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Eldercide: A Gendered Examination of Elderly Homicide in the United States, 2000-2005

Jessie L. Krienert[1] and Jeffrey A. Walsh[1]

Abstract

Eldercide is an increasing category of homicide affecting members of one of society's most vulnerable populations. Despite attention from health officials, policy makers, researchers, the public, and the criminal justice system, there remains a dearth of knowledge about the phenomenon. Examination of extant empirical works reveals overreliance on small localized subsamples drawn frequently from medical examiner reports, underutilization of large national samples, brief temporal spans of data, and diffuse victim and offender profiles. This work, examining a large sample of reported incidents collected as part of the National Incident-Based Reporting System (NIBRS) for the period 2000-2005, addresses several limitations. This research examines victim, offender, and incident characteristics using chi-square tests and logistic regression to establish baseline findings and victim/offender profiles from a more comprehensive sample of data than prior studies have employed. Furthermore, the work examines the role of gender as a key to the dichotomy that exists in the literature between stranger-oriented eldercide and family violence–oriented eldercide. Results suggest notable gender differences with White males being the most frequent victims of eldercide, killed predominantly by offenders below the age of 45 compared to female victims who are most frequently killed by offenders above 45 years of age. Males are also more likely to be killed by a stranger compared to females who are most likely to be killed by a spouse or child. This work both corroborates and contrasts prior findings providing new insights and avenues for future study.

Keywords

eldercide, elder victimization, homicide, NIBRS

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Introduction

Although certainly not a new vein of research inquiry, the past decade has brought about increased interest and concern for the safety, security, and well-being of the elderly population in the United States—a population segment that is currently undergoing historically unprecedented growth. The size of the *older* population—those aged 55 and older—reached 67.1 million in 2005, growing at a rate of four times faster than the population below age 55, and the *elderly* population—those aged 65 and older—reached 35 million in 2000 (U.S. Census Bureau, 2005) with continuing increases underway as the baby boomers age through the life course (Krienert, Walsh & Turner, 2009).

Despite elder care and safety being an area of concern with 5% of the elderly population being mistreated, a review of the extant literature reveals that much less is known about the subcategory of elder maltreatment known as *eldercide*—the homicide of an elderly person (Chu & Kraus, 2004). Research by Falzon and Davis (1998) notes that the rate of homicide in individuals 65 years of age and older has been increasing since the 1960s. Chu and Kraus (2004) as well as Fox and Levin (1991) have noted that there are approximately 1,000 official reports of homicide of persons aged 65 or older in the United States each year. In 2006, homicides of those aged 60 and older made up 5.9% of all reported incidents (Federal Bureau of Investigation [FBI], 2007).

The elderly have long been regarded as respected members of society to be held in high regard by all and treated accordingly (Weaver, Martin, & Petee, 2004). This deference to their status has led people to erroneously assume that their age alone protects them from harm and, certainly, harm inflicted by those they know. Interestingly, this cultural orientation is similar to that experienced during the early discovery of child abuse and the battered child syndrome when the medical community was for decades resistant to the idea that parents/guardians could actually be inflicting harm on the children in their care (Lynch, 1985). This orientation toward eldercide is shifting due in part to changing lifestyle circumstances. More specifically, as care needs of the elderly increasingly affect their living arrangements, greater awareness of domestic violence toward the elderly at the hands of their caregivers and spouses has emerged. Additional inquiry into victim–offender relationships and gender dynamics might illuminate changing lifestyle and living arrangements that place elders at greater risk of victimization than previously thought.

Much of the prior research tends to focus on the scope of eldercide in relationship to other types of homicide (the comparative prevalence of the crime) or eldercide as a consequence of other crimes committed against elderly victims (e.g., robbery, burglary, rape), most frequently by a perpetrator that is considered a stranger to the victim. Fewer studies have examined the intricacies of the offense emphasizing offenders, victims, and incident characteristics. Even fewer yet have examined the role of gender as a salient factor in both victim and offender profiles. The limited scope of inquiry thus far is due in part to the lack of available data on the topic and the known fact that

both official reports data and victimization surveys reveal that the elderly are significantly less likely to be victimized compared to younger age cohorts (Bachman, Lachs, & Meloy, 2004, p. 1) rendering the offense lower priority. It is important to note at the outset though that although eldercide rates are undeniably lower, research suggests that they are likely to be gross underestimates. Collins and Presnell (2006) note that chronic illness among the elderly and frequent institutionalization result in doctors signing death certificates without adequate investigations. They further note an inverse relationship between autopsies and the age of the deceased with fewer than 1% of nursing home deaths autopsied.

The relatively limited number of nationwide offenses and a lack of comprehensive aggregate data have made the topic difficult to study with many researchers relying on small homogenous samples (see Collins & Presnell, 2006; Shields, Hunsaker, & Hunsaker, 2004); aggregate samples drawing on localized geographic regions (see Ahmed & Menzies, 2002; Chu & Kraus, 2004; Nelsen & Huff-Corzine, 1998) or larger scale studies using older data (see Fox & Levin, 1991; Weaver et al., 2004). Collins and Presnell (2006) recently noted that "[t]he research and literature of elder homicide are lacking, . . . the typical victim, perpetrator, scenario, and cause of death are not known" (p. 183). As well, Weaver et al. (2004) note that despite a rich body of literature on the fear of crime among the elderly, "actual violence against older persons remains poorly understood" (p. 3).

The extant literature reveals an evident dichotomy in the eldercide research. On the one hand, eldercide is viewed as a crime of violence linked to robbery and burglary, with resulting policy focusing on safety tips for elders in the community (Copeland, 1986; Weaver et al., 2004). The corresponding literature focuses on increased opportunities for victimization due to the increasing number of elderly in society, highlighting their vulnerability for attack and the increased degree of injury sustained (including death) from even minor incidents (Chu & Kraus, 2004; Collins & Presnell, 2006). This orientation in the literature tends to emphasize stranger danger with associated policies and recommended practices intended to advance self-protection by reducing ones exposure to unknown offenders. On the other hand, a smaller, more recent, and expanding vein of research has noted the increased incidence of intrafamilial homicide among the elderly, contrasting some of the prevailing policy-oriented stranger danger prevention and protective strategies provided by much of the earlier works (Fazel, Bond, Gulati, & O'Donnell, 2007) which sought to target crimes of opportunity such as robbery and burglary.

In addition to identifying typical victim and offender profiles, the present work seeks to examine whether gender is a distinguishing characteristic and the key to the existing dichotomy between stranger-oriented and family-oriented forms of elder violence resulting in homicide. In other words, does there appear to be a gender effect which might suggest which type of eldercide incident has occurred (i.e., those committed by strangers versus those committed primarily by family). Gender may be the linkage variable between the two different types of eldercide evident in the extant literature. Gendered offender and victim profiles provide the potential to create proactive policy initiatives and safer living strategies for this growing yet vulnerable population.

The need for additional empirical study of eldercide is evident with the advent of a burgeoning elder population and an understanding that at present there is much to be learned about this complex violent crime which targets members of one of our most physically vulnerable populations. At present, there is a limited understanding of victim, offender, and incident characteristics in eldercide events. Furthermore, an aggregate gender-based examination could assist in modeling victimization risk and offender likelihood creating greater opportunity for prevention and intervention. This work seeks to address several of the shortcomings evident in the extant literature and provide new knowledge by (a) drawing on *official* incidents recorded over 6 years (2000-2005) as part of the National Incident-Based Reporting System (NIBRS), a data source that is presently underutilized in prior studies of eldercide yet offers a contemporary portrait of eldercide in the United States; (b) using NIBRS data to examine the interconnectedness of the victims, offenders, and various incident characteristics of eldercide, a vein of eldercide research that is currently and notably underexplored in the literature (see Collins & Presnell, 2006); (c) using NIBRS data to develop much-needed baseline profiles taking into account available victim, offender, and incident characteristics to dispel incongruent findings from past research which drew on smaller, more localized, and temporally brief samples; and finally, (d) conducting a gendered comparison of eldercide in an effort to move the study of eldercide toward integrated policy addressing two divergent victim–offender populations—strangers and family/acquaintances.

It is important to note at this point that NIBRS, although a powerful data source, is not entirely representative of the United States and has historically underestimated crime in urban areas, and as a result only a fraction of all homicides are reported to NIBRS (Addington, 2006). That said, currently there are approximately 5,300 police agencies reporting data to NIBRS from 25 states in the United States, and since 2002 much larger urban jurisdictions have been reporting crime (Regoeczi, Jarvis, & Riedel, 2008). Furthermore, "the variation in both police practice and the nature and scope of homicidal behavior in these data are likely to be superior to any other available source of data" (Regoeczi et al., 2008, p. 150). Comparative research too has shown consistency between NIBRS and other nation-level data sources.

A Review of the Eldercide Literature

Scope of the Problem

Early examinations of eldercide, although scant, have focused on the differences between elderly and nonelderly homicide victimizations, trying to isolate the prevalence of eldercide in the larger homicide sample. Copeland (1986) found that of homicide cases reported to the Dade County, Florida Medical Examiner from 1979 through 1983, more than 5% were eldercide cases, making eldercide a more common occurrence than even child homicide which has characteristically garnered significant

public attention. Koehler, Abdulrezak, and Omalu (2006) similarly report that 5.6% of their 10-year Pennsylvania Medical Examiner records study was composed of elderly victims—those individuals 65 years of age and older. Furthermore, Falzon and Davis (1998), examining Jefferson County, Alabama Medical Examiner records, found that approximately 6.8% ($n = 150$) of all homicides over a 15-year period (1981-1995; $N = 2,212$) involved elder victims. A more recent study by Chu and Kraus (2004) reviewing NIBRS data from 1995 to 1999, found that elderly victims of homicide accounted for 7.3% of all homicide victims. A study by Nelsen and Huff-Corzine (1998) examining Chicago homicide data found that eldercides accounted for 4.7% of all Chicago homicides during the years examined. As evidenced by a review of prior literature, eldercide does not account for a particularly large portion of homicides. However, the incidents of eldercide have been increasing over time and can logically be expected to continue given the increasing size of the elder population and subsequently increasing victim pool.

Eldercide Victims

Although little is known about the victims of eldercide, inquiry provides a contradictory and conflicting profile with regard to common victim demographic characteristics. In general, the literature suggests that incidents of eldercide decrease with age. Collins and Presnell (2006) report fewer than 10% ($n = 12$) of elder victims to be above the age of 85. This finding might also simply reflect the relatively small proportion of elderly in that age category. Copeland (1986) reported similar findings with 90% of his elder sample ($N = 129$) between age 65 and 85. The literature also provides slightly mixed alternating results as to the predominant gender of eldercide victims. In a 10-year Pennsylvania medical examiner case sample ($N = 49$), a fairly even split between male (49%) and female (51%) victims was reported with slightly more females than males (Koehler et al., 2006). Abrams, Leon, Tardiff, Marzuk, and Sutherland (2007) found that male victims outnumbered female victims in their 10-year medical examiner record study in Pennsylvania, with males comprising 57% ($n = 229$) of their 65 and older sample. Also, Shields et al. (2004) in their 10-year Kentucky/Indiana Medical Examiner case file analysis, found 61.5% ($n = 32$) of their victims were male. Falzon & Davis (1998) in their 15-year retrospective study of medical examiner records in Jefferson County, Alabama found that among the 65 and older age group, males outnumbered females by a ratio of 3:2. Similarly, Chu and Kraus (2004) studying NIBRS data (1995-1999) found male eldercide victims outnumbered female victims 68% to 32% comparatively. In sum, extant literature reveals decreasing eldercide incidents with increasing victim age and considerable variability in the gender of the victim across studies ranging from a nearly even split to male victims moderately and then dramatically outnumbering female victims.

As many eldercide studies consist of homogenous populations, racial differences are difficult to identify in extant literature. Fazel et al. (2007), in their sample of 433

cases of Chicago homicide data with a victim 60 years and older, found that Black victims ($n = 340$; 77%) were more prevalent than White victims ($n = 81$; 18.3%). Fox and Levin (1991) note that Black offenders were disproportionately represented in their Supplemental Homicide Reports (SHRs), 1976-1985, sample making up 46% ($N = 7{,}629$) of all cases. Chu and Kraus (2004) reported the majority (74%) of their 371 cases were composed of White victims. Similarly, Koehler et al. (2006) note the majority (72%) of their 49 victim sample were White. Importantly, Fox and Levin (1991) point out that racial differences in eldercide may be driven primarily by life expectancy with Whites living longer than most minority populations, a phenomenon which continues to be well documented for both males and females in the United States (see Arias, 2006; Williams, 1999).

An interesting dichotomy exists when exploring victim–offender relationships in eldercide cases. Recent research has highlighted spousal homicide as an emerging trend. In their examination of 443 homicide perpetrators above the age of 60, Fazel et al. (2007) found a higher concentration of spousal homicide in their elderly victims. Similarly, higher rates of intimate partner homicides were also noted by Burgess, Burgess, Koehler, Joseph, and Wecht (2005) who reported 19 spousal female homicides in the elderly portion of their 15-year Pennsylvania Coroners report sample ($n = 53$) compared to only 5 in their below-age-60 sample. Other investigations, however, contradict this pattern, focusing on elder vulnerability through frailty and social isolation as causal factors for both crime and resulting degree of violence and serious injury (Falzon & Davis, 1998). For example, Fox and Levin (1991) compared elderly homicide victims to younger victims using SHR data from 1976 to 1985 and discovered a greater risk for victimization of homicide during the commission of a felony, noting robbery and burglary as top categories. They found that the elderly were more likely than younger victims to be killed by a stranger, with stranger deaths making up 34% of their sample. They also noted that elders were less likely to be killed by friends or acquaintances due to decreasing relationships with others in elder age categories. Similarly, Collins and Presnell (2006) too found that strangers (29%) were the most likely offenders followed by acquaintances (28%) and relatives (23%). Alternately, Chu and Kraus (2004) in their 5-year study of 5,073 (371 homicides and 4,702 assaults) elderly victims found that offenders outside the family but known to the victim (42.7%) were the most frequent perpetrators of homicide followed by offenders within the family (33.6%), and finally strangers (23.7%) were the least likely perpetrator of elder homicides. In sum, extant works reveal inconsistent findings with regard to victim gender, race, and relationship to offender.

Eldercide Offenders

At present, little is known about elder homicide offenders resulting in a very limited discussion in the extant literature. Most elder homicide victimization studies focus solely on the victim, using medical examiner case records to discuss morbidity (Abrams

et al., 2007; Koehler et al., 2006; Kratcoski & Walker, 1988). Existing research, both localized and national in scope, consistently reports that the majority of eldercide offenders are males. For example, Collins and Presnell (2006) found 86% of their 127-case medical sample offenders were male. Using NCVS data, Klaus (2005) found 79% of her sample included male offenders. Similarly, Fox and Levin (1991) reported 87% of their SHR sample were male offenders with the largest portion in the 18-34-year-old age category. Similar to victimization records, the racial composition of offenders is familiar due in large part to homicide being a primarily intraracial crime. Fazel et al. (2007) found that the majority of perpetrators were Black (76.7%) followed by White (18.3%), Latino (4.3%), and Other (0.7%). Fox and Levin (1991), however, found that the majority of offenders were White (53.1%) followed by Black (45.5%) and Other (1.4%). The contradictions in the racial data may be the result of smaller localized samples and may be affected by the intraracial nature of the offense and the longevity of Whites compared to minorities as discussed above in the victim section. In sum, the gender of the offender seems quite decidedly male, although, similar to the victimization information, the predominant age range and race of the offender are less certain across the extant literature.

Eldercide Incidents

Location. Place of residence is the most common location for eldercide. In an examination of 127 eldercide cases referred to the forensic department at the Medical University of South Carolina covering a 20-year span, Collins and Presnell (2006) found that the majority (83%) of all eldercides occurred at the victims place of residence. Similarly, Falzon and Davis (1998) note victim residence as the primary location in 71% ($N = 150$) of their cases; Abrams et al. (2007) find it is predominant in 66.3% ($N = 265$) of cases. Nelsen and Huff-Corzine (1998) found that nearly 56% of their sample of elderly homicides occurred within the victim's home.

Weapon. Guns tend to be the most common implement of death. Blunt force trauma and stabbing are a close second in most examinations; however, there is no defining pattern. Collins and Presnell (2006) note 31% of homicides in their examination contained a gun, followed by 28% blunt force trauma, 22% stabbing, and 13% asphyxia. Falzon and Davis (1998) report half of their 150 cases were the result of gunshot wound, compared to 10% blunt force injury and 14% knife wound. Shields et al. (2004) list gunshot as the cause of death in 22 (42.3%) of their cases with beating a close second (19; 36.5%). Fox and Levin (1991) reported 40% of their elder SHR sample contained handguns. Contradicting much of this literature, Koehler et al. (2006) reported blunt force trauma as the leading cause of death ($n = 19$) in their 49-case sample, with gunshot following second with 13 cases. An additional dissent was found in Abrams et al. (2007) who reported personal weapons (beating) as the leading cause of death (25.5%) followed by firearms (23%) and cutting (21.5%). Nelsen and Huff-Corzine (1998) too found that the elderly were

more likely than their younger counterparts to be killed by a personal weapon or blunt object.

Alcohol. Far fewer examinations focus on alcohol use. However, Copeland (1986) found that nearly half of his victim sample (44%, $n = 129$) had a positive blood alcohol content at autopsy. Kratcoski and Walker (1988), examining nonjustifiable homicide cases in Cuyahoga County, Ohio, 1970-1983, found that whereas the majority ($n = 682$) of elder victims tested negative for alcohol, 630 victims tested positive for having consumed at least some alcohol with 410 of those victims having a blood alcohol content that rendered them legally intoxicated.

Method

The present work is a secondary analysis of 6 years (2000-2005) of national level eldercide data derived from the NIBRS. The current study examines gender differences in eldercide drawing on victim, offender, and incident characteristics to form a more comprehensive description of a previously understudied criminal event. Furthermore, given the scope and scale of the data used, this work provides a gendered profile of both victims and offenders not present in prior works and offers a broader insight into the available incident characteristics than previous research. Gender is also examined as a potential explanatory factor distinguishing between offenses committed by strangers and those by family members. Past studies focus largely on medical examiner data localized to a specific state or region; national victim samples have been virtually left out of extant literature. Far more common are examinations of elderly *offenders* in relationship to general homicide. To address limitations and shortcomings in past literature, this study begins with a gendered comparison of eldercide to assess differences in elder homicide across both demographic and incident-based characteristics. Following initial victim–offender comparisons, we assess the nature of eldercide using logistic regression to examine sex differences while holding all other predictors stable.

Data Source and Selection

Data for the present work were extracted from the NIBRS developed by the FBI. The data represent reported cases for the period 2000-2005 and includes incident-level information for each crime reported to the FBI by counties in participating NIBRS states.[1] Although reporting has substantially increased since inception, NIBRS does not currently provide a representative sample of states or agencies in the United States (Addington, 2008). In fact, only a fraction of homicides are captured through NIBRS reporting. Overrepresentation of smaller and more rural jurisdictions has been a common criticism in the past; however, more recent years include several large jurisdictions including Austin, Texas; Nashville, Tennessee; and Cincinnati, Ohio. Regoeczi et al. (2008) state, “the variation in both police practice and the nature and

scope of homicidal behavior in this data are likely to be superior to any other sources of available data" (p. 150). In addition, although not without criticism, NIBRS has shown consistent similarity to other national homicide data sets, most notably the SHRs (Regoeczi et al., 2008). The amount of data used here—6 years—and the level of detail, provide a distinct advantage in analyzing groups of offenders, victims, and event characteristics for crimes that are infrequent occurrences. No other research effort known to these authors includes such a large, official, and representative eldercide sample.

The structure of NIBRS data allows the researcher to choose from one of several units of analysis including offender, victim, and event. For the present study, victim was chosen as the level or unit of analysis. Defining *elderly* as 60 and above has become fairly standard in elder research in recent years (Fazel & Jacoby, 2002), thus all homicide victims aged 60 and older reported in 2000-2005 NIBRS data were selected for inclusion in the current data file for further analysis. To maintain statistical assumptions of independence, data were further limited to cases where there was a single offender for each victim (Bachman, Dillaway, & Lachs, 1998; Goetting, 1992; Regoeczi et al., 2008).

Participants

For the period 2000-2005, there were 828 cases of eldercide reported to law enforcement with a 1:1 victim–offender relationship in NIBRS reporting jurisdictions. This is more than twice the sample size (n = 371) of that used by Chu and Kraus (2004) in their NIBRS-based study of eldercide covering the preceding 5-year span, 1995-1999. Descriptive statistics were used to assess offender, victim, and incident-level eldercide characteristics. In addition, when available, comparison data pulled from the SHRs for the same 6-year time span is used to highlight similarity and consistency across NIBRS and SHR data.

Victim characteristics. Males accounted for 476 (57.5%) of all eldercide victims, compared to 351 (42.4%) of female eldercide deaths. Contrary to some of the extant research (see Fazel et al., 2007), the sample consisted of primarily White victims (n = 614; 76%) with the largest portion of victims falling in the 60-69-year-old age category (n = 382; 46%) with a mean age of 72 years. Victims typically knew their offenders, with the largest portion, 177 or 32%, of eldercide victims murdered by an acquaintance. Spouses made up the next largest category of offenders at 27% (151), followed by child (97; 17.3%), stranger (71; 12.7%), and other family member (65; 11.6%).

Offender characteristics. Descriptive statistics were used to assess demographic and offense characteristics for male and female offenders. Table 1 reveals that males accounted for 553 eldercide offenders or 84% and females accounted for 109 offenders or 17% of eldercide offenders in the NIBRS data, 2000-2005. The largest portion of offenders were in the 45-and-older age group (n = 300; 47%) with the mean age of

Table 1. Eldercide Offender and Victim Demographics, With Included Comparison of NIBRS and SHR

	NIBRS (*N* = 828)		SHR (*N* = 5,267)	
	Number	Percentage	Number	Percentage
Offender age				
25 and below	112	17.4	907	23.7
26-44	232	36.0	1,466	38.3
45+	300	46.6	1,453	38.0
Offender race				
White	462	69.9	2,591	65.9
Black	194	29.3	1,230	31.3
Other	5	0.8	111	2.8
Offender sex				
Male	553	83.5	3,371	84.9
Female	109	16.5	600	15.1
Victim age				
60-69	382	46.1	2,565	48.7
70-79	272	32.9	1,715	32.6
80+	174	21.0	987	18.7
Victim race				
White	614	75.6	3,770	72.5
Black	190	23.4	1,265	24.3
Other	8	1.0	164	3.2
Victim sex				
Male	476	57.6	3,165	60.1
Female	351	42.4	2,100	39.9
Relationship				
Child	97	17.3	575	16.0
Spouse	151	26.9	706	19.7
Other family	65	11.6	387	10.8
Acquaintance	177	31.6	1,202	33.5
Stranger	71	12.7	717	20.0

offender being 46 years. Similar to the predominant racial composition of victims in the study and aligned with the intraracial findings on the act of homicide, most offenders were White ($n = 462$; 70%). As a verification of basic sample demographics, an included SHR comparison indicates similar trends. Slight differences can be noted with a younger offender sample and a mild increase in cases involving strangers in the SHR data.

Incident characteristics. As indicated in Table 2, most eldercide incidents occurred in the victim's residence (637, 76.9%), a finding aligned with much of the prior research. Guns were the weapon of choice in 41% of all incidents ($n = 340$), followed by knives (156; 19%), blunt objects (88; 11%) and personal weapons (76; 9%). The presence of alcohol (41; 5%) or drugs (17; 2%) was rarely reported in eldercide occurrences.

Table 2. Eldercide Incident Characteristics, *N* = 828

	Number	Percentage
Location		
Residence	637	76.9
Other	191	23.1
Gun present		
No	488	58.9
Yes	340	41.1
Personal weapons		
No	752	90.8
Yes	76	9.2
Knife		
No	672	81.2
Yes	156	18.8
Blunt object		
No	740	89.4
Yes	88	10.6
Alcohol		
No	787	95.0
Yes	41	5.0
Drugs		
No	811	97.9
Yes	17	2.1

Analysis Plan

The first step of the analysis involves a descriptive analysis used to identify and measure the prevalence of several offender, victim, and incident characteristics in eldercide incidents as profiled in Tables 1 and 2. In the second step of the analysis, in the interest of parsimony, chi-square tests, illustrated in Tables 3 and 5, are employed to explore whether a significant relationship exists between categorical variables—victim gender and several offender, victim, and incident characteristics. In addition, a comparison between NIBRS and SHR is included in Table 4 to highlight similar and consistent trends across data sets over comparable periods of time.

The last sequence of the analysis, found in Table 6, includes binomial logistic regression to predict eldercide differences by sex of the victim with offender demographics and incident characteristics functioning as predictors in the model. Logistic regression relies on maximum likelihood estimates and employs an iterative process of estimating the population parameters that created the dependent variable. In other words, "this simply means that we can predict which of two categories a person is likely to belong to given certain other information . . . [for example] which variables predict whether a person is male or female" (Field, 2005, p. 218). The logistic regression employs a dichotomous dependent variable—gender (1 = *female*). The analysis predicts whether the eldercide victim is male or female based on other victim, offender, and incident characteristics including race, age, type of weapon, alcohol or drug use, relationship, and event location.

Table 3. Offender and Victim Demographics by Victim Gender, $N = 828$

	Male ($n = 476$)		Female ($n = 351$)	
	Number	Percentage	Number	Percentage
Offender age**				
25 and below	80	22.5	32	11.1
26-44	144	40.6	87	30.2
45+	131	36.9	169	58.7
Offender race*				
White	239	65.5	222	75.3
Black	13	33.7	71	24.1
Other	3	0.8	2	0.7
Offender sex**				
Male	284	77.6	268	90.8
Female	82	22.4	27	9.2
Victim age**				
60-69	248	52.1	134	38.2
70-79	146	30.7	126	35.9
80+	82	17.2	91	25.9
Victim race*				
White	333	71.6	281	81.0
Black	126	27.1	64	18.4
Other	6	1.3	2	0.6
Relationship**				
Child	48	16.2	49	18.5
Spouse	41	13.9	110	41.5
Other family	38	12.8	27	10.2
Acquaintance	125	42.2	52	19.6
Stranger	44	14.9	27	10.2

*$p \leq .05$. **$p \leq .001$.

Again employing the principle of parsimony, gender is perfectly acceptable as the dependent variable given the interest in developing gender-based profiles at the multivariate level. At present, there is little empirical information available examining gender differences in victims and offenders, although this information could be advantageous to policy, prevention, and intervention. (For additional examples of gender as a dependent variable, see Darves-Bornoz, Choquet, Ledoux, Gasquet, & Manfredi, 1998; Rumpf, Hapke, Meyer, & John, 2002; Tang et al., 2007; Thursby & Thursby, 2005.)

Results

Eldercide Offender/Victim Characteristics

From 2000 to 2005, there were 828 reported eldercides in NIBRS data. Significant sex differences were identified across victim and offender demographics. As indicated in

Table 4. Offender and Victim Demographics by Victim Gender, SHR Comparison, $N = 5,267$

	Male ($n = 3,165$)		Female ($n = 2,100$)	
	Number	Percentage	Number	Percentage
Offender age**				
25 and below	599	27.9	308	18.3
26-44	936	43.7	529	31.5
45+	609	28.4	844	50.2
Offender race**				
White	1,362	61.1	1,228	72.2
Black	804	36.1	426	25.0
Other	63	2.8	48	2.8
Offender sex**				
Male	1,852	81.9	1,518	88.8
Female	408	18.1	192	11.2
Victim age**				
60-69	1,726	54.5	839	40.0
70-79	986	31.2	729	34.7
80+	453	14.3	532	25.3
Victim race**				
White	2,147	68.9	1,623	78.0
Black	874	28.0	391	18.8
Other	24	0.8	11	0.5
Relationship**				
Child	270	13.7	305	18.9
Spouse	184	9.3	522	32.4
Other family	175	8.9	212	13.2
Acquaintance	848	42.9	354	22.0
Stranger	498	25.2	219	13.6

**$p \leq .001$.

Table 3, males ($n = 476$) were more frequently victims of eldercide than females ($n = 351$). Although both men and women were more likely to be killed by male offenders, males were more likely than females to be killed by female offenders, 22% of male homicides involved a female offender compared to 9% of female homicides, $\chi^2(1, n = 661) = 20.83$, $p = .000$. Significant chi-square results reveal that male victims are more frequently killed by offenders below the age of 45 (63.1%) compared to females who more frequently die at the hand of offenders above the age of 45 (58.7%), $\chi^2(2, n = 643) = 32.83$, $p = .000$. Furthermore, significant chi-square results indicate that female eldercide victims are older than male victims, with females in the 80+ age category ($n = 91$; 25.9%) more likely to be murdered than their male counterparts ($n = 82$; 17.2%), $\chi^2(2, n = 827) = 17.47$, $p = .000$. Significant results also suggest that male victims are more likely to be killed by a stranger (14.9%) or acquaintance (42.2%) than female eldercide victims, with females significantly more likely to be killed by their child (18.5%), or spouse (41.5%), than male victims, $\chi^2(4, n = 561) = 66.07$, $p = .000$.

Table 5. Offense Characteristics by Victim Gender, $N = 828$

	Male ($n = 476$)		Female ($n = 351$)	
	Number	Percentage	Number	Percentage
Location**				
Residence	339	71.2	298	84.9
Other	137	28.8	53	15.1
Gun present				
No	277	58.2	210	59.8
Yes	199	41.8	141	40.2
Personal weapons				
No	433	91.0	318	90.6
Yes	43	9.0	33	9.4
Knife				
No	385	80.9	286	81.5
Yes	91	19.1	65	18.5
Blunt object				
No	422	88.7	317	90.3
Yes	54	11.3	34	9.7
Alcohol*				
No	443	93.1	343	97.7
Yes	33	6.9	8	2.3
Drugs				
No	468	98.3	342	97.4
Yes	8	1.7	9	2.6

*$p \leq .05$. **$p \leq .001$.

Table 6. Aggregate Logistic Regression Results by Gender, 2000-2005 ($N = 828$)

	B	SEB	Wald χ^2	*P*	Exp (*B*)
Victim age*	−0.029	.012	5.616	.018	0.972
Victim Black*	0.738	.404	3.338	.068	2.091
Offender female**	−1.499	.287	27.245	.000	0.223
Offender age	−0.031	.006	25.932	.000	0.970
Offender Black	−0.368	.375	0.962	.327	0.692
Offender family**	−1.254	.234	28.793	.000	0.285
Offender stranger	−0.631	.359	3.082	.079	0.532
Alcohol use*	0.982	.457	4.611	.032	2.670
Drug use	−0.488	.607	0.645	.422	0.614
Residence	−0.405	.274	2.173	.140	0.667
Gun*	0.734	.285	6.630	.010	2.083
Knife	0.289	.315	0.846	.358	1.336
Blunt object	0.653	.360	3.282	.070	1.921
Personal weapon	0.594	.377	2.489	.115	1.812

The dependent variable, gender, is coded male = 0, female = 1
*$p \leq .05$. **$p \leq .001$.

Table 3 reveals that eldercide, regardless of victim gender, is most frequently committed by White offenders when compared to Black and Other races. However, significant chi-square differences suggest that female victims (75.3%) are more frequently killed by White offenders than their male counterparts (65.5%) and conversely, male victims (33.7%) are more frequently killed by Black offenders than their female counterparts (24.1%), $\chi^2(2, n = 660) = 7.42, p = .024$. Similar differences exist between victim gender and victim race. Although the vast majority of male ($n = 333$; 71.6%) and female ($n = 281$; 81.0%) victims are White, significantly more Black victims were male ($n = 126$; 27.1%) than female ($n = 64$; 18.4%), $\chi^2(2, n = 812) = 9.69, p = .008$.

Offering an additional data check, Table 4 provides a gendered SHR/NIBRS comparison over the same period using victim and offender demographics. Identical gendered trends can be noted in each category. In fact, the only difference noted between the two is an increased racial significance level found in the SHR data.

Eldercide Incident Characteristics

Eldercide incidents varied significantly by gender with regard to the location of the offense. Chi-square tests in Table 5 reveal that female elders (84.9%) are significantly more likely to be killed in their residence than male elders (71.2%), $\chi^2(1, n = 827) = 21.37, p = .000$. Guns (male: 42%; female: 40%) were the weapon used most frequently against eldercide victims of both genders, followed by knives (male: 19%; female: 19%), blunt objects (male: 11%; female: 10%), and personal weapons (male: 9%; female: 9%); however, no significant gender differences were present. Alcohol was significantly more prevalent in eldercide incidents with male victims (6.9%) than female victims (2.3%), $\chi^2(1, n = 827) = 9.29, p = .002$, with no significant gender differences for drug usage.

In sum, the typical eldercide incident involves a White male victim, typically younger than their female counterparts, with a White male offender below the age of 45 who kills using a firearm. When the victim is male, the offender is most frequently an acquaintance or stranger compared to incidents with a female victim where the offender is most frequently a spouse or child of the victim. Female victims are more frequently killed in their place of residence compared to their male counterparts, and alcohol is more likely to be present in incidents involving male victims.

Victim Sex: Predictive Model

Logistic regression was employed to predict the probability that an eldercide victim was female with victim sex (coded 0 = *female* and 1 = *male*) serving as the dependent variable in the model and each predictor or independent variable, with the exception of age, coded as 0 (*no*) and 1 (*yes*). Logistic regression results generally support the bivariate analysis yielding many significant findings. As shown in Table 6, female eldercide victims are significantly older and more likely to be White than male victims. Additional sex differences are present in the victim–offender relationship category.

Females are significantly more likely to be killed by a family member than are male homicide victims.

Similar to bivariate findings, eldercides involving male victims are significantly more likely to have alcohol present. Male eldercide victims are also more likely than female victims to be killed by a female offender. Additional differences, not noted in bivariate analysis, include the type of weapon used in the commission of the homicide. Male eldercide victims are significantly more likely to be killed with a firearm than are female victims.

Discussion

The present work examines the crime of eldercide. The elder population in the United States is growing at an unprecedented pace, and, consequently, the elderly are increasingly the targets of crime and victimization. Extant works examining eldercide have been frequently limited by relatively small sample sizes, homogenous local or regional sampling frames, and relatively brief temporal spans. Furthermore, gender-based profiles of victims and offenders, employing national level aggregate data, have been neglected in the contemporary work on eldercide due in large part to data availability. Here, we have drawn on NIBRS data from 2000 to 2005 to gather 828 eldercide incidents, a more geographically (includes 27 states and the District of Columbia) and temporally (6 years of data) representative sample than what is frequently found in the literature. In addition, an included comparison to SHR data from the same time frame has been provided to show consistency and reliability in patterns and trends found in the NIBRS data. Offenders, victims, and incident characteristics are examined in an effort to establish victim and offender profiles and baseline data for understanding this violent crime which targets one of our most physically vulnerable populations. As the large "babyboomer" birth cohort advances through the life course, it is becoming increasingly important to stay responsive to the well-being of the elder population.

An important takeaway message of the present study is that the prevailing understanding and assumptions regarding elder victimization and offending characteristics and patterns need further examination and updating. A frequent undertone in the extant literature is the reliance on explanations of social isolation and limited physical and geographic mobility as insulating factors against elder victimization. However, in light of several of the findings of this research—some confirming prior studies—and a reexamination of the elder lifestyle and elder care, these prevailing explanations seem somewhat overstated today. For example, social isolation and limited mobility may actually serve as facilitators of victimization working to the offender's advantage against the eldercide victim, especially given that, as the results here suggest, the offender is often a spouse, child, other family member, caregiver, or acquaintance. In other words, the isolated elder lifestyle may not provide the safe zone and subsequent insulation from victimization once thought when the source of harm was presumed to originate from strangers. Instead, the elderly become more easily accessible to those most likely to harm and/or kill them—those they know.

In addition, although there are similarities across gender, it is worth noting that the nexus of offender, victim, and incident characteristics of eldercide do differ for males and females. Both male and female victims experience eldercide differentially with males being more likely to be victims of eldercide, more likely to be victimized by an individual below the age of 45, more likely to be younger than female victims, more likely to be killed by a stranger or acquaintance, more likely to be killed in a location other than their place of residence, and more likely to be involved in an incident where alcohol is present.

Although the methodology of the present work has addressed several of the noted shortcomings of past studies and the findings offer promise of new understanding and opportunities for future research in the area of eldercide, there are several shortcomings that warrant mention. The intricacies of location of homicide event need to be explored in more depth as those residing in nursing homes are not separated out of the NIBRS residence category. We speculate that there are likely to be different victim and/or offender demographic characteristics and incident patterns depending on whether the homicides occur in a residential facility (i.e., nursing home or assisting living facility) compared to a personal residence. Also, although alcohol use was a significant predictor, it is likely underestimated as NIBRS data are based on police records. There is also a lack of information on the role alcohol played in the offense, only whether it was present. This is important given the precarious role alcohol has in incidents of crime and violence serving as an escalator on the part of both the victim (precipitation) and the offender and as an incapacitator on the part of the victim.

Finally, despite the national representation of NIBRS data, it is still incomplete and most certainly an underestimation of the true number of eldercides committed annually in the population. Although currently NIBRS represents 20% of the U.S. population, it is possible that the inclusion of additional jurisdictions, especially large urban jurisdictions, could alter existing findings (Regoeczi et al., 2008, p. 150). However, nearly identical SHR offender and victim profiles tempers that concern. Further exacerbating the issue of underrepresentation are limitations in the investigation of elder deaths as homicides. For example, research by Collins and Presnell (2006) notes,

> Due to frequent chronic and serious illnesses in this population physicians are often willing to sign death certificates without an investigation. In fact, the autopsy rates decrease with increasing age, and less than 1% of nursing home deaths are autopsied. As a result unnatural deaths in nursing homes are underreported. (p. 183)

Furthermore, although NIBRS data provide the baseline data necessary to form a sound framework for future study, there is a need for large-scale examination of contextual factors not available in the data. Findings such as those noted here offer strong support for the assertion/presumption that a more coordinated multidisciplinary approach to elder care would help reduce the number of eldercide incidents. This should interest policy makers and public policy advocates working in elder care for the burgeoning elder population. Drawing on the available social service resources

from psychology, social work, gerontology, and counseling may provide shared resources to combat violence in the elder population. For example, Ahmed and Menzies (2002) found 21% of their 67-person retrospective review of offenders had received psychiatric treatment prior to the homicide. This work adds to the growing body of literature (Krienert, et al., 2009) highlighting the need for a large national clearinghouse on elder abuse composed of coordinated multidisciplinary resources.

Authors' Note

The opinions expressed herein are solely the authors' and do not reflect the opinions or official position of any other individuals or organizations.

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Note

1. The states and subsequently counties participating in NIBRS data reporting have increased over the study period from 9 states comprising 481 counties (4% of the population) in 1995 to 27 states and D.C. comprising 5,617 agencies in 2005. The increasing annual participation by states and counties in the NIBRS reporting program makes longitudinal analyses including pattern and trend analyses extremely difficult at present time. The present work uses the NIBRS data in the aggregate and is therefore less affected by annual changes in participation.

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