains around 31.82% of the variance in burglary victimization for those who were parents, but once the food stamps variable was removed, the model only explained 13.40% of the variance. Without the food stamps variable, being Hispanic and being the victim of a physical attack or fraud were the only significant predictors of burglary victimizations, once other variables were held constant.

Table 4.6 Burglary for the parent sample

	Odds Ratio	Std. Err.	95% Confidence Interval	
Gender	1.047	0.150	0.791	1.385
Hispanic	2.106**	0.388	1.468	3.023
Race	1.271	0.185	0.955	1.691
Victim of a physical attack	1.834**	0.332	1.283	2.623
Need assistance with IADLs	0.425*	0.156	0.199	0.906
Need assistance with ADLs	1.626	0.931	0.482	5.482
Difficulty with physical activity	1.044	0.293	0.571	1.907
Diagnosed with a memory related disease	1.151	0.335	0.648	2.046
Been on food stamps since the past wave	23.872**	3.362	18.102	31.481
Troubled by pain	0.941	0.187	0.636	1.391
Pain limits activity	1.517	0.329	0.989	2.325
Served in the military	0.983	0.164	0.707	1.366
Neighborhood physical disorder	1.003	0.010	0.985	1.022
Given relatives financial help	0.721	0.199	0.415	1.254
Given children financial help	0.941	0.110	0.747	1.184
Age at time of interview	0.996	0.008	0.981	1.011
Married or partnered	0.802	0.100	0.627	1.026
Currently drink alcohol	1.256	0.166	0.967	1.631
Victim of fraud	5.095**	0.937	3.496	7.425
Vision is good	0.975	0.123	0.762	1.248
Hearing is good	1.078	0.146	0.827	1.405
Regularly use the internet	1.538**	0.236	1.132	2.090
Number of close children	0.978	0.024	0.932	1.026
Contact with children at least once a month	1.566*	0.281	1.099	2.232
Have financial dependent	1.618*	0.324	1.090	2.400
Proxy interviewed	0.505*	0.149	0.282	0.905
Physically abused as a child	1.334	0.263	0.906	1.964
Relationship with children scale	0.959*	0.014	0.932	0.987
Level of self-control	0.941*	0.016	0.909	0.974
Child/spouse psychological illness, not bothered	1.503*	0.261	1.067	2.116
Child or spouse psychological illness, bothered	1.357*	0.191	1.027	1.792
Child or spouse substance problem, not bothered	1.006	0.275	0.587	1.723
Child/spouse has substance problem, bothered	0.975	0.174	0.687	1.386
Have at least one friend	1.202	0.257	0.790	1.831
Have trouble paying bills	1.109	0.143	0.860	1.430
_cons	0.014	0.010	0.003	0.059

*=significant at $p > .05$, **= $p > .01$ Pseudo R Square .3182 (.1340)

Fraud for the parent sample. Table 4.7 presents the logistic regression results for the fraud outcome involving the parent sample. Victimization was once again a significant predictor of further victimization with burglary and physical attack both significantly increasing the odds of being the victim of fraud when elderly, as did being on food stamps and having trouble paying bills, controlling for other factors. Burglary victimization increased the odds of fraud victimization by 5.232, all else remaining equal. Drinking alcohol increased the odds of fraud victimization by 1.249, holding constant other factors. Regular use of the internet also increased the odds of burglary victimization by 1.747, controlling for other variables.

When looking at the variables unique to parents, having given children financial help resulted in 1.397 times the odds of being the victim of fraud when elderly, holding all else constant. Having difficulty with physical activity actually decreased the odds of fraud victimization by .759, holding constant other variables. Interestingly, there was no difference in the odds of fraud victimization when comparing having a child or spouse with a substance use problem and not being bothered by it and not having such a relative. However, those who had a child or spouse with a substance use problem and said that they were bothered by it had 1.415 times the odds of fraud victimization compared to those without a spouse or child with a substance use problem, all else equal. Using the same method of pooling across imputed pseudo r squared values described previously, a pseudo r squared estimate was calculated. The model explained an estimated 14.33% of the variance in fraud victimization.

Table 4.7 Fraud for the parent sample

	Odds Ratio	Std. Err.	[95% Conf. Interval]	
Gender	0.883	0.119	0.678	1.150
Hispanic	1.080	0.241	0.695	1.677
Race	1.095	0.155	0.829	1.446
Victim of a physical attack	1.952**	0.311	1.426	2.671
Need assistance with IADLs	0.830	0.362	0.329	2.092
Need assistance with ADLs	1.251	0.764	0.335	4.668
Difficulty with physical activity	0.759*	0.104	0.578	0.998
Diagnosed with a memory related disease	0.925	0.278	0.512	1.673
Been on food stamps since the past wave	2.603**	0.369	1.961	3.455
Troubled by pain	1.216	0.179	0.911	1.623
Pain limits activity	1.076	0.185	0.769	1.506
Served in the military	0.820	0.121	0.615	1.095
Neighborhood physical disorder	1.002	0.009	0.984	1.021
Given relatives financial help	1.406	0.268	0.964	2.049
Given children financial help	1.397**	0.151	1.130	1.729
Age at time of interview	0.988	0.007	0.973	1.002
Married or partnered	0.883	0.113	0.687	1.136
Currently drink alcohol	1.249*	0.140	1.003	1.555
Victim of burglary	5.233**	1.039	3.501	7.821
Vision is good	1.195	0.156	0.925	1.543
Hearing is good	0.827	0.099	0.654	1.045
Regularly use the internet	1.747**	0.206	1.386	2.202
Number of close children	1.015	0.012	0.991	1.039
Contact with children at least once a month	1.270	0.237	0.879	1.837
Have financial dependent	0.887	0.175	0.602	1.308
Proxy interviewed	1.009	0.252	0.617	1.650
Physically abused as a child	1.052	0.219	0.700	1.582
Relationship with children scale	0.975	0.014	0.948	1.002
Level of self-control	1.005	0.016	0.974	1.037
Child/spouse has psych illness, not bothered	0.890	0.155	0.632	1.254
Child or spouse has a psych illness, bothered	1.140	0.144	0.889	1.462
Child/spouse substance problem, not bothered	0.702	0.203	0.397	1.243
Child/spouse substance problem, bothered	1.400*	0.226	1.018	1.926
Have at least one friend	0.932	0.166	0.658	1.321
Have trouble paying bills	1.415**	0.166	1.124	1.782
cons	0.086	0.060	0.022	0.337

*=significant at $p>05$, **= $p>.01$ Pseudo R Square .1433

Married parent sample.

The sample was next restricted to include participants who were married or partnered (hereafter “married”) and were parents of at least one living child. Due to the fact that over 99% of this sample had grandchildren, the sample was further restricted to include those who had at least one child and at least one grandchild. Two additional variables were added for these analyses: whether or not the participant felt close to his or her spouse and a scaled variable asking about various aspects of the quality of relationship of the participant and his/her spouse using the same scale that was used to assess relationship quality with children. VIFs were checked prior to imputation and all were under 2.5 with a mean of 1.32 indicating multicollinearity should not be an issue when running analyses.

Descriptive statistics. Comparing the descriptive characteristics of the married parent sample (Column 3 in Table 4.1) with the other samples (Column 1 in Table 4.1 for the full sample and Column 2 in Table 4.1 for the parent sample), one notable difference was present looking at gender. While both the total sample and the parent sample were nearly 60% female, males were the majority in the married parent sample representing close to 55% of married parents. The married parent sample was also around two years younger on average than the other two samples with an average age of just over 71 years at the time of interview. Their general health was also better overall with a lower percentage of the married parent sample reporting needing assistance with ADLs and IADLs, having difficulty with physical activities, and were more likely to report that their hearing and vision were good. This makes sense as those in the married parent sample were both still living at the time of interview and as health declines, the chance of one partner being deceased increases.

Compared to parents who were not married, the number of close children and relationship quality were nearly identical. Looking at the unique characteristics of the married sample, participants reported being very close to their spouses with an average closeness rating of 3.54 (out of 4 points) and rated their overall relationship quality with their spouses an average of 26.34 (out of a possible 28).

Burglary for the married parent sample. Table 4.8 presents the logistic regression results for elderly burglary victimization involving married parents. For married parents, as previously found, being Hispanic, regularly using the internet, and having received food stamps since the past wave increased the odds of burglary victimization, with all else being equal. Having received food stamps multiplied the odds of burglary victimization by 35.983, all else equal; however, the standard error for this term was 8.350. Needing assistance with ADLs also had an inflated standard error, but it was not significant in the model. Interestingly, needing assistance with IADLs again reduced the odds of burglary with those needing assistance with IADLs having .147 times the odds of burglary victimization, controlling for other factors. In contrast to the other samples, previous victimization by a physical attack was not significantly associated with increased odds of burglary, but being the victim of fraud multiplied the odds of burglary by 5.253, holding constant other variables in the model. In the model only, a one unit increase in neighborhood physical disorder multiplied the odds of burglary victimization by 1.036, all else equal. None of the variables looking at family relationships were significant once other variables were held constant.

Overall, the model explained around 38.6% of the variance in burglary victimization for married parents. With the food stamps variable removed from the model, only 13.98% of the variance was explained. In the model without the food stamps variable, being Hispanic, being the

victim a physical attack, regularly using the internet, and neighborhood physical disorder still increased the odds of burglary victimization holding constant other variables. Additionally, being the victim of fraud, and having a spouse or child with a mental illness and being bothered by it increased the odds of burglary victimization significantly, all else equal. While needing assistance with IADLs was no longer significant, being troubled by pain significantly reduced the odds of burglary victimization, all else equal, but having pain with limited activity was not a significant predictor.

Table 4.8 Burglary for the married parent sample

	Odds Ratio	Std. Err.	95% Confidence interval	
Gender	1.216	0.321	0.720	2.055
Hispanic	2.635**	0.932	1.316	5.277
Race	1.588	0.533	0.813	3.103
Victim of a physical attack	1.745	0.640	0.842	3.616
Need assistance with IADLs	0.147*	0.130	0.024	0.879
Need assistance with ADLs	9.899	11.164	0.984	99.576
Difficulty with physical activity	1.216	0.397	0.619	2.390
Diagnosed with a memory related disease	0.620	0.362	0.193	1.991
Received food stamps since last wave	35.938**	8.350	22.773	56.716
Troubled by pain	0.757	0.238	0.408	1.405
Pain limits activity	1.068	0.410	0.502	2.274
Served in the military	1.301	0.378	0.730	2.319
Neighborhood physical disorder	1.036*	0.017	1.003	1.071
Gave relatives financial assistance	0.922	0.433	0.356	2.386
Gave children financial assistance	0.720	0.153	0.474	1.093
Age at interview	1.003	0.015	0.974	1.032
Currently drink alcohol	1.159	0.227	0.788	1.705
Fraud victim when elderly	5.253**	1.685	2.726	10.122
Vision is good	1.043	0.253	0.648	1.679
Hearing is good	0.922	0.211	0.588	1.446
Regularly use the internet	1.876**	0.393	1.243	2.831
Number of close children	0.990	0.035	0.924	1.061
Contact with children at least once a month	1.272	0.451	0.627	2.581
Have financial dependents	1.308	0.503	0.612	2.795
Proxy interviewed	0.412	0.278	0.106	1.601
Physical abuse as a child	0.792	0.399	0.288	2.180
Relationship quality with children	0.994	0.026	0.943	1.047
Level of self-control	1.004	0.027	0.953	1.058
Relative psych problem, not bothered	1.371	0.451	0.708	2.656
Relative psych problem, bothered	1.504	0.396	0.889	2.543
Relative substance problem, not bothered	1.313	0.569	0.555	3.105
Relative substance problem, bothered	0.679	0.241	0.336	1.373
Have at least one friend	1.670	0.741	0.697	3.998
Trouble paying bills	1.228	0.278	0.787	1.915
Close to spouse/partner	0.779	0.329	0.338	1.797
Relationship quality with spouse	1.014	0.032	0.953	1.078
cons	0.001	0.001	0.000	0.012

*=significant at $p>0.05$, **= $p>.01$ Pseudo R Square .3864 (.1398 without food stamps)

Fraud for the married parent sample. Looking at the logistic regression results for the fraud outcome in Table 4.9, females have .696 times the odds of being victimized compared to males, holding constant other factors. Again, other victimizations were significant predictors of being a victim of fraud with those who had been victims of either a physical attack at any time or burglarized since age 60 were significantly more likely to be victims of fraud, all else equal. Those who had received food stamps since the previous wave were significantly more likely to have been victims of fraud as were those who had trouble paying bills had significantly higher odds of being victims of fraud, holding constant other variables.

Looking at risky behavior, those who regularly used the internet had 1.795 times the odds of being victims of fraud compared to those not using the internet, controlling for other factors. Regularly drinking alcohol also significantly increased the odds of fraud victimization, controlling for other factors. No family variables were significant with the exception of having a child or spouse with a drug or alcohol problem and being bothered by that problem. Participants in this situation had 1.495 times the odds of being victims of fraud compared to those who did not have a relative with a drug or alcohol problem, all else equal. However, having a spouse or child with a drug or alcohol problem but not being bothered by it did not change the odds of being a victim of fraud compared to not having a relative with a drug or alcohol problem once other variables were held constant. Interestingly, for the married parent sample, having served in the military resulted in .696 times the odds of being a victim of fraud, holding constant other factors. Oddly, having good vision increased the odds of being the victim of fraud when holding constant other variables. Overall, the model explained an approximate 15.01% of the variance in fraud victimization for married parents.

Table 4.9 Fraud for the married parent sample

	Odds Ratio	Std. Err.	95% Confidence Interval	
Gender	0.693*	0.117	0.031	0.498
Hispanic	0.929	0.282	0.807	0.512
Race	0.994	0.216	0.979	0.650
Victim of a physical attack	2.111**	0.454	0.001	1.384
Need assistance with IADLs	0.807	0.505	0.734	0.224
Need assistance with ADLs	1.587	1.214	0.552	0.325
Difficulty with physical activity	0.740	0.133	0.095	0.519
Diagnosed with a memory related disease	1.643	0.686	0.234	0.725
Received food stamps since last wave	2.904**	0.561	0.000	1.981
Troubled by pain	1.202	0.235	0.347	0.819
Pain limits activity	1.178	0.280	0.491	0.739
Served in the military	0.619**	0.111	0.007	0.436
Neighborhood physical disorder	1.005	0.014	0.734	0.978
Gave relatives financial assistance	1.377	0.303	0.146	0.895
Gave children financial assistance	1.246	0.184	0.135	0.933
Age at interview	0.989	0.010	0.289	0.969
Currently drink alcohol	1.329*	0.193	0.050	1.000
Fraud victim when elderly	5.028**	1.542	0.000	2.691
Vision is good	1.757**	0.354	0.005	1.183
Hearing is good	0.761	0.128	0.104	0.547
Regularly use the internet	1.745**	0.275	0.000	1.281
Number of close children	1.003	0.015	0.854	0.974
Contact with children at least once a month	1.357	0.372	0.266	0.792
Have financial dependents	0.888	0.226	0.641	0.539
Proxy interviewed	0.963	0.336	0.914	0.486
Physical abuse as a child	1.082	0.307	0.780	0.621
Relationship quality with children	0.987	0.020	0.524	0.948
Level of self-control	1.006	0.020	0.773	0.968
Relative with psychological problem, not bothered	0.761	0.172	0.228	0.487
Relative with a psychological problem, bothered	1.158	0.198	0.391	0.828
Relative with drug/alcohol problem, not bothered	0.807	0.277	0.534	0.411
Relative with a drug/alcohol problem, bothered	1.347	0.278	0.150	0.898
Have at least one friend	1.008	0.288	0.977	0.575
Trouble paying bills	1.388*	0.227	0.045	1.007
Close to spouse/partner	1.118	0.353	0.724	0.602
Relationship quality with spouse	0.994	0.020	0.764	0.955
cons	0.045	0.047	0.003	0.006

*=significant at $p>0.05$, **= $p>.01$ Pseudo R Square .1501

CHAPTER 5: DISCUSSION

Almost all studies find that the elderly have the lowest risk of victimization of any age group (BJS, 2016). This is frequently attributed to their living low risk lives away from the public sphere and avoiding risky behaviors. While the elderly are at lower risk for victimization than other age groups, they are still victimized. The consequences of their victimization can be more severe than for younger individuals as they are at increased risk of injury and death, as well as often unable to recover from financial losses (Hafemeister, 2003, Payne, 2011). Additionally, the elderly population is growing and will represent over 20% of the population in the United States by 2040 (AoA, 2016). This means that even if only a small percentage of the elderly population is victimized, the number of elderly victims will still increase. This victimization is costly as elderly victims are more likely to be injured than younger victims. Medical costs of injuries caused by elder physical abuse are already roughly \$5.3 billion annually (Fullin et al., 1994 as cited in Labrum & Solomon, 2015).

The majority of what is known about the victimization of the elderly comes from the literature on elder abuse; however, elder abuse and elder criminal victimization are not the same. The definition of elder abuse specifies that abuse occurs when it involves either a caretaker or person in a position of trust as the offender (CDC, 2016a). One of the most rapidly growing crimes, both in general and against the elderly, is internet fraud. Offenders can be anywhere in the world, meaning that they have no relationship with their victims. However, fraud and other forms of financial abuse by family members are also common (Kratcoski & Edelbacher, 2016). Fraud can be elder abuse, elder victimization, or both, depending on the relationship between victim and offender. What is known about fraud as elder abuse may not apply to fraud involving

strangers. More generally, the findings on risk and protective factors against elder abuse cannot be extended to elder criminal victimization.

Since the elderly population is only expected to increase over the next twenty years, there is growing importance to examine what puts the elderly at risk for criminal victimization. Research needs to explore whether findings from studies on younger individuals or based on elder abuse research can be applied to elder criminal victimization. This will become increasingly important as the number of elderly individuals in the population grows. Even if they are less likely to be victimized than younger individuals, the costs of victimization, both physically and financially, are high (Bachman, Lachs, & Meloy, 2004; Payne, 2011).

Identifying those most at risk will better allow for targeted intervention and crime prevention. Differentiating risk factors between elder abuse and elder criminal victimization is also important for policy and prevention. For example, physical resistance to violent victimization decreases the risk of injury when the offender is a stranger but increases risk of injury when the offender is a relative (Bachman et al., 2004). Victimization of the elderly is often ignored because younger individuals are more likely to be victims of crime. However, the elderly are victimized. The elderly may even be at increased risk of some crimes such as fraud but be less willing to report their victimization (AARP, 2011). However, some elderly individuals are at greater risk of victimization than others. Knowing what factors make some individuals more vulnerable to victimization than others is important for preventing future victimization and educating potential targets on preventative safety measures.

To identify risk and protective factors, the current study looks at the applicability of L-RAT to two forms of criminal victimization of the elderly: fraud and burglary. L-RAT is a theory of victimization in general and is based on the premise that for a crime to occur, a suitable target

and a motivated offender must meet in time and space in the absence of a capable guardian (Cohen & Felson, 1979). However, risk is not evenly distributed across the population. There are some individuals whose behaviors bring them into more situations where crime can occur, thus increasing their risk of victimization (Miethe et al., 1990). L-RAT was never intended to explain elderly victimization and consequently research has not focused on the elderly, as they are generally seen as being at the lowest risk for victimization compared to all other age groups. Those in their late teens and early 20s are at the peak of the age-crime curve and most likely to offend and be associated with others who offend. The lifestyles and routine activities of the elderly typically do not put them into situations where victimization is likely to occur. While the elderly are vulnerable to attack because of limited ability to defend themselves and their property, they also have the highest fear of crime of any age group (Beaulieu et al., 2004; Greve, 1998). They may be aware of their own age-related vulnerability and engage in more self-protective behaviors that further decrease their chances of victimization relative to younger individuals (Beaulieu et al., 2004). Although the elderly are at lower risk for criminal victimization than younger individuals, elderly individuals are victimized. Based on elder abuse literature the risk of victimization is not evenly distributed across the elderly population.

As noted above, the current study looks at the impact of L-RAT on two forms of criminal victimization: fraud and burglary, using a sample drawn from multiple waves of the HRS for those aged 60 and older. While the majority of criminological research has focused on elder abuse, this study contributes to the literature on elder victimization by examining closely the much neglected areas of fraud and burglary victimization. It also looks at the applicability of L-RAT to a population traditionally believed to engage in low risk behavior. Finally, based on evidence from elder abuse that having financially dependent, mentally ill, or substance using

relatives increases risk of abuse (Pillmer & Finkelhor, 1989), the study explores how the impact of having financially dependent, mentally ill, or substance abusing family members influences the odds of criminal victimization. Alternatively, participants who have high quality relationships with their children and spouses may help to protect them from victimization.

Lifestyles-Routine Activities theory

The study found mixed support for L-RAT to explain elder criminal victimization. Target vulnerability factors such as having a memory-related disease, being physically impaired, and having difficulty with vision and hearing did not increase the odds of victimization. Considering victims of fraud, risky behaviors such as using the internet and drinking alcohol increased the odds of fraud victimization, and internet use increased the odds of burglary victimization. Exposure to motivated offenders, though difficult to accurately measure, seemed to be a strong factor in victimization. Having grandchildren, having family members who were financially dependent, and, in some cases, having family members who had problems with substance use or mental illness increased the risk of fraud and/or burglary victimization. Children and grandchildren who are at high risk, based on their age, impairments, lifestyles and routine activities, expose their elderly parents to offenders by proxy. When examining the effects of capable guardians, having a proxy respondent and having a positive relationship with children significantly decreased the risk of criminal victimization.

Suitable target. The initial prediction, based on the L-RAT framework, was that targets who were more vulnerable would be more likely to be victimized. Consistent with previous findings on L-RAT, past victimization was one of the strongest predictors of future victimization (Lauritsen & Davis Quinet, 1995). This is notable because the elderly generally are considered to be at low risk of most forms of criminal victimization outside of elder abuse, including crimes

such as burglary (Mason, 2014). This study found that those who were victimized when young remained at higher risk as they aged. While people are expected to be at greatest risk as teens and young adults (Sampson, 1987) and then age out of crime and, by proxy, victimization, this is not the case for repeat victims. Those who report past victimization, potentially dating back to child abuse, are at greater risk for further victimization. Teaching these individuals self-protective behaviors would help prevent further victimization. Even something as simple as support groups would increase social support for the elderly, which has been found to reduce risk of experiencing elder abuse (Acierno et al., 2010; Schiamberg & Gans, 2000). Even if victims do not change their behaviors, they may benefit from programs such as support groups that help to minimize the harm suffered through victimization (Brandl, Hebert, Rozwadowski, & Spangler, 2003). Additionally, knowing that the elderly are more likely to be injured when victimized (Bachman et al., 2003), hospitals and other medical staff need to be prepared for an increase in elderly victims as the elderly come to represent a greater proportion of the population. Financial victimization has been addressed in some area by requiring financial analysts to be mandatory reporters of elder abuse (Schoeff, 2016).

For the elderly, financial victimization can have devastating consequences. The harm suffered by elderly victims of financial victimization can also be greater than that suffered by younger individuals. They tend to live on fixed incomes and not be working, so they cannot recover from financial losses (Payne, 2011). While younger individuals are able to find work and regain savings, the elderly may not have this option. The elderly tend to give strangers the benefit of the doubt and are more likely to do things such as open junk mail and take the calls of telemarketers than younger individuals (Neighmond, 2012). This further increases their odds of victimization as measures of poverty, difficulty paying bills and being on food stamps,

significantly increase the odds of criminal victimization possibly creating a cycle of crime and victimization.

The literature on elder abuse has previously found that having Alzheimer's and dementia increased the risk of being a victim. This was not the case for elder fraud or burglary victimization. Those who had been diagnosed with a memory-related disease were not at increased risk for fraud or burglary victimization. This is especially surprising in terms of fraud because the elder financial abuse literature finds that the declining ability to monitor finances caused by memory-related diseases is a risk factor for financial victimization, including fraud. However, the study only included community dwelling adults. Those with advanced Alzheimer's disease are not capable of caring for themselves and more likely to be in facilities such as nursing homes. This is a common limitation in elder abuse research as the most vulnerable individuals either are not included in studies or are not capable of reporting their victimization. . The study does ask extensive questions about finances, savings, assets, and other related items, at every wave (every two years) and questions from the LBQ asked every four years. Participants remain in the study for the remainder of their lives so it is possible that inclusion in the study heightened participants' attention and care to their finances, thus decreasing their risk. Additionally, those capable of responding to the detailed finances section need to have knowledge of their finances to answer the questions.

Additionally, a relationship between impairment and victimization may have been found because the most seriously impaired individuals are either not living in the community or not able to participate in the study. The sample included a low number of participants with memory-related diseases (only 4.4% in the initial sample), considering that around 10% of those over 65 have been diagnosed with Alzheimer's (Alzheimer's Association, 2018). The current study used

a lower starting age (i.e., 60) for being considered elderly, so some lower risk individuals were included who were not included in the findings by the Alzheimer's Association. However, those with the most severe cognitive impairments are unlikely to be living in the community or capable of participating in the study. This is a common problem in elder abuse research (Acierno et al., 2010).

In terms of memory-related disease, those who were too compromised to participate and did not have a proxy informant to participate are probably also the most vulnerable to victimization. As with other studies looking at elderly individuals, those most at risk may have been excluded, and their exclusion is directly related to the outcome of interest. At this juncture, it would not be fair to say that having a memory-related disease does not increase risk of fraud or burglary victimization, but it is also not possible to make a link based on the current data. This area needs more research but it is more difficult to access populations that are geographically isolated, severely impaired, or institutionalized.

L-RAT would suggest that, based on the decreased ability to defend oneself, physical impairment should increase target vulnerability (Carlson, 2007), and prior findings have found that needing assistance with IADLs and ADLs increases victimization risk (Lachs, et al., 1997). This does not appear to be the case in this study: needing assistance with ADLs and IADLs, having difficulty with physical tasks, difficulty hearing, and difficulty seeing were not related to increased risk of victimization. In fact, needing assistance with IADLs decreased the odds of burglary for both parents and married parents which directly contradicts previous findings that needing assistance with IADLs increased the likelihood of victimization for the elderly (Pot et al., 1996). The reason for this is uncertain as correlates of needing assistance with IADLs such as

spending more time at home and having a caregiver should also be true for those who needed assistance with ADLs or had difficulty with physical activity.

For burglary, the lack of an association between needing help with ADLs and having physical difficulty, along with the apparent protective factor of needing assistance with IADLs could be because these forms of impairments lead individuals to have trouble going out. Time at home is generally found to decrease victimization risk (Nelsen & Huff-Corzine, 1998). While impaired participants are suitable targets, their homes are not. Having someone there guards homes, even if that person is not physically imposing. Future research should separate the IADL variable into individual items and look at whether needing assistance with specific tasks were protective factors. For example, needing assistance with going grocery shopping might increase the time spent at home and needing help preparing meals might increase the use of services such as Meals on Wheels that would introduce visible guardians into the home. Furthermore, physically impaired individuals may employ other measures of self-guardianship because they are aware of their increased vulnerability (Greve, 1998). Physical vulnerability would likely be a better predictor of violent crime than property crime, but these findings are consistent with findings in the elder abuse literature, refuting the caregiver burden hypothesis. Those needing greater assistance were not at increased risk.

In the elder abuse literature, one reason that the elderly are targets of financial crime is that they are believed to be wealthy (Payne, 2011). The current study, however, found that being economically disadvantaged, measured by having received food stamps, was one of the strongest predictors. While trouble paying bills does not necessarily mean individuals lack finances, it was found to be a predictor of victimization. Interestingly, having given financial help to children or relatives was not a correlate of victimization even though having financial dependents was. This

may be because if participants gave their children and relatives money, there was no need for financially needy family members to engage in fraud or burglary.

Consistent with prior research (Lauritsen & Davis Quinet, 1995), those who reported one form of victimization were significantly more likely to report other forms of victimization. Being a victim of a physical attack and a victim of fraud were both strong predictors of being the victim of burglary. While there is debate over exactly why this is, certain individuals are more suitable targets than others and experience a disproportionate amount of victimization (Finkelhor & Asdigian, 1996). Even if the reasons for this are unclear, this is useful information. Specifically, the fact that being the victim of attack at any age, including before physical or mental deterioration began, increased the odds of both fraud and burglary victimization when elderly could be used to identify those most at risk. For chronic victims, age may not be a protective factor the way that it is for those who have never been victimized.

Also, contrary to the elder abuse literature, age was not a factor in victimization. Findings looking at age generally show that the older the individual, the lower the chances of victimization (Gottfredson & Hirschi, 1990), although these findings may not apply to elder abuse or to some crimes such as fraud (AARP, 2011). Some of the reasons for low rates of victimization reported for the oldest elderly may be due to the fact that older individuals are less likely to be living in the community and are missed by most surveys. Also, some of the most elderly and vulnerable individuals are not capable of reporting. Having a proxy, as was the case in this study, may not work because the proxy may not be aware of all fraud victimizations or the proxy respondent may be the offender and not report his or her own offending. The burglary outcome is fairly certain since a caregiver would either reside with or frequently visit the home of the elderly individual and should be aware of a burglary. Fraud victimization, however, is

more likely to be missed. About 7.2% of the total sample (and an even smaller percentage of the parent and married parent samples) used a proxy to complete the survey.

With the exception of the impact of needing assistance with IADLs for the parent and married parent sample, the same findings on target vulnerability were found in parents and married parent samples as were found in the main sample. Overall, those who were vulnerable in terms of physical disability and cognitive impairment did not appear to be at increased risk for criminal victimization.

Motivated offender. L-RAT argues that there must be a motivated offender present for crime to occur. Some have argued that how the elderly live – spending more time at home and less time in the public sphere – prevents their exposure to motivated offenders. Despite the fact that they would make easy targets for victimization, offenders would have to specifically seek them out. A decrease in exposure to motivated offenders, however, assumes that the motivated offenders are not family members. Family members are aware of both the vulnerability of the elderly and able to gain access to things such as financial information, which may explain why the elderly are most likely to be victimized at home (Payne, 2011). The elder abuse literature has identified traits of family members that increase risk of elder abuse and might also increase the likelihood of criminal victimization.

The main sample. While there was no direct measure for exposure to motivated offenders, the elder abuse literature has suggested that family members with financial, psychological, and substance abuse problems are more likely to be offenders than comparable family members. Consistent with the findings on elder abuse, those with financial dependents are at increased risk of burglary (CDC, 2016b; Pillmer & Finkelhor, 1989). Those who are in need of financial assistance might be more likely to commit crime for financial gain. Similarly, they may

owe money to others who could try to get payment from family members if the individuals cannot pay or spend time with those engaging in criminal activity exposing their relatives by proxy.

In the main sample, having grandchildren increased the odds of burglary by over four times. While having grandchildren could increase social support and could be a protective factor, it could also increase exposure to motivated offenders. Grandparents are often more tolerant of some behaviors than they were for their own children. Additionally, based on the ages of those in the study (around 70 on average), their grandchildren would likely be around the age where criminal activity peaks - late teens and early adulthood, and age is one of the strongest predictors of crime (Sampson, 1987). Grandparents who are in their 70s, the mean age of the sample, would have children in their mid-40s and grandchildren in their late teens or early 20s. Late teens and early 20s is also the peak age for offending. Those without grandchildren would be less likely to be exposed to this offense-prone age group.

Consistent with past research, time spent on the Internet is a risk factor for victimization for all of the samples. This is likely in part because it exposes individuals to an unlimited number of motivated offenders whom they would not otherwise have encountered (Chen et al., 2017). While internet use might not seem to be a risk factor for burglary victimization, people post information online about their location which potentially shows their house or possessions as attractive targets or give out information about their location and when they will and will not be at home (Rose, 2011). This information could be used by burglars to target some individuals with one study finding 75% of convicted burglars believed that burglars use social media to identify potential targets (Prince William County Government, n. d.). The relationship between internet use and fraud is more apparent as the internet provides a direct way for offenders to

target victims. The elderly may be less internet-savvy and more willing to freely give out information (Carlson, 2006), increasing their vulnerability around motivated offenders. A more detailed internet use survey was implemented by the HRS at one wave, but there were not enough participants who were included for it to be examined in the current study.

The parent sample. Consistent with findings on offenders in cases of elder abuse, having a child or spouse with a drug or alcohol problem (Penhale, 2010) and being bothered by that problem increased the risk of burglary victimization. Those with substance dependence problems may also associate with delinquent individuals, meaning that even if they are not victimizing their relatives, they are exposing them to a greater number of motivated offenders. Substance dependent individuals living with elderly relatives put their relatives at risk by bringing unrelated, potential offenders into the home (National Committee for the Prevention of Elder Abuse 2000). Additionally, financial dependence is common among those with substance dependence problems, and they might be motivated offenders (Penhale, 2010; WHO).

Having family members with a mental illness, whether or not the participant was bothered by the mental illness, increased the odds of fraud victimization. This is consistent with the elder abuse literature that finds mentally ill individuals are at increased risk of being elder abuse offenders (Labrum & Solomon, 2015a). Interestingly, having a mentally ill family member was not a significant factor in predicting burglary victimization. Mental illnesses are likely too diverse to be considered as a single, dichotomous measure. Those with less severe mental illnesses or without active symptoms could provide protection and guardianship (Greenberg, 1995) while those who cope by self-medicating and engage in violent or unpredictable behaviors may be motivated offenders (National Committee for the Prevention of Elder Abuse, 2000).

The combination of having both a mental illness and a substance dependence problem has been found to increase the risk of violent behavior (Swanson et al., 1990), but unfortunately this variable could not be created because a participant who reported a relative with a mental health issue and a substance abuse problem could have been referring to two different family members. The questions did not ask the participants to specify which family member to whom they were referring. Further research should look at the double risk factor of having an immediate family member with both mental health and substance abuse issues.

Capable guardian. Research suggests that formal guardians may serve to protect the elderly and therefore reduce their victimization risk. Unfortunately, there were no formal measures of guardianship such as contact with APS or other formal services in charge of protecting the elderly in this study. As a limitation, future studies should examine ways to incorporate such formal guardianship measures. Nevertheless, measures of informal guardianship were readily available in this study. Family members with strong relationships with the elderly can serve as capable guardians and decrease the odds of victimization (Greenberg, 1996), but not all family members are capable of or willing to serve as guardians. Generally, positive relationships provide social support (Williamson & Shaffer, 2001), which has been found to decrease the likelihood of elder abuse (Acierno et al., 2010). The presence of other family members in the lives of participants were used as measures of those who could serve as capable guardians while acknowledging that not all family members provide guardianship.

The full sample. Looking at the full sample, having children and being married did not have an effect on victimization risk. This is believed to be due to the fact that some family members served as guardians and others were potential offenders, so the impact of either factor was masked. Grandchildren were, as noted previously, a strong risk factor. To better explore

family factors, the sample was restricted to those who were parents and grandparents. This also allowed the inclusion of variables specifically looking at quality of relationships with children and family and the presence of mental illness or substance abuse in family members.

There was one measure of guardianship, having a proxy complete the interview, which reduced the odds of burglary victimization. This suggests that, consistent with the literature, an additional person's presence can serve as a deterrent to would-be offenders. When considering burglary, seeing a capable (not physically impaired) person either coming and going or residing in the house might signal to potential offenders that the property is protected. Additionally, a caregiver might do chores around the house, keep the house and yard tidy, and create other outward signals that the elderly individual was not alone. This further suggests that some of the potential benefits of having children are being washed out by the number of children who served as potential offenders.

Consistent with findings on elder financial abuse (Lachs & Pillmer, 2015), those who received food stamps and those who had trouble paying bills were more likely to be victimized than the those who did not. While gender is a significant predictor of victimization for younger individuals, men and women were equally likely to be victims. The one exception is married women with children. Males and females age 60 and older are equally likely to be victims of robbery and assault while, for younger individuals, males are at greater risk (Bachman, Dillaway, & Laches, 1998). This is contrary to findings on elder abuse that, while somewhat mixed, generally find females at greater risk. This further suggests that elder criminal victimization and elder abuse need to be considered separately.

The parent sample. Generally speaking, the same variables (internet use, prior victimization, etc.) that were significant in the full sample were significant in the parent and

married parent sample. Additional variables specifically related to relationships did add some additional explanatory power to the model. For those in the parent group only, having contact with children at least once a month increased the odds of burglary victimization.

When looking specifically at the parent sample, people having a child or spouse with a psychological problem, even if they were not bothered by the problem, were at increased risk of being burglarized. However, it did not impact fraud victimization. This did not hold true for the married parent sample but did approach statistical significance ($p=.07$), meaning it is possible that there was a lack of power due to the reduced sample size for an effect to be observed. It remains interesting that even those who reported that they were not bothered by the psychological problem of their relative were at increased risk of victimization. It is unfortunate that the original question asked if the participant had either a spouse or a child with a psychological problem as the difference is likely important. If only unmarried parents were examined, this would ensure the relative was a child, but would reduce the sample size. Future research should ask about children and spouses separately to prevent this confusion.

The married parent sample. Restricting the sample to those who were married and parents did not produce much additional information. The sample size was reduced, possibly limiting the power needed to detect significant effects. This again brought up the issue of questions that asked about either a child or a partner with a mental illness or substance abuse issue. Partners who increased exposure to motivated offenders and increased guardianship may have cancelled each other out, leading to no detectable effect.

Overall, the models were able to explain around 15% of the variance in fraud victimization and up to 40% of the variance in burglary victimization. However, the variance explained for burglary is primarily driven by the food stamp variable. When this variable is

removed from the models for burglary and fraud, both explained around 12% of the variance in victimization for both burglary and fraud outcomes. Adding the parent and spouse level variables improved the fit of the model but limited its applicability as not all elderly individuals have children or spouses. Having either a spouse or children in general was not a significant predictor of victimization, but there were additional risk and protective factors that were relevant to those with children and those who were both married and had children.

With the removal of the food stamp variable, variance explained for both fraud and burglary was around 10 to 15%. There are variables that have previously been identified as risk and protective factors that were not included. The model was actually a better predictor of fraud without the food stamp variable. Explanatory power for burglary may be low because the suitable target is the home not the individual. This study looked at characteristics of the individual, with the exception of neighborhood physical disorder. L-RAT has been applied to burglary with protective factors such as having burglar alarms, knowing neighbors, and having neighborhood watch group decreasing the odds of burglary (O'Shea, 2000). Similarly, specific risky behaviors previously found to be predictors of fraud such as making purchases remotely (Holtfelter, Reisig, & Pratt, 2008) were not measured, only whether or not the participant regularly used the internet.

Risky behavior. Risk factors previously identified as predictors for younger victims, including internet use, low self-control, and prior victimization, were also found to be risk factors for the elderly. This suggests that methods of crime prevention based on these factors used with younger individuals could be implemented with the elderly. This study also confirmed that while the elderly may have lower rates of victimization than younger individuals, they do not age out of victimization and, as the elderly population grows, more attention needs to be paid

to both similar and unique risk factors. Overall, the increased vulnerability increasing victimization risk was not supported, but the motivated offender, capable guardian, and engaging in risky behavior received some support for some of the models run.

To summarize, the examined several key hypotheses and the importance of L-RAT in predicting the criminal victimization of the elderly. The current study tested how the elements of L-RAT applied to a sample of elderly individuals for the crimes of fraud and burglary. Variables designed to measure target suitability, exposure to motivated offenders, presence of capable guardians, and engaging in risky behaviors were included as predictors of victimization. The study tested several key hypotheses. The hypothesis that those who were more vulnerable targets (had cognitive impairments or physical impairments) were at greater risk for criminal victimization than those without impairments was not supported. Looking at burglary, this makes sense as those who are house-bound do not leave their homes unguarded to be burglarized. The lack of a relationship with fraud contradicts previous findings, but may also have to do with the lack of behaviorally specific questions and individuals not wanted to identify as fraud victims.

The hypotheses on exposure to motivated offenders through financially dependent relatives and those with substance abuse or mental illness issues were partially confirmed. Having financial dependents was a risk factor for victimization as financially dependent relatives are more likely to be motivated to commit financial crimes. The findings on mental illness and substance abuse were mixed.

Finally, relationship quality did not attenuate the relationship between disability and victimization since this relationship was not found, but having a higher quality relationship with children did reduce the risk of criminal victimization. Originally a moderating relationship between disability and relationship quality was predicted but the low number of victims

combined with disability not being a significant predictor prevented this from being tested. Intrafamily problems may be more relevant to violent or personal crimes such as robbery or assault or elder abuse than to property victimization, especially burglary where the offender may be unknown.

The current study contributes to the understanding on elder criminal victimization in a few ways. First, although the elderly are at lower risk of victimization than younger individuals, risk factors differ between elderly individuals. There are certain risky behaviors such as alcohol and internet use and personality traits such as low self-control that increase risk. Additionally, elder abuse and elder victimization are not the same. Crimes by strangers and family have different correlates.

The role of poverty as potentially making individuals more vulnerable to fraud has not been explored in elder abuse where the elderly are believed to be targeted for their money but appears relevant to burglary and fraud victimization. Children can serve as guardians as relationships with children that are considered higher quality by participants are correlated with lower victimization rates. Even if offenders are not family members, having another person who has some awareness of what is happening and who is involved in the life of the elder may deter potential offenders. These issues will become increasingly important as the elderly population grows especially given the disproportionate harm suffered by elderly victims (Lachs et al., 2000; Payne, 2011). Overall, L-RAT, as measured by the current study, offers a partial explanation of criminal victimization of the elderly, but more research is needed for a better explanation of the predictors of criminal victimization among the elderly.

Limitations

There are a number of limitations with the current study. First, the study was primarily concerned with factors related to the health and financial security of participants. Questions about crime were added into a subsection and were only used for a few waves of the study. This means that the last measures of burglary and fraud were in 2012 because the 2014 and 2016 versions of the survey did not include those questions. Many participants who would have been available to be included were not because they never had the opportunity to answer victimization questions.

Additionally, the questions used to measure victimization were not behaviorally specific. Participants may not realize that they have been the victim of a crime, but their responses show that they have. The lack of behaviorally specific questions means that those who were actually victims but did not realize or did not choose to identify as victims were missed (Koss et al., 1987). This is especially problematic for fraud because it is known that those victims, especially of white-collar and internet crime, often are unaware of their own victimization and will not self-identify (Payne, 2016). This was especially problematic with the question asking whether participants had been the victim of a physical attack. It would have been interesting to have a measure of physical victimization, but there were few participants who reported being the victim of a physical attack. This may at least be in part due to the fact that most participants would not define minor violence and possibly even violence by family members as an attack.

The burglary question was less problematic on its own, but the phrasing of the question changed with the original question asking “was your house robbed” which may have accidentally captured some home invasions and robberies while possibly missing some burglaries; however, there was no statistically significant difference in the number of burglaries reported by year. The

participants who falsely reported or did not report being burglary victims likely cancelled one another out. Additionally, the recall period was unusually long (e.g., five years) for a measure of victimization. Participants who got their year of victimization wrong might have been falsely identified as elderly victims or younger victims if their recollection of the year of the incident was in error. Again, this is probably a rather minor issue, but it is a problem based on past research on recall period as participants can forget events entirely (Gaskell, Wright, & O'Muircheartaigh, 2000). Although any recall period creates some bias, the tendency to underreport increases when participants are asked about events that happened over one year ago (Kjellsson, 2014). Additionally, there was also no question asking about the number of victimizations. Participants were asked whether or not they had been a victim of fraud or burglary in the past five years. Repeat victimization is common and, as participants only complete the LBQ every four years, this is an extended time period when multiple victimizations may have occurred.

Coding on the question of whether or not the participant was diagnosed with a memory-related disease also changed across waves. It was later expanded to ask about Alzheimer's and dementia separately but, to align with previous waves, those two categories were collapsed. Little research has looked at the effect of Alzheimer's versus other forms of dementia on risk of victimization, so this might have been interesting to explore had data been available. However, given the low number of participants reporting a memory-related disease, splitting the category for this sample would not have been possible. There were memory tests conducted on individuals that were repeated across waves, so it would be possible to look at how declining memory was related to victimization in a longitudinal study. The issue with this for the HRS is that memory is measured every two years while victimization is measured, at most, every four years and the

question asks about whether or not participants were victimized in the past five years. This would limit the applicable participants to those who were in the sample for six to eight years including two waves where they were asked about victimization to ensure proper temporal ordering. Research that examines the effect of Alzheimer's over time could include a few questions about victimization. It would be useful to know if there is a time at which individuals become more likely to be victimized since Alzheimer's is a progressive disease.

There were many interesting and important components of L-RAT that were not measured in the HRS. The measures of guardianship, contact with children, and having a proxy respondent, were dependent on that individual being a capable guardian and not a motivated offender. Additionally, the quality of relationship with children did not ask about each child individually so it could be an overall impression of all children or a particular child. The finding may wash out an effect if participants have both positive and negative relationships with different children. The findings on spouses are more definitive as participants were limited to one spouse, but spouse variables were not significant in the model. If a house is burglarized, both spouses may count themselves as victims. This is also possible for fraud, so making the primary sampling unit households instead of people might have been a better strategy.

There were not many measures of risky behavior. Traditional risky behaviors such as going out alone at night and spending time at bars were not measured. The elderly are assumed not to engage in these types of behaviors, but it is not certain that all elderly individuals do in fact avoid traditionally risky behaviors if they are not asked. However, the commonly used risky behavior of drinking alcohol was not associated with increased risk of criminal victimization, although past studies have focused on violent (McClelland et al., 2001; Turanovic et al., 2015)

and sexual victimization (Testa & Livingston, 2009), or elder abuse (World Health Organization, n. d.) not financial victimization.

Finally, temporal order may have been an issue as the time bounding varied between questions. Having trouble paying bills and being on food stamps were both highly correlated with being a victim, but the temporal ordering is uncertain. It is possible that being victimized caused participants to have financial difficulty or it is possible that those already financially stressed are more susceptible to fraud. The argument that these are poorer individuals who are simply living in bad neighborhoods – the most likely explanation for both financial problems and victimization – is somewhat contradicted by that fact that neighborhood physical disorder was not related to victimization. Elder abuse research has found that the elderly who are believed to be wealthy are those most likely to be targeted for fraud (Payne, 2011). This issue could again be due to temporal ordering. Being a financial crime victim increases trouble paying bills and needing government assistance, but it is also possible that those already struggling financially will take more risks with their finances because they have less to lose.

Policy implications

As the elderly population grows, so will the number of elderly victims of crime. As this study shows, the elderly experience criminal victimizations as well as elder abuse. This means that social service, criminal justice, public health, and many other sectors must prepare to serve a unique group of victims.

For property victimization, one relatively simple change that has been made based on L-RAT is the implementation of additional guardianship in the community. Community organizations, neighborhood watch groups, and partnerships between the elderly and local law enforcement all increase the level of guardianship in the community (Bachman & Meloy, 2008).

Partnerships with law enforcement have the added benefit of giving the elderly a voice about what concerns are most important to them and treating them as active citizens rather than as passive victims. Increasing the visible presence of the elderly in the community can empower them (Payne, 2011) and let them suggest the best ways to deliver information.

Education for the elderly on the risks of using and sharing information on social media and general internet safety is needed as the elderly lose \$2.6 billion in scams and other financial crimes every years (U.S. DOJ, n. d.). More and more of these scams are becoming electronic. Many people are not aware how much information can be accessed by strangers through social media and used to target them (Prince William County Government, n. d.) and the elderly who did not grow up with technology are especially vulnerable. Places such as senior centers and libraries that provide internet access should post information on the risks of sharing information and popular fraud schemes and family members should monitor the computer use of those in their homes, especially if living with someone who is cognitively impaired.

Although findings on impaired family members were mixed, substance abusing and mentally ill relatives do seem to increase the risk of criminal victimization in at least some circumstances. Since family preservation is often important to the elderly, coping with dependent adult children through sharing experiences with others may be useful. For victims of elder IPV, support groups and having someone to listen to were more important even than stopping the abuse (Brandl et al., 2003). Treatment facilities could offer support groups for family members dealing with a relative with substance abuse or mental illness issues. Additionally, as higher quality relationships with adult children seemed to have a protective effect against victimization, family relationship building and conflict resolution skills could be taught.

Elderly victims should be included in the process of policy development so that they can identify what needs are most important to them. Groups such as triads, though often thought of as elder abuse groups, promote the safety of all elderly individuals and include members of groups such as law enforcement and APS as well as elderly citizens. These groups can help insure that policies developed are helpful and empowering (Payne, 2011) and not overly paternalistic. They can also offer prevention programs on subjects such as identifying financial exploitation for the elderly and caregivers (Office for Older Americans, 2016). For elderly individuals who are cognitively competent living in the community, such as the majority of the participants in this study, interventions cannot be forced and autonomy should be preserved.

Future directions in elder victimization research

While this study found some interesting findings about elder criminal victimization, it brings up additional factors that need to be addressed by future research. The explanatory power for burglary was relatively high, meaning that the model does a fairly good job. However, the unstable food stamp variable is responsible for the majority of the variance explained. When it is removed from the model, between 10 and 15% of variance in both burglary and fraud victimization explained. This 10 to 15% is relatively good for criminal justice, but it also means that there is a lot that has been left unexplained. Behaviorally specific questions on various forms of elder victimization are needed for a better understanding of the causes and correlates.

Since technology is constantly evolving, more research on the relationship between internet use and victimization is needed. This is especially important for the elderly because they did not grow up with the same types of technology as younger individuals and have not been taught about safety procedures. More research is needed into what behaviors create the greatest

risk as well as how well protective measures such as privatizing accounts decrease victimization risk.

The biggest difference in the predictors of elder abuse and elder criminal victimization is the lack of impairment as a predictor for criminal victimization. This may be because in elder abuse the victim and offender must know one another. Vulnerability of the elder is known and can be exploited in cases of elder abuse. With criminal victimization, especially crimes such as fraud and burglary, the offender may not realize the potential victim is impaired and a vulnerable target. Elder abuse victims such as parents may be targets of convenience. These same offenders might not deliberately seek out other elderly individuals. This could be examined by interviewing elder financial abuse and financial victimization offenders on how they select their targets.

Some findings in this study suggest that the quality of family relationships and having mentally ill or substance abusing relatives is a risk factor. This should be looked into more closely, especially the finding that for the parent and married parent samples, having a child or spouse with a drug or alcohol problem was only a predictor of fraud victimization for participants who were bothered by the problem. Those who had a substance dependent relative but were not bothered by it were not at increased risk. The most likely explanation for this is that those with relatives with more serious substance dependence were both more worrisome to their families and more likely to both associate with and be more likely themselves to offend against their families (National Center on Elder Abuse, 2000). It is also likely that those whose family members brought more troublesome offenders into a shared residence or burglarized their families were viewed as more bothersome.

It would be interesting to examine why and even how family members could be unbothered by the substance use of a child or spouse. While being able to emotionally detach from the situation might spare emotional pain, it should not prevent victimization risk. It is possible that these individuals had cut off their substance dependent child or spouse or not allowed him or her in the home, but this is just speculation. For this type of situation, qualitative research might be beneficial to understand what some families are able to do to protect themselves from being upset over a spouse or child's substance use, thus insulating themselves from increased risk of victimization. Understanding this might allow programs to be developed to help elderly individuals cope with a family member's substance problem and protect themselves and their property.

Further research should also look at whether increased attention to finances helps prevent fraud victimization. Increasing awareness about what financial resources one has may be helpful in raising the participant's awareness. Teaching the elderly about how to be safe while using the internet would also be useful to test. Although a general measure of internet use was found to be a predictor of victimization, specific behaviors while using the internet were not evaluated. Past research has found that offenders attempting fraud using the phone specifically target the elderly believing that they are more vulnerable (Payne, 2011). More research on whether this is the case with internet fraud is needed.

Future research should also look at characteristics of the offenders. This may not be possible for fraud and burglary as the offender may be unknown, but, especially if the offender is a family member, information may be available. The HRS did not ask any details about the victimization incident aside from the year in which it occurred. This made it difficult to assess whether children were motivated offenders or capable guardians or whether the same family had

children who fell into both categories. Some of the effects of the variables asking about children may have been masked due to the fact that participants had multiple children. Ideally, this should also be looked at longitudinally as it is possible that family members either become more upset about an ongoing issue or adapt to it and become less bothered by it over time. The reason some participants reported having relatives with drug or alcohol problems but not being bothered by those problems might have been because the impaired family member was institutionalized or no longer allowed in the home.

More research on relationships with grandchildren is also warranted, because having grandchildren was a significant predictor of victimization. This should be explored to see whether simply having contact with individuals at the peak of the age crime curve created increased opportunities for crime or whether the quality of the relationship mattered. Relationship quality with children did seem to decrease the odds of victimization, and this should also be explored further, preferably with measures of relationship quality for each individual child instead of children as a whole.

Two currently ongoing studies could be modified to address elder victimization. The HRS could begin asking about victimization again and add a few questions about whether the offender was known and, if so, how. Given the amount of information the HRS already collects on its participants, it remains a rich data source. Additionally, the National Crime Victimization Survey could systematically oversample adults over age 65 to allow exploration of characteristics of victimization unique to this age group. Some studies on elder abuse have been conducted using the NCVS (Bachman & Meloy, 2008; Teplin et al., 2005), but the lack of elderly victims limits the research that can be done.

While programs such as triads have anecdotally reported success, they have not been empirically evaluated. Evaluation can be difficult as every program differs, but there needs to be some attempt to evaluate what makes them work or not work. Some commonalities such as a centralized coordinator have been identified as common features. As only 25% of U.S. counties have some form of triad program (Office for Older Americans, 2016), comparison studies between counties with and without triads are possible. Outcomes of interest should not only include rates of elder abuse and victimization but relationship between police and community members.

The issue of whether family members are motivated offenders, capable guardians or even can be both at the same time would likely need to be explored with qualitative research. Research on elder abuse has found mixed findings on the presence of family members and chances of victimization. Some studies argue that substance dependent (Penhale, 2010) and mentally ill (World Health Organization n. d) family members serve as motivated offenders and cannot be capable guardians. Other studies suggest that the presence of another individual, even one who is impaired, increases the safety of the elderly (Greensberg, 1995). Understanding the dynamics of family relationships is complicated, especially when there are family members with multiple issues including mental illness, substance use, financial dependence and age-related impairments. The role of the family in elder criminal victimization is under-explored, but taking cues from the elder abuse literature, it is likely a relevant factor that needs further exploration before being tested in a large scale study.

REFERENCES

- AARP Foundation (2011). *AARP foundation national fraud victim study*. Washington, DC. Retrieved from <https://assets.aarp.org/rgcenter/econ/fraud-victims-11.pdf>
- Acierno, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: the National Elder Mistreatment Study. *American Journal of Public Health, 100*(2), 292-297. doi:10.2105/AJPH.2009.163089
- Administration on Aging (AoA). (2016). *A profile of older Americans: 2015*. Washington, DC Retrieved from https://aoa.acl.gov/Aging_Statistics/Profile/2015/4.aspx.
- Agnew, R. (1992). Foundation for a general theory of crime and delinquency. *Criminology, 30*(1), 47-88. doi:10.1111/j.1745-9125.1992.tb01093.x
- Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency, 38*(4), 319-361. doi:doi:10.1177/0022427801038004001
- Allen, W. D. (2013). Self-protection against crime victimization: Theory and evidence from university campuses. *International Review of Law & Economics, 34*, 21-33. doi:10.1016/j.irl.2012.11.002
- Alzheimer's Accociation. (2017). Wandering and getting lost. Retrieved from <http://www.alz.org/care/alzheimers-dementia-wandering.asp>
- Alzheimer's Foundation of America. (2016). Cargiving tips: Strategies for success. Retrieved from <http://www.alzfdn.org/EducationandCare/strategiesforsuccess.html>
- Alzheimer's Society. (2017). Mistreatment and abuse of people with dementia. Retrieved from https://www.alzheimers.org.uk/info/20091/what_we_think/205/mistreatment_and_abuse_of_people_with_dementia
- American Bar Association Commission on Law and Aging. (2008). *Mandatory reporters: Comparison charts of categories in adult protective service laws by state*. Retrieved from https://www.americanbar.org/content/dam/aba/administrative/law_aging/MandatoryReportingChartsExplanation.authcheckdam.pdf
- Andresen, M. A. (2006). A spatial analysis of crime in Vancouver, British Columbia: a synthesis of social disorganization and routine activity theory. *Canadian Geographer / Le Géographe canadien, 50*(4), 487-502. doi:10.1111/j.1541-0064.2006.00159.x
- Bachman, R., Lachs, M., & Meloy, M. (2004). Reducing injury through self-protection by elderly victims of violence: The interaction effects of gender of victim and the victim/offender relationship. *Journal of Elder Abuse & Neglect, 16*(4), 1-24. doi: 10.1300/J084v16n04_01
- Bachman, R., Dillaway, H., & Lachs, M. S. (1998). Violence against the elderly: A comparative analysis of robbery and assault across age and gender groups. *Research on Aging, 20*(2), 183-198.
- Band-Winterstein, T., & Eisikovits, Z. (2009). "Aging out" of violence: Multiple faces of domestic violence across the lifespan. *Qualitative Health Research, 19*(2), 164-180.
- Beaulaurier, R. L., Seff, L. R., Newman, F. L., & Dunlop, B. (2005). Internal barriers to help seeking for middle-aged and older women who experience intimate partner violence. *Journal of Elder Abuse & Neglect, 17*(3), 53-74. doi:10.1300/J084v17n03_04
- Beaulieu, M., Leclerc, N., & Dubé, M. (2004). Fear of crime among the elderly. *Journal of Gerontological Social Work, 40*(4), 121-138. doi:10.1300/J083v40n04_09

- Brandl, B., Hebert, M., Rozwadowski, J., & Spangler, D. (2003). Feeling Safe, Feeling Strong. *Violence Against Women*, 9(12), 1490-1503. doi:doi:10.1177/1077801203259288
- Brandl, B., & Raymond, J. A. (2012). Policy implications of recognizing that caregiver stress is not the primary cause of elder abuse. *Generations*, 36(3), 32-39.
- Bureau of Justice Statistics. (2016). *Criminal victimization, 2015*. Washington, DC.
- Carlson, E. L. (2006). Phishing for elderly victims: As the elderly migrate to the internet fraudulent schemes targeting them follow. *Elder Law Journal*, 14, 423-452.
- Centers for Disease Control and Prevention (CDC). (2016a). *Elder abuse: Definitions*. Atlanta, GA. Retrieved from <https://www.cdc.gov/violenceprevention/elderabuse/definitions.html>
- Centers for Disease Control and Prevention (CDC). (2016b, 2016, June). Elder abuse: Risk and protective factors. Retrieved from <https://www.cdc.gov/violenceprevention/elderabuse/riskprotectivefactors.html>
- Champion, H. L., Foley, K. L., Durant, R. H., Hensberry, R., Altman, D., & Wolfson, M. (2004). Adolescent sexual victimization, use of alcohol and other substances, and other health risk behaviors. *Journal of Adolescent Health*, 35(4), 321-328.
- Chen, H., Beaudoin, C. E., & Hong, T. (2017). Securing online privacy: An empirical test on Internet scam victimization, online privacy concerns, and privacy protection behaviors. *Computers in Human Behavior*, 70, 291-302. doi:10.1016/j.chb.2017.01.003
- Clay-Warner, J., Bunch, J. M., & McMahon-Howard, J. (2016). Differential Vulnerability. *Criminal Justice and Behavior*, 43(10), 1406-1429. doi:doi:10.1177/0093854816636415
- Cohen, L. E. & Felson, M. (1979). Social change and crime rate trends: A routine activities perspective. *American Sociological Review*, 44(4), 588-608.
- Cohen, S., Underwood, L. G., & Gottlieb, B. H. (2000). *Social support measurement and intervention: A guide for health and social scientists*: Oxford University Press.
- Coker, A. L., Smith, P. H., & Fadden, M. K. (2005). Intimate partner violence and disabilities among women attending family practice clinics. *Journal of Womens Health (Larchmt)*, 14(9), 829-838. doi:10.1089/jwh.2005.14.829
- Cooper, C., Selwood, A., Blanchard, M., Walker, Z., Blizard, R., & Livingston, G. (2009). Abuse of people with dementia by family carers: representative cross sectional survey. *BMJ*, 338. doi:10.1136/bmj.b155
- Corrigan, P. W., & Miller, F. E. (2004). Shame, blame, and contamination: A review of the impact of mental illness stigma on family members. *Journal of Mental Health*, 13(6), 537-548. doi:10.1080/09638230400017004
- Corrigan, P. W., & Watson, A. C. (2005). Findings from the national comorbidity survey on the frequency of violent behavior in individuals with psychiatric disorders. *Psychiatry Res*, 136(2-3), 153-162. doi:10.1016/j.psychres.2005.06.005
- De Donder, L., Verté, D., & Messelis, E. (2005). Fear of crime and elderly people: Key factors that determine fear of crime among elderly people in West Flanders. *Ageing International*, 30(4), 363. doi:10.1007/s12126-005-1021-z
- DeLiema, M. (2015). *Using mixed methods to identify the characteristics of older fraud victims*. (3704229), University of Southern California, Los Angeles, CA. Retrieved from http://proxy.lib.umich.edu/login?url=http://search.proquest.com/docview/1705799725?acountid=14667http://mgetit.lib.umich.edu/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/ProQuest+Dissertations+%26+Theses+Full+Text&rft_val_fmt=info:ofi/

- Devries, K. M., Child, J. C., Bacchus, L. J., Mak, J., Falder, G., Graham, K., . . . Heise, L. (2014). Intimate partner violence victimization and alcohol consumption in women: a systematic review and meta-analysis. *Addiction*, 109(3), 379-391. doi:10.1111/add.12393
- Dhalla, S., & Kopec, J. A. (2007). The CAGE questionnaire for alcohol misuse: a review of reliability and validity studies. *Clinical & Investigative Medicine*, 30(1), 33-41.
- Dietz, T. L., & Wright, J. D. (2005). Age and Gender Differences and Predictors of Victimization of the Older Homeless. *Journal of Elder Abuse & Neglect*, 17(1), 37-60. doi:10.1300/J084v17n01_03
- Dong, X., Chen, R., & Simon, M. A. (2014). Elder abuse and dementia: A review of the research and health policy. *Health Affairs*, 33(4), 642-649.
- Elder Financial Protection Network. (2017). Frequently asked questions. Retrieved from <http://www.elderfinancialprotection.org/Frequently-Asked-Questions.html>
- Estroff, S. E., Zimmer, C., Lachicotte, W. S., & Benoit, J. (1994). The influence of social networks and social support on violence by persons with serious mental illness. *Psychiatric Services*, 45(7), 669-679. doi:10.1176/ps.45.7.669
- Felson, M. (1986). Linking criminal choices, routine activities, informal control, and criminal outcomes. In D. B. Cornish & R. V. Clarke (Eds.), *The reasoning criminal: Rational choice perspectives on offending* (pp. 119-128). New York, NY: Springer-Verlag.
- Ferraro, K. F., & LaGrange, R. L. (1992). Are older people most afraid of crime? Reconsidering age differences in fear of victimization. *Journal of Gerontology*, 47(5), S233-S244. doi:10.1093/geronj/47.5.S233
- Finkelhor, D., & Asdigian, N. L. (1996). Risk factors for youth victimization: Beyond a lifestyles/routine activities theory approach. *Violence And Victims*, 11(1), 3-19.
- Franklin, C. A., Franklin, T. W., Nobles, M. R., & Kercher, G. A. (2012). Assessing the effect of routine activity theory and self-control on property, personal, and sexual assault victimization. *Criminal Justice and Behavior*, 39(10), 1296-1315. doi:10.1177/0093854812453673
- Gainey, R. R., & Payne, B. K. (2006). Caregiver burden, elder abuse, and Alzheimer's disease: Testing the relationship. *Journal of Health & Human Services Administration*, 29(2), 246-259.
- Gaskell, G. D., Wright, D. B., & O'Muirheartaigh, C. A. (2000). Telescoping of landmark events: implications for survey research. *The Public Opinion Quarterly*, 64, 77-89
- Gates, Fitzwater, E., & Meyer, U. (1999). Violence against caregivers in nursing homes. Expected, tolerated, and accepted. *J Gerontol Nurs*, 25(4), 12-22.
- Gates, Fitzwater, E., & Succop, P. (2005). Reducing assaults against nursing home caregivers. *Nursing Res*, 54(2), 119-127.
- Gates, Gillipse, G. L., & Succop, P. (2011). Violence against nurses and its impact on stress and productivity. *Nursing Economics*, 29(2), 59-66.
- Goodman, L., Dutton, M. A., Vankos, N., & Weinfurt, K. (2005). Women's resources and use of strategies as risk and protective factors for reabuse over time. *Violence Against Women*, 11(3), 311-336. doi:10.1177/1077801204273297
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford University Press: Stanford University Press.
- Grafstrom, M., Norberg, A., & Hagberg, B. (1993). Relationships between demented elderly people and their families: a follow-up study of caregivers who had previously reported

- abuse when caring for their spouses and parents. *Journal of Advanced Nursing*, 18(11), 1747-1757. doi:10.1046/j.1365-2648.1993.18111747.x
- Greenberg, J. S. (1995). The other side of caring: adult children with mental illness as supports to their mothers in later life. *Social Work*, 40(3), 414-423.
- Greenberg, J. S., Seltzer, M. M., & Greenley, J. R. (1993). Aging parents of adults with disabilities: The gratifications and frustrations of later-life caregiving. *The Gerontologist*, 33(4), 542-550. doi:10.1093/geront/33.4.542
- Greve, W. (1998). Fear of crime among the elderly: Foresight, not fright. *International Review of Victimology*, 5(3-4), 277-309. doi:10.1177/026975809800500405
- Hafemeister, T. L. (2003). Financial abuse of the elderly in domestic settings. In R. G. Bonnie & R. B. Wallace (Eds.), *Elder mistreatment: Abuse, neglect, and exploitation in an aging America*. Washington, DC: National Academies Press.
- Halphen, J. M., Varas, G. M., & Sadowsky, J. M. (2009). Recognizing and reporting elder abuse and neglect. *Geriatrics*, 64(7), 13-18.
- Hirschi, T., & Gottfredson, M. (1983). Age and the explanation of crime. *American journal of sociology*, 89(3), 552-584.
- Hollis, M. E., Felson, M., & Welsh, B. C. (2013). The capable guardian in routine activities theory: A theoretical and conceptual reappraisal. *Crime Prevention and Community Safety*, 15(1), 65-79. doi:10.1057/cpcs.2012.14
- Holtfelter, K., Reisig, M. D., & Pratt, T. C. (2008). Low self-control, routine activities, and fraud victimization. *Criminology*, 46(1), 189-220. doi: 10.1111/j.1745-9125.2008.00101.x
- Howze, K. A., & White, J. L. (2010). Judicial response to elder abuse. *Juvenile and Family Court Journal*, 61(4), 57-76. doi:10.1111/j.1755-6988.2010.01048.x
- Isaksson, U., Graneheim, U. H., & Åström, S. (2009). Female caregivers' experiences of exposure to violence in nursing homes. *Journal of Psychiatric and Mental Health Nursing*, 16(1), 46-53. doi:10.1111/j.1365-2850.2008.01328.x
- Jacobs, B. A., & Wright, R. (2006). *Street justice: Retaliation in the criminal underworld*. Cambridge: Cambridge University Press.
- Juster, F. T., & Suzman, R. (1995). An overview of the health and retirement study. *The Journal of Human Resources*, 30, S7-S56. doi:10.2307/146277
- Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. (1963). Studies of illness in the aged. The index of ADL: A standardized measure of biological and psychosocial function. *Jama*, 185, 914-919.
- Kendall-Tackett, K., Lyon, T., Taliaferro, G., & Little, L. (2005). Why child maltreatment researchers should include children's disability status in their maltreatment studies. *Child Abuse & Neglect*, 29, 147-151. doi:10.1016/j.chiabu.2004.09.002
- Kennedy, L. W. & Forde, D. R. (1990). Routine activities and crime: An analysis of victimization in Canada. *Criminology*, 28(1), 137-152. doi: 10.1111/j.1745-9125.1990.tb01321.x
- Kennedy, L. W., & Silverman, R. A. (1990). The elderly victim of homicide. *Sociological Quarterly*, 31(2), 307-319. doi:10.1111/j.1533-8525.1990.tb00330.x
- Kosberg, J. I. (1998). The Abuse of Elderly Men. *Journal of Elder Abuse & Neglect*, 9(3), 69-88. doi:10.1300/J084v09n03_04
- Kratcoski, P. C., & Edelbacher, M. (2016). Trends in the criminality and victimization of the elderly. *Federal Probation*, 80(1), 58-63.

- Krause, N. (2009). Lifetime trauma, prayer, and psychological distress in late life. *International Journal for the Psychology of Religion*, 19(1), 55-72.
- Labrum, T., & Solomon, P. L. (2015a). Physical elder abuse perpetrated by relatives with serious mental illness: A preliminary conceptual social-ecological model. *Aggression and Violent Behavior*, 25, Part B, 293-303. doi:http://dx.doi.org/10.1016/j.avb.2015.09.006
- Labrum, T., & Solomon, P. L. (2015b). Rates of victimization of violence committed by relatives with psychiatric disorders. *Journal of Interpersonal Violence*, 0886260515596335. doi:10.1177/0886260515596335
- Lachs, M. S., & Pillemer, K. A. (2015). Elder abuse. *New England Journal of Medicine*, 373(20), 1947-1956.
- Langan, J. & Means, R. (1996). Financial management and elderly people with dementia in the U.K.: As much a question of confusion as abuse? *Aging & Society*, 16(3), 278-314. doi: 10.1017/S0144686X00003433
- Lauritsen, J. L., & Davis Quinet, K. F. (1995). Repeat victimization among adolescents and young adults. *Journal of Quantitative Criminology*, 11(2), 143-166.
- Lefley, H. P. (1987). Aging Parents as Caregivers of Mentally Ill Adult Children: An Emerging Social Problem. *Psychiatric Services*, 38(10), 1063-1070. doi:10.1176/ps.38.10.1063
- Lichtenberg, P. A., Stickney, L., & Paulson, D. (2013). Is psychological vulnerability related to the experience of fraud in older adults? *Clinical Gerontologist*, 36(2).
- Link, B. G., Stueve, A., & Phelan, J. (1998). Psychotic symptoms and violent behaviors: probing the components of "threat/control-override" symptoms. *Social Psychiatry and Psychiatric Epidemiology*, 33(1), S55-S60. doi:10.1007/s001270050210
- May, D. C., Rader, N. E., & Goodrum, S. (2010). A gendered assessment of the "threat of victimization": Examining gender differences in fear of crime, perceived risk, avoidance, and defensive behaviors. *Criminal Justice Review*, 35(2), 159-182.
- McClelland, Michael, G., & Teplin, L. A. (2001). Alcohol intoxication and violent crime: Implications for public health policy. *The American Journal on Addictions*, 10, s70-s85. doi:10.1080/10550490150504155
- McNeeley, S. (2014). Lifestyle-routine activities and crime events. *Journal of Contemporary Criminal Justice*, 31(1), 30-52. doi:10.1177/1043986214552607
- Mears, D. P., Reisig, M. D., Scaggs, S., & Holtfreter, K. (2016). Efforts to Reduce Consumer Fraud Victimization Among the Elderly. *Crime & Delinquency*, 62(9), 1235-1259. doi:doi:10.1177/0011128714555759
- Messner, S. F., & Tardiff, K. (1985). The social ecology of urban homicide: An application of the "routine activities" approach. *Criminology*, 23(2), 241-267. doi:10.1111/j.1745-9125.1985.tb00336.x
- Miethe, T. D., Stafford, M. C., & Sloane, D. (1990). Lifestyle changes and risks of criminal victimization. *Journal of Quantitative Criminology*, 6(4), 357-376. doi:10.1007/bf01066676
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2001). Risk factors for and impact of online sexual solicitation of youth. *Jama*, 285(23), 3011-3014. doi:10.1001/jama.285.23.3011
- Morgan, R. E. & Mason, B. J. (2014). *Crimes against the elderly, 2003-2013*. Washington, DC: Bureau of Justice Statistics.
- Mukherjee, D. (2011). Organizational structures of elder abuse reporting systems. *Administration in Social Work*, 35(5), 517-531. doi:10.1080/03643107.2011.614532

- Mustaine, E. E., & Tewksbury, R. (1998). Predicting risks of larceny theft victimization: a routine activity analysis using refined activity measures. *Criminology*, 36(4), 829-858. doi:10.1111/j.1745-9125.1998.tb01267.x
- National Center for Victims of Crimes. (2013). *Elder victimization*. Washington, DC Retrieved from http://www.victimsofcrime.org/docs/ncvrw2013/2013ncvrw_stats_elder.pdf.
- National Committee for the Prevention of Elder Abuse. (2000). Elder abuse and substance abuse. *nexus*. Retrieved from <http://www.preventelderabuse.org/issues/substance.html>
- National Institute on Alcohol Abuse and Alcoholism (n. d.). *Older adults*. Retrieved from <https://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/older-adults>.
- Neighmond, P. (2012, December 6). Wht it's easier to scam the elderly. *National Public Radio*. Retrieved from <https://www.npr.org/sections/health-shots/2012/12/06/166609270/why-its-easier-to-scam-the-elderly>
- Nelsen, C., & Huff-Corzine, L. I. N. (1998). Strangers in the Night. *Homicide Studies*, 2(2), 130-159. doi:10.1177/1088767998002002003
- Nelson, T. D. (2005). Ageism: Prejudice against our feared future self. *Journal of Social Issues*, 61(2), 207-221. doi:10.1111/j.1540-4560.2005.00402.x
- Nosek, M. A., Foley, C. C., Hughes, R. B., & Howland, C. A. (2001). Vulnerabilities for abuse among women with disabilities. *Sexuality and Disability*, 19(3), 177-189. doi:10.1023/a:1013152530758
- Office for Older Americans. (2016). Report and recommendations: Fighting elder financial exploitation through community networks. *Consumer Financial Protection Bureau*. Retrieved from https://files.consumerfinance.gov/f/documents/082016_cfpb_Networks_Study_Report.pdf
- Olkin, R. (2003). Women with physical disabilities who want to leave their partners. *Women & Therapy*, 26(3-4), 237-246. doi:10.1300/J015v26n03_05
- Oosterhoorn, R., & Kendrick, A. (2001). No sign of harm: Issues for disabled children communicating about abuse. *Child Abuse Review*, 10(4), 243-253. doi:10.1002/car.697
- O'Shea, T. C. (2000). The efficacy of home security measures. *American Journal of Criminal Justice*, 24(2), 154-167.
- Parks, K. A., & Zetes-Zanatta, L. M. (1999). Women's bar-related victimization: Refining and testing a conceptual model. *Aggressive Behavior*, 25(5), 349-364.
- Payne, B. K. (2011). *Crime and elder abuse: An integrated perspective*. Springfield, IL: Charles C. Thomas.
- Payne, B. K. & Fletcher, L. B. (2005). Elder abuse in nursing homes: Prevention and resolution. *Journal of Criminal Justice*, 33(2), 119-125. Retrieved from <http://dx.doi.org/10.1016/j.chiabu.2015.03.008>
- Payne, B. K. & Gainey, R. R. (2009). *Family violence and criminal justice: A life-course approach*. New York, NY: Routledge.
- Penhale, B. (2010). Responding and intervening in elder abuse and neglect. *Ageing International*, 35(3), 235-252. doi:10.1007/s12126-010-9065-0
- Penhale, B., & Kingston, P. (1997). Elder abuse, mental health and later life: Steps towards an understanding. *Aging & Mental Health*, 1(4), 296-304. doi:10.1080/13607869756985

- Pickett, S. A., Cook, J. A., Cohler, B. J., & Solomon, M. L. (1997). Positive parent/adult child relationships: Impact of severe mental illness and caregiving burden. *American Journal of Orthopsychiatry*, 67(2), 220-230. doi:10.1037/h0080225
- Pillemer, K., & Finkelhor, D. (1989). Causes of elder abuse: Caregiver stress versus problem relatives. *American Journal of Orthopsychiatry*, 59(2), 179-187. doi:10.1111/j.1939-0025.1989.tb01649.x
- Ploeg, J., Lohfeld, L., & Walsh, C. A. (2013). What is “elder abuse”? Voices from the margin: The views of underrepresented Canadian older adults. *Journal of Elder Abuse & Neglect*, 25(5), 396-424. doi:10.1080/08946566.2013.780956
- Pot, A. M., van Dyck, R., Jonker, C., & Deeg, D. J. H. (1996). Verbal and physical aggression against demented elderly by informal caregivers in the Netherlands. *Social Psychiatry and Psychiatric Epidemiology*, 31(3), 156-162. doi:10.1007/BF00785762
- Pratt, T. C., & Turanovic, J. J. (2016). Lifestyle and routine activity theories revisited: The importance of “risk” to the study of victimization. *Victims & Offenders*, 11(3), 335-354. doi:10.1080/15564886.2015.1057351
- Prevent Child Abuse America. (2017). Maltreatment of children with disabilities-Fact sheet. Retrieved from <http://preventchildabuse.org/resource/maltreatment-of-children-with-disabilities-2/>
- Prince William County Government. (n. d.). *How burglars use social media*. Retrieved from <http://www.pwcgov.org/government/dept/police/Pages/How-Burglars-Use-Social-Media.aspx>
- Ramsey-Klawnsnik, H. (2000). Elder-abuse offenders: A typology. *Generations*, 24(2), 17.
- Regan, M. (2016). *The interface between dementia and mental health: An evidence review*. London, England: Mental Health Foundation. Retrieved from file:///C:/Users/AYSPS/Downloads/Dementia%20paper.pdf
- Reisig, M. D., & Holtfreter, K. (2013). Shopping fraud victimization among the elderly. *Journal of Financial Crime*, 20(3), 324-337. doi:doi:10.1108/JFC-03-2013-0014
- Renzetti, C. M., & Maierm, S. L. (2002). "Private" crime in public housing: Violent victimization, fear of crime, and social isolation among women public housing residents. *Women's Health and Urban Life: An International and Interdisciplinary Journal*, 1(2), 46-65.
- Reyns, B. W. (2011). Online routines and identity theft victimization. *Journal of Research in Crime and Delinquency*, 50(2), 216-238. doi:10.1177/0022427811425539
- Roberts, B. W., Chernyshenko, O. S., Stark, S., & Goldberg, L. R. (2005). The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Personnel Psychology*, 58(1), 103-139.
- Rochat, L., Delbeuck, X., Billieux, J., d'Acremont, M., Van der Linden, A. C., & Van der Linden, M. (2008). Assessing impulsivity changes in Alzheimer disease. *Alzheimer Disease and Associated Disorders*, 22(3), 278-283. doi:10.1097/WAD.0b013e318166d692
- Rosen, A. L. (2014). Where mental health and elder abuse intersect. *Generations*, 38(3), 75-79.
- Roe, C. (2011). The security implications of ubiquitous social media. *International Journal of Management and Information Systems* 15(1), 35-40.
- Salgado, C. M., Azevedo, C., Proença, H., & Vieira, S. M. (2016). Missing data *Secondary Analysis of Electronic Health Records* (pp. 143-162). Cham: Springer International Publishing.

- Sampson, R. J. (1987). Personal violence by strangers: An extension and test of the opportunity model of predatory victimization. *Journal of Criminal Law and Criminology*, 78(2), 327-356.
- Sasse, S. (2005). "Motivation" and routine activities theory. *Deviant Behavior*, 26(6), 547-570. doi:10.1080/01639620500218260
- Sauer, J. (2014, March). Caught in the scammer's net: Risk factors that may lead to becoming an internet fraud victim, AARP survey of American adults age 18 and older. *AARP*. Retrieved from <https://www.aarp.org/research/topics/economics/info-2014/internet-fraud-victimization-attitudes-behavior-national.html>
- Schiemberg, L. B., & Gans, D. (2000). Elder abuse by adult children: An applied ecological framework for understanding contextual risk factors and the intergenerational character of quality of life. *The International Journal of Aging and Human Development*, 50(4), 329-359. doi:10.2190/dxax-8tj9-rg5k-mpu5
- Scheffer, J. (2002). Dealing with missing data. *Research Letters in the Informaiton and Mathmatical Sciences*, 3, 153-160.
- Schreck, C. J. (1999). Criminal victimization and low self-control: An extension and test of a general theory of crime. *Justice Quarterly*, 16(3), 633-654. doi:10.1080/07418829900094291
- Schreck, C. J., Stewart, E., & Fisher, B. (2006). Self-control, victimization, and their influence on risky lifestyles: A longitudinal analysis using panel data. *Journal of Quantitative Criminology*, 22(4), 319-340. doi:10.1007/s10940-006-9014-y
- Schuster, T. L., Kessler, R. C., & Aseltine, R. H. (1990). Supportive interactions, negative interactions, and depressed mood. *American journal of community psychology*, 18(3), 423-438.
- Scott, A., Ryan, A., James, I., & Mitchell, E. A. (2011). Perceptions and implications of violence from care home residents with dementia: a review and commentary. *International Journal of Older People Nursing*, 6(2), 110-122. doi:10.1111/j.1748-3743.2010.00226.x
- Seltzer, M. M., Greenberg, J. S., Krauss, M. W., & Hong, J. (1997). Predictors and outcomes of the end of co-resident caregiving in aging families of adults with mental retardation or mental illness. *Family Relations*, 46(1), 13-22. doi:10.2307/585602
- Silver, E. (2002). Mental disorder and violent victimization: The mediating role of involvement in conflicted social relationships. *Criminology*, 40(1), 191-212.
- Smith, A. (2014). *Older adults and technology use*. Retrieved from <http://www.pewinternet.org/2014/04/03/older-adults-and-technology-use/>
- Sobsey, D., & Nehring, W. (2006). Violence and disability. *Health promotion for persons with intellectual/developmental disabilities: The state of scientific evidence*, 205-234.
- Sonnega, A., Faul, J. D., Ofstedal, M. B., Langa, K. M., Phillips, J. W. R., & Weir, D. R. (2014). Cohort profile: the Health and Retirement Study (HRS). *International Journal of Epidemiology*, 43(2), 576-585. doi:10.1093/ije/dyu067
- Spano, R., & Nagy, S. (2005). Social guardianship and social isolation: An application and extension of lifestyle/routine activities theory to rural adolescents. *Rural Sociology*, 70(3), 414-437. doi:10.1526/0036011054831189
- Sparks, R. F. (1981). Multiple victimization: Evidence, theory, and future research. *The Journal of Criminal Law and Criminology*, 72(2), 762-778.

- Straka, S. M., & Montminy, L. (2006). Responding to the needs of older women experiencing domestic violence. *Violence Against Women*, 12(3), 251-267. doi:10.1177/1077801206286221
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. *Journal of Marriage and Family*, 41(1), 75-88. doi:10.2307/351733
- Svensson, R., & Pauwels, L. (2010). Is a risky lifestyle always “risky”? The interaction between individual propensity and lifestyle risk in adolescent offending: A test in two urban samples. *Crime & Delinquency*, 56(4), 608-626.
- Swartz, M. S., Swanson, J. W., Hiday, V. A., Borum, R., Wagner, H. R., & Burns, B. J. (1998). Violence and severe mental illness: The effects of substance abuse and nonadherence to medication. *American Journal of Psychiatry*, 155(2), 226-231. doi:10.1176/ajp.155.2.226
- Teaster, P. B., Nerenberg, L., & Stansbury, K. L. (2003). A national look at elder abuse multidisciplinary teams. *Journal of Elder Abuse & Neglect*, 15(3-4), 91-107. doi:10.1300/J084v15n03_06
- Teaster, P. B., Roberto, K. A., & Dugar, T. A. (2006). Intimate partner violence of rural aging women. *Family Relations*, 55(5), 636-648.
- Teplin, L. A., McClelland, G. M., Abram, K. M., & Weiner, D. A. (2005). Crime victimization in adults with severe mental illness: Comparison with the National Crime Victimization Survey. *Archives of general psychiatry*, 62(8), 911-921. doi:10.1001/archpsyc.62.8.911
- Testa, M., & Livingston, J. A. (2009). Alcohol Consumption and Women's Vulnerability to Sexual Victimization: Can Reducing Women's Drinking Prevent Rape? *Substance Use & Misuse*, 44(9-10), 1349-1376. doi:10.1080/10826080902961468
- Tjaden, P., & Thoennes, N. (2000). Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the National Violence Against Women Survey. *Violence Against Women*, 6(2), 142-161.
- Troxel, W. M., Matthews, K. A., Bromberger, J. T., & Sutton-Tyrrell, K. (2003). Chronic stress burden, discrimination, and subclinical carotid artery disease in African American and Caucasian women. *Health Psychology*, 22(3), 300.
- Tseloni, A., Wittebrood, K., Farrell, G., & Pease, K. (2004). Burglary victimization in England and Wales, the United States and the Netherlands: A cross-national comparative test of routine activities and lifestyle theories. *The British Journal of Criminology*, 44(1), 66-91. doi:10.1093/bjc/44.1.66
- Turanovic, J., Reisig, M., & Pratt, T. (2015). Risky lifestyles, low self-control, and violent victimization across gendered pathways to crime. *Journal of Quantitative Criminology*, 31(2), 183-206. doi:10.1007/s10940-014-9230-9
- Turner, R. J., & Lloyd, D. A. (1995). Lifetime traumas and mental health: The significance of cumulative adversity. *Journal of Health and Social Behavior*, 36(4), 360-376. doi:10.2307/2137325
- Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, 4(3), 236-255. doi:10.1111/j.1745-6924.2009.01122.x
- United States Department of Justice. (n. d.). *Communnity oriented policing series: Financial crimes against the elderly*. Retrieved from https://cops.usdoj.gov/html/cp_topics/Community-Policing-Topics.asp

- Welsh, A., & Lavoie, J. A. (2012). Risky eBusiness: An examination of risk-taking, online disclosiveness, and cyberstalking victimization. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 6(1).
- White, I. R., Royston, P., & Wood, A. M. (2011). Multiple imputation using chained equations: Issues and guidance for practice. *Statistics in Medicine*, 30(4), 377-399. doi:10.1002/sim.4067
- Wiglesworth, A., Mosqueda, L., Mulnard, R., Liao, S., Gibbs, L., & Fitzgerald, W. (2010). Screening for abuse and neglect of people with dementia. *Journal of the American Geriatrics Society*, 58(3), 493-500. doi:10.1111/j.1532-5415.2010.02737.x
- Williamson, G. M., & Shaffer, D. R. (2001). Relationship quality and potentially harmful behaviors by spousal caregivers: how we were then, how we are now. The Family Relationships in Late Life Project. *Psychology of Aging*, 16(2), 217-226.
- Windle, M. (1994). Substance use, risky behaviors, and victimization among a US national adolescent sample. *Addiction*, 89(2), 175-182. doi:10.1111/j.1360-0443.1994.tb00876.x
- World Health Organization. (n. d.) *Elder abuse alcohol fact sheet*. Retrieved from http://www.who.int/violence_injury_prevention/violence/world_report/factsheets/ft_elder.pdf?ua=1.
- Zeranski, L., & Halgin, R. P. (2011). Ethical issues in elder abuse reporting: A professional psychologist's guide. *Professional Psychology: Research and Practice*, 42(4), 294-300. doi:10.1037/a0023625
- Zink, T., Jacobson, C. J., Regan, S., Fisher, B., & Pabst, S. (2006). Older women's descriptions and understandings of their abusers. *Violence Against Women*, 12(9), 851-865. doi:10.1177/1077801206292680

VITA

Susannah Naomi Tapp is from Atlanta, Georgia. She attended Georgia State University for her BS and MS in Criminal Justice. She also attended Georgia State University for her PhD in Criminology and Criminal Justice. She graduated in May 2018. Her work has been published in journals including the Journal of Crime and Justice and Deviant Behavior. She plans to go into research on victimization of children and the elderly.