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Who will kill again? The forensic value of 1st degree murder convictions

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ABSTRACT

Studies of homicide offenders that engage in repeat, non-serial homicide offending are scarce and most studies lack comprehensive criminal career data that include convictions for 1st degree murder. Drawing on archival data on 682 male convicted felons from the Florida Department of Corrections, the current study examined the prognostic association between prior 1st degree murder convictions and various specifications of subsequent homicide offending. Negative binomial and logistic regression models found that prior 1st degree murder convictions were significantly associated with current/instant homicide offending and multiple homicide offending despite controls for five forms of serious felony violence, age, and race. Suggestions for future research are proffered regarding the forensic and criminological value of 1st degree murder convictions.

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1. Introduction

A serial burglar and highly antisocial individual with floridly psychopathic features, Kenneth McDuff was convicted of three counts of 1st degree capital murder in Texas in 1966 and sentenced to death. During that criminal episode, McDuff kidnapped three juveniles (two males and one female) and transported them to a remote location. After summarily shooting the two males to death, McDuff repeatedly sexually assaulted and physically abused the female victim before killing her. Despite his sentence and the extremity of his crimes, McDuff received multiple stays of execution and ultimately had his death sentences commuted to life imprisonment in the wake of [1]. Due to prison overcrowding, McDuff's relatively advanced, age and his putative low risk, correctional authorities paroled McDuff in 1989. Over the next three years, McDuff would perpetrate an assortment of other serious crimes, including at least five additional homicides some of which were sexual homicides. Ultimately, McDuff received a new death sentence in 1993 and Texas authorities executed him in 1998 [2]. Although McDuff is admittedly an exceptional case, his offending history illustrates the potential forensic value of prior homicide offending generally—and prior 1st degree murder convictions specifically—as an important distal factor for subsequent homicide offending.

1.1. Continuity in homicide offending

We know remarkably little about the correlates, psychiatric and forensic morbidity, and developmental course of offenders who perpetrate homicides—particularly 1st degree murder—and then after some legal intervention, such as prison confinement, go on to commit yet another homicide offense.[1] Indeed [3], systematic review of the literature on offenders that perpetrated a murder, were adjudicated and institutionalized for their homicidal conduct, were ultimately released from custody, and then murdered a second victim revealed just 11 studies on the topic. Among their most

[1] Of course, this does not pertain to offenders that perpetrate serial murder (the preponderance of whom are serial sexual murderers) about whom there is a large research base (e.g., Refs. [59,73–79]. A key distinction is that serial murderers' multiple homicides are often unknown until the offender is ultimately arrested/convicted, commits suicide, or killed, in which case the continuity in homicide offending is apparent only retrospectively or historically. To illustrate [80], studied 166 sexual homicide offenders in Germany. Correctional authorities released 90 of these offenders. In 20 years of time in community, 23.1% committed new sexual offenses, 18.3% committed new non-sexual violence offenses, and 3.3% (three offenders) committed new attempted or completed homicides.

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strident conclusions was there is a "striking paucity" of research on the topic. That said, an emerging theme in the literature is that offenders that are convicted of homicide offenses, including 1st degree murder, are often more likely than other offenders to subsequently perpetrate lethal violence relative to offenders that have never committed a homicide.

Research on repeated homicide offending emanates from a variety of data sources, analytical methods, and nations. In a seminal study [4], examined 1089 cases of homicide offenders that had completed an exhaustive psychiatric examination selected from Finland between 1981 and 1993. From this sample, they found just 36 offenders perpetrated a homicide resulting in imprisonment or placement in psychiatric care, and killed again [4]. found that the likelihood of homicidal offending was an *order of magnitude* higher among males that had previously committed murder. Moreover, in the first year after release from prison, male homicide offenders were a staggering 250 times more likely than the males in the general population to perpetrate homicide. Personality disorder, psychotic disorders, such as schizophrenia, and severe alcoholism also characterized homicide recidivists [5]; also see, [6,7].

Similarly [8], examined all 676 offenders that completed a forensic examination upon conviction for homicide in Finland between 1995 and 2004. Although their study focused on factors that differentiate sexual from non-sexual homicide offending, data on prior homicide offending were included. Nearly 19% of sexual homicide offenders and 14.3% of non-sexual homicide offenders had previously perpetrated a homicide.

Based on Canadian offender data from the National Parole Board, Cale, Plecas, Cohen, and Fortier (2010) compared 86 repeat homicide offenders to a matched sample of 86 single-victim homicide offenders convicted between 1975 and 2005. These researchers discovered several significant predictors of repeat homicide offending including childhood history of abuse and neglect, unemployment prior to the offender's first homicide, lack of drug or alcohol abuse prior to the offender's first homicide, and significant drug and alcohol abuse after the initial homicide. These authors observed that after the offender's initial murder, there was a significant decline in family support, social support, and increased unemployment and substance use such that the offender was unfettered by social connections and prone to a criminal lifestyle.

Drawing on data from a sample of 654 convicted and incarcerated homicide offenders selected from eight states in the United States, Behnken and colleagues (2011) reported mixed associations between prior homicide offending and subsequent involvement in lethal violence. Prior murder convictions were not significantly associated with later capital offending resulting in a death sentence. However, offenders adjudicated for murder as juveniles were significantly more likely to later perpetrate capital murder and receive a death sentence despite controlling for 15 confounds, such as current offending, prior offenses, and criminal career indicators. Additional studies using the same data source found that prior murder convictions, including for 1st degree murder, were *not* significantly associated with subsequent offending careers [9,10].

Drawing on all juvenile homicide offenders in the Netherlands between 1992 and 2007 [11], studied 137 offenders that were released. Among these offenders, 59% recidivated with 16 offenders (3% of the total sample) committing another homicide [12]. studied a sample of all people with schizophrenia with homicide convictions in the Chuvash Republic of the Russia Federation between 1981 and 2010. Of these 149 offenders, 16 or 10.7% of the sample had previously murdered.[2] In a population-based study of 174 offenders that committed homicide between 1970 and 1980 in Sweden [13], found that ten offenders in their data perpetrated homicides at different occasions during their life span. Five of these offenders murdered a victim prior to their instant homicide offense and the other five recidivated with a homicide offense. The average time between homicides was 3.5 years, but ranged from just two months to 11 years, and there was no evidence of serial murder in their data.

[14] examined a sample of eight offenders that had perpetrated a sexual homicide during adolescence and followed up to 30 years later. These offenders continued to accumulate a variety of criminal charges while in custody for crimes including escape, sexual battery, aggravated assault, arson, and smuggling contraband into prison and after their release for crimes including robbery, assault with a deadly weapon, and aggravated assault. However, none of these former sexual homicide offenders committed another homicide. In a related investigation [15], studied 59 former juvenile homicide offenders of whom 48 had been released from prison. They found that 10% engaged in additional homicide offending with four offenders completing and one offender attempting an additional murder. Recently [16], examined 1088 convicted homicide offenders in Australia between 1984 and 2005 and followed up to 22 years. They found that the incidence of repeated homicide offending was exceedingly rare: just three of the 1088 offenders were charged with another homicide offense.

1.2. Current focus

Although the incidence of homicide is what separates the United States from peer nations [17], the bulk of the research on repeat homicide offenders is ironically based on data from Australia, Canada, Finland, Germany, the Russia Federation, Sweden, and The Netherlands with relatively few studies (e.g. Refs. [14,15,18], using U.S. data. In sum, the criminological knowledge base on repeat homicide offenders is scarce and most studies neither measured nor focused on distinguishing 1st degree murder offenders from other homicide offenders. This is problematic since the premeditation and instrumentality of 1st degree murder offending potentially denotes an offender with extensive forensic and criminological value. Moreover, their unique correctional status likely contributes to the uncertain scientific understanding of offenders previously convicted of 1st degree murder. In the United States, courts commonly sentence defendants convicted of 1st degree murder to life imprisonment or death, thus their lengthy confinement status complicates efforts to examine how and to what degree 1st degree murder offending is associated with subsequent offending.[3] The current study sought to overcome this limitation with a large data file of serious violent offenders with retrospective criminal history information.

[2] The association between schizophrenia and homicide is a related literature that is tangential to the current study given the lack of psychiatric measures in these data. Nevertheless, important findings exist. In a systematic review and meta-analysis [81], found three studies on homicide recidivism and schizophrenia and the prevalence of repeat homicide was 4.3%, 4.5%, and 10.7%, respectively. Review of 11 unpublished studies found that nine had zero evidence of repeat homicide while two unpublished studies contained a single case of repeated murder.

[3] To illustrate [82], employed a data file of 342 homicide offenders from the Pennsylvania Department of Corrections. This included those convicted of 1st degree murder (n = 142), 2nd degree murder (n = 88), 3rd degree murder (n = 103), or voluntary manslaughter (n = 3) between 1977 and 1983. The subsequent analysis of 92 paroled homicide offenders contained only those with 3rd degree murder or manslaughter convictions. Those with more severe convictions remained in confinement. Of these 92 offenders, three recidivated with a new homicide offense.

2. Method

2.1. Participants and procedures

Data for this study included 682 male offenders derived from a stratified, simple-random sample of 790 felons convicted as adults and sentenced to the Florida Department of Corrections (DOC). We excluded 108 female offenders from the analytical sample due to low prevalence in homicide offending: only eight females committed a homicide, and just two women committed two homicides.[4] We selected all offenders from the Florida DOC Corrections Offender Network website (http://www.dc.state.fl.us/appcommon/) that is an open access, searchable repository of public record information on felony offenders in Florida. The website allows for filtered searches by race, sex, age, and offense category. In 2013, offenders were selected using the filters "murder" and "other violent crime" as part of a larger project on the criminal careers of prisoners. Five subpopulations exist: inmate population (prisoners), inmate release, supervised population, inmate escape, and absconder/fugitives. Of these, we selected the inmate population.

The Florida DOC Corrections Offender Network contains copious information on each offender that meet the selected criteria including: demographics, aliases, tattoos, current prison sentence including charges, date and location of offense, and prison sentence length, prior incarceration history within the state of Florida including prior offenses/sentences and prior community corrections sentences within the state of Florida including prior offenses/sentences, and detainers. Although the criminal career data are comprehensive, they are limited to Florida and not based on national repositories of criminal career data, such as the National Crime Information Center (NCIC). In this regard, these data are conservative estimates of the offender's prior offending.

2.2. Measures

Dependent variables. Three dependent variables specify homicide offending. A count-measure of homicide (M = 0.52, SD = 0.92, range = 0–8) reflected instant/current convictions for homicide charges. More than 61% of males did not have a homicide for their instant offense. More than 26% were convicted of one homicide, 7.2% were convicted of two homicides, 2.8% were convicted of three homicides, 1.6% were convicted of four homicides, 0.2% (one offender) was convicted of five homicides, 0.2% (one offender) was convicted of seven homicides, and 0.2% (one offender) was convicted of eight homicides. A binary measure of any homicide offending (no = 0, 61.3%, yes = 1, 38.7%) and a binary measure of multiple homicide offending defined as the killing of two or more victims (no = 0, 88%, yes = 1, 12%) were also used.

Primary independent variable. The primary independent variable was prior convictions for 1st-degree murder (M = 0.01, SD = 0.14, range = 0–2).

Covariates. Five covariates for serious violent offending were specified to guard against confounding effects based on prior research that has shown linkages between prior violent crimes, prior weapons use, and subsequent homicide offending [9,19–25]. These include prior convictions for armed rape (M = 0.006, SD = 0.08, range = 0–1), armed robbery (M = 0.13, SD = 0.55, range 0–7), aggravated assault with intent to kill (M = 0.06, SD = 0.36, range = 0–5), aggravated assault of a law enforcement officer (M = 0.05, SD = 0.27, range = 0–2), and armed burglary (M = 0.05, SD = 0.38, range 0–7). Two demographic covariates were also used for African American race (no = 0, 69.6%, yes = 1, 30.4%) and age at instant conviction (M = 31.7, SD = 9.34, range = 16–69) based on their associations with homicide offending [13,23,26–29]. Descriptive statistics for all study variables appear in Table 1.

2.3. Analytical plan

We employed two forms of data analysis. The dependent variable for counts of homicide convictions are positively skewed count data and are best estimated with Poisson regression [30]. Preliminary Poisson regression models indicated significant evidence of overdispersion, thus we specified the negative binomial regression method with incidence-rate ratios. Likelihood ratio tests of α confirmed the negative binomial estimator best fit the data (LR Test of $\alpha = 54.14$, $p < .001$ for model 1, LR Test of $\alpha = 50.83$, $p < .001$ for model 2, and LR Test of $\alpha = 42.03$, $p < .001$ for model 3. For the binary outcomes, we employed logistic regression with odds ratios. For all regression models, we specified bootstrap standard errors with 500 replications to increase confidence in the estimates.

3. Findings

3.1. Negative binomial regression model for homicide offending

Table 2 contains coefficients for negative binomial regression models for homicide convictions. In model 1, prior 1st degree murder was significantly associated with current homicide offending (IRR = 1.59, z = 2.06, $p < .05$). In model 2 the five other crimes of violence were specified and the significant association of prior 1st degree murder intensified slightly (IRR = 1.62, z = 2.19, $p < .05$). Prior armed rape was also significantly associated with current homicide offending. In model 3 with the addition of age and racial status, prior 1st degree murder maintained its significant association with current homicide offending (IRR = 1.61, z = 2.07, $p < .05$. The only other significant covariate was age (IRR = 0.97, z = −4.69, $p < .001$).

3.2. Logistic regression models for homicide offending

Table 3 contains coefficients for logistic regression models for current homicide offending. In model 1, prior 1st degree murder was not significantly associated with homicide offending when measured as a dichotomy. In model 2, the effect remained non-significant upon specification of the five other crimes of violence. Prior armed rape exerted a strong effect on current homicide offending (OR = 6.92, z = 2.15, $p < .05$) such that a prior armed rape conviction was associated with a 592% increased odds of subsequently committing a homicide. In model 3, prior 1st degree murder trended toward significance (OR = 2.37, z = 1.71, $p < .09$) indicating a 137% increased odds of current homicide. In model 3, prior armed rape maintained its strong effect (OR = 8.25, z = 2.94, $p < .01$) indicating a 725% increased odds. Age was inversely associated with current homicide offending (OR = 0.96, z = −3.22, $p < .001$) with each year of age associated with a 4% reduced odds of homicide offending. African Americans (OR = 1.65, z = 2.81, $p < .01$) had 65% increased odds of homicide offending.

3.3. Logistic regression models for multiple homicide offending

Table 4 contains coefficients for logistic regression models for

[4] The low base rate of homicide among females is not unique to the current data [3,83,84]. For instance, a study of women that received a forensic psychiatric examination after convictions for homicide or attempted homicide in Finland produced just 132 cases spanning 1982 to 1992 and followed until 1999 [85]. Interestingly, although recidivism among this group was relatively low at 23%, 3% of women perpetrated an additional homicide. There is also a bourgeoning literature on sexual homicide offending among female offenders (see, [86–89].

Table 1
Descriptive statistics.

Variable	Mean	SD	Range	Yes	No
Current Homicide Convictions	.52	.92	0–8		
Current Homicide Offending				38.7%	61.3%
Current Multiple Homicide Offending				12%	88%
Prior 1st Degree Murder Convictions	.01	.14	0–2		
Prior Armed Rape Convictions	.006	.08	0–1		
Prior Armed Robbery Convictions	.13	.55	0-7		
Prior Assault to Kill Convictions	.06	.36	0–5		
Prior Aggravated Assault on Police Convictions	.05	.27	0–2		
Prior Armed Burglary Convictions	.05	.38	0-7		
Age	31.7	9.34	16–69		
African American				30.4%	69.6%

Table 2
Negative binomial regression models for homicide.

Variable	IRR (BSE)	z	IRR (BSE)	z	IRR (BSE)	z
Prior 1st Degree Murder	1.59 (.36)	2.06*	1.62 (.36)	2.19*	1.61 (.37)	2.07*
Prior Armed Rape			2.17 (.86)	1.96*	2.44 (5.87)	0.37
Prior Armed Robbery			1.17 (.10)	1.82	1.15 (.10)	1.59
Prior Assault to Kill			1.08 (.14)	0.55	1.03 (.27)	0.09
Prior Aggravated Assault on Police			.76 (.35)	−0.61	.77 (.29)	−0.70
Prior Armed Burglary			.84 (.19)	−0.79	.85 (.18)	−0.79
Age					.97 (.01)	−4.69***
African American					1.22 (.16)	1.53
Wald $\chi 2$	4.24*		13.4*		49.8***	
LR Test of α	54.14***		50.83***		42.03***	

***p < .001, **p < .01, *p < .05.

Table 3
Logistic regression models for homicide.

Variable	OR (BSE)	z	OR (BSE)	z	OR (BSE)	z
Prior 1st Degree Murder	2.16 (1.32)	1.26	2.26 (1.24)	1.49	2.37 (1.19)	1.71†
Prior Armed Rape			6.92 (6.22)	2.15*	8.25 (5.93)	2.94**
Prior Armed Robbery			1.25 (.30)	0.95	1.20 (.19)	1.12
Prior Assault to Kill			.88 (.39)	−0.29	.94 (.28)	−0.52
Prior Aggravated Assault on Police			.67 (.30)	−0.91	.67 (.22)	−1.22
Prior Armed Burglary			.71 (.21)	−1.14	.71 (.29)	−0.82
Age					.96 (.01)	−3.22***
African American					1.65 (.29)	2.81**
Wald $\chi 2$	1.58		20.56**		32.04***	
Pseudo R2	.002		.012		.042	

***p < .001, **p < .01, *p < .05, † < 0.09.

Table 4
Logistic regression models for multiple homicide offending.

Variable	OR (BSE)	z	OR (BSE)	z	OR (BSE)	z
Prior 1st Degree Murder	2.85 (1.49)	2.00*	2.98 (1.23)	2.65**	2.98 (1.46)	2.23*
Prior Armed Rape			2.00 (1.36)	1.01	2.29 (1.93)	0.98
Prior Armed Robbery			1.23 (.21)	1.17	1.20 (.34)	0.64
Prior Assault to Kill			1.52 (.79)	0.81	1.49 (.45)	1.31
Prior Aggravated Assault on Police			.56 (.25)	−1.27	.62 (.20)	−1.49
Prior Armed Burglary			.99 (.42)	−0.01	1.01 (.21)	0.03
Age					.95 (.01)	−4.16***
African American					1.32 (.42)	0.88
Wald $\chi 2$	4.02*		10.88		43.83***	
Pseudo R2	.006		.018		.051	

***p < .001, **p < .01, *p < .05.

current multiple homicide offending. In model 1, prior 1st degree murder was significantly associated with current multiple homicide offending ($OR = 2.85$, $z = 2.00$, $p < .05$), specifically, 185% increased odds of current multiple homicide offending. In model 2, the significant association remained ($OR = 2.98$, $z = 2.65$, $p < .01$) despite the specification of five other crimes of violence. In model 3, prior 1st degree murder was still significantly associated with 198% increased odds ($OR = 2.98$, $z = 2.23$, $p < .05$) of current multiple homicide offending. The only other significant association was age ($OR = 0.95$, $z = -4.16$, $p < .001$).

4. Discussion

On one hand, criminal careers usually progress in non-linear ways where a blend of violent and non-violent, serious and unserious offense behaviors occur—often in intermittent and unpredictable ways. This is particularly the case when examining the criminal careers of homicide offenders [11,31–35] individuals whose lives are often chaotic and characterized by disconnectedness from social institutions [36,37]. For this reason, it is often difficult to predict the most serious forms of violence, such as various specifications of homicide. On the other hand, forensic research has shown that prior involvement in homicide offending dramatically and at times exponentially increases the likelihood of subsequent homicide offending [4,38]. The current findings are supportive of work that has demonstrated continuity in homicide offending. In six of the nine regression models, prior 1st degree murder was significantly associated with current homicide offending, and a seventh association was nearly significant ($p < .09$). Moreover, prior 1st degree murder was significant for all specifications of multiple homicide offending and conferred 185%, 198%, and 198% increased odds across models. Statistically and substantively, these are large effects.

It is also revealing that the significance of prior convictions for 1st degree murder becomes more evident as the multiplicity of homicide offending increases. For example, null effects existed for prior 1st degree murder convictions and a dichotomous measure of whether current charges involved homicide (although the effect trended toward significance in model 3). However, in the negative binomial regression model where multiple counts of homicide convictions were considered, and in the logistic regression model where multiple homicide offending was the outcome variable, prior 1st degree murder convictions were *always* significant. In other words, as the dependent variable evidenced greater extremity in the magnitude of violence, prior 1st degree murder convictions became more salient.

This means that prior 1st degree murder convictions has important forensic value and important practical value. Forensically, prior 1st degree murder convictions appear to be a marker of an offender who not only poses elevated risk of killing again, but also elevated risk of killing multiple victims. Indeed, the statistical effect of 198% increased odds of multiple homicide offending is important statistically and substantively given the controls for other serious forms of criminal violence (many of which involve the use of weapons), this tendency should not be attributed to a generalized involvement in crime. At a practical level, criminal history is the foundational element of risk assessment [39,40] and evidence of prior 1st degree murder convictions should denote a red flag for practitioners that supervise these offenders in custody or in the community on parole or federal supervised release. A 1st degree murder conviction can also contextualize an offender's criminal career to help correctional officials individualize their supervision approach. For example, if an offender has a contentious history with a prior victim (e.g., a former spouse) and a prior 1st degree murder conviction, a containment approach is advised to minimize risk to that former victim.

Prior convictions for 1st degree murder and subsequent homicide offending are also likely manifest indicators of a latent homicidal propensity. To illustrate, a recent study of a population of federal correctional clients found that about 12% of the population experienced some degree of homicidal ideation [20]. Moreover, correctional clients with homicidal ideation were significantly more likely to perpetrate a host of crimes including completed and attempted homicides, kidnapping, armed robbery, and aggravated assault, and these offenders also evinced more severe and extensive psychopathology.

Although the current focus was 1st degree murder, another offense shown to have important forensic value for understanding homicide offending was armed rape. Prior armed rape convictions were significantly associated with current homicide offending, and the odds ratios were quite large. In model 2, prior armed rape was associated with 592% increased odds of homicide offending and in model 3 prior armed rape was associated with 725% increased odds of homicide offending. Diverse studies have shown that rape/sexual assault and especially armed rape is a severe offense behavior that can precede and even accompany homicide offending [41–44]. For example [45], recently devised an offender typology known as rapid-sequence serial sexual homicide offenders defined as offenders that committed sexual homicides of multiple victims within an approximately two-week period. In their sample, six offenders murdered between two and five victims in a rapid sequence and among these six offenders, four had documented criminal histories of rape. At the extremes of offending, lethal and sexual violence often co-occur.

The rarity of homicide offending in most criminal careers is another critical issue to consider in light of the current findings. Most studies of criminal careers, even those of serious, violent, and chronic types have relatively *few if any* homicide offenders in their (cf. [46–50], and even research using homicide offender samples has shown a dearth of offenders that kill again. To illustrate [51], examined recidivism among 336 convicted murderers sentenced to the New Jersey Department of Corrections between 1990 and 2000. At a 5-year follow-up, there was substantial evidence of various forms of recidivism; however, zero offenders perpetrated another homicide. Thus, a methodological challenge in studying continuity in homicide offending is that these offenders are fortunately rare amongst the broader population of serious offenders, and obtaining data on offenders that murdered again is even more challenging. Moreover, given the lengthy punishment that accompanies homicide offending generally and 1st degree murder specifically, retrospective data on serious offenders are necessary.

In terms of demographic effects, the findings were consistent with the criminal career paradigm. Age was inversely associated with homicide offending in all of the models that comports with research using data from a variety of sources including the Pittsburgh Youth Study [52], Pathways to Desistance Study [21], and the FBI Supplementary Homicide Reports [53]. Consistent with prior research (e.g. Refs. [24,27,28], African Americans were at greater risk for homicide offending when measured as lifetime involvement, but had no association in other specifications.

There are important limitations of the current study that can serve as guides for future research. First, an array of individual-level risk factors, including peer associations, adverse childhood experiences and family background, and generalized antisocial conduct or criminal lifestyle have been shown to be predictive of subsequent homicide offending [23,24,36,37,54,55]. The current data were raw criminal history information, and it is likely that some of these additional variables could have moderating effects on offending. Although the current data contained convictions for crimes occurring in Florida including crimes that potentially occurred while the offender was in confinement, we lacked official records of institutional misconduct. This is important because another way that offenders can perpetrate homicides and then commit another is by murdering a fellow inmate while in custody. Recently [56], examined 54 inmates that had perpetrated homicides during confinement and found that more than 35% were serving their current sentence for murder. Future investigators can create data files that contain not only full criminal history information, but also detailed data on institutional violence, including fatal violence.

Second, several psychiatric conditions are associated with

increased likelihood for homicide offending [57–65]. It is likely that lifetime diagnostic history for Antisocial Personality Disorder and psychopathy would be associated with increased likelihood of having both a criminal history that includes homicide offenses and subsequent homicide recidivism. An ideal data source is one that contains the detailed criminal history information of the current data file coupled with rich diagnostic history for each defendant. For instance, Fazel and Wu [91], conducted a meta-analysis on the association between psychotic disorders and repeated criminal offending, and found that individuals with psychosis were nearly two times more likely offenders without psychosis to engage in repeated criminal offending. Third, and similarly, additional forensic concepts including sexual sadism [66], homicidal ideation [20,67], clinically-elevated anger-hostility [68,69], and clinically-elevated impulsivity [70] would also be ideal for future data collection efforts based on their associations with different specifications of homicide offending. For instance, an explanation for the significant association between prior 1st degree murder and current homicide offending could relate to homicidal ideation whereby offenders experience intrusive thoughts about perpetrating lethal violence and these emotional and cognitive problems contribute to a compulsive contemplation of and interest in homicide (this also comports with research on psychotic disorders, repeated offending, and homicide) [90].

In conclusion, the United States is in the midst of an emerging justice paradigm where cold cases—often decades old—are being solved with the proliferation of genetic data that are publicly available (cf., [71,72]. A non-trivial number of these offenders had 1st degree murder arrests or convictions in their offending history. Across multiple analytical specifications that accounted for robust offending and demographic factors, the current study indicates this type of criminal activity has rich criminological and forensic value.

Conflict of interest

The current study was not sponsored by any funder and there are no conflicts of interest.

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