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Abstract
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Comments
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REGULAR ARTICLE

Characteristics of Persons With Severe Mental Illness Who Have Been Incarcerated for Murder

Jason C. Matejkowski, MSW, Sara W. Cullen, MSW, and Phyllis L. Solomon, PhD

In this descriptive study, we analyzed data collected from multiple state agencies on 95 persons with severe mental illness who were convicted of murder in Indiana between 1990 and 2002. Subjects were predominately suffering from a mood disorder, were white and male with a high school education or equivalent, were living in stabilized housing, and, to a lesser degree, were involved in significant intimate and familial relationships. Rage or anger, overwhelmingly directed toward intimate or familial relations by the use of a firearm or sharp object, was the most frequently mentioned motive for murder. Most of those studied had been raised in households with significant family dysfunction, had extensive histories of substance abuse and criminality, and had received little treatment for their mental and substance use disorders. Findings are contextualized and compared with similarly descriptive studies of nonlethal violence and persons with a mental illness; hospitalized, schizophrenic and psychotic murderers; and homicide offenders outside the United States.

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In 2002, there were 148,300 persons in America's state prisons who had been sentenced for the crime of murder.[1] Within these confines, approximately 16 percent of the population had mental illness.[2–4] Thirteen percent of incarcerated persons who were mentally ill had been sentenced for murder.[2] Based on these rates, and a recent state prison population count of 1,255,514,[1] it is estimated that more than 26,000 persons with a mental illness are incarcerated for murder in the United States. Despite the magnitude of these counts, surprisingly little is currently known about prisoners with severe mental illness who have been incarcerated for murder.

Research has identified that individuals' mental states and psychopathology differ with the severity of the crime.[5–7] It follows that persons with mental illness who commit murder, one of the most severe crimes, may be significantly different from adults with a mental illness who commit less severe crimes. Thus, prior research identifying characteristics of persons with a mental illness who engage in broadly defined measures of violence has limited ability to describe persons with a mental illness who have committed murder. The few descriptive studies that have focused specifically on lethal violence among persons with a mental illness have confined their analyses to the subpopulation of adults displaying symptoms of psychosis or schizophrenia, reported only on clinical descriptions of the murderers, or were conducted in countries where legal and social contexts are so dissimilar that their findings are not generalizable to the United States. To provide a more complete description of adults with the most severe forms of mental illness who commit murder in the United States, we describe the legal, personal, situational, and clinical variables of a sample of 95 adults with a lifetime diagnosis of mania, major depression, bipolar disorder, schizophrenia, or other psychotic disorder who were sentenced for murder in Indiana between 1990 and 2002.

Prior Studies on Mental Illness, Violence, and Murder

With an association having been established between violence and mental illness,[8–11] many studies have gone on to identify specific factors, such as delusional or psychotic symptoms[10,12–22] or substance use,[22–32] that are associated with violent behavior in

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persons with mental illness. When examining these characteristics, some researchers have employed broad definitions of violence, ranging from verbal threats with an object or weapon to any assaultive action (including murder) that causes bodily harm.[9,22,26] Such studies have been based on the assumption that the associations are the same, regardless of the severity of the violence. However, subsequent research has shown that individuals who are charged with different crimes (e.g., comparing sex crimes, threats, and murder) have different mental states and psychopathology.[5–7] These findings suggest that characteristics of persons who engage in lethal violence may differ from those of persons who engage in nonlethal violence. Therefore, while past studies have been useful in identifying variables that are associated with an increased risk of overall violence among persons with a mental illness, these associations are likely to differ in the subgroup of persons with a mental illness whose actions result in the intentional death of the victim.

While there have been some studies describing persons with mental illness who have committed murder, none offers a comprehensive assessment of the characteristics of these persons in the United States. Previous attempts to describe this population have been focused on the subpopulations of murderers sentenced to psychiatric hospitals,[33–37] killers experiencing psychoses,[38–40] or those having diagnosed schizophrenia,[20,31] or they have been confined to analysis of the prevalence of specific diagnoses and substance use.[30,37,41] The use of descriptions of hospitalized persons to assess the characteristics of persons with mental illness who commit murder raises concerns about the generalizability of the findings to all murderers with psychiatric illness. A legal defense seeking mental health treatment in lieu of incarceration is rare, and even though most defendants in these cases have a diagnosis of mental illness, successful pleas are very infrequent.[42] This situation suggests that persons who have been sentenced to a psychiatric hospital for murder are likely to have more severe mental illnesses than those who have been sentenced to the penal system. Indeed, Nestor and Haycock[43] have shown that those hospitalized are more likely to be seen as psychotic at the time of the murder than those who are incarcerated. This high level of severity of mental illness is apt to influence many of the variables under study (e.g., housing,[44,45] employment,[46,47] and relationships[48]) differently from a mental illness of less severity. Thus, while findings in such studies may be useful in understanding the minority of persons committed to a psychiatric hospital for murder, they are not likely to reflect the much larger population of convicted murderers with a mental illness for whom the legal system determined imprisonment or death to be an appropriate response to their crimes.

Research in England and Wales has produced several descriptive studies on individuals convicted of homicide.[49–51] However, differences between the United States and the United Kingdom (e.g., ethnic make-up and availability of handguns) limit the possibility of applying the findings of these studies to the United States. Other descriptive studies of incarcerated persons with a mental illness convicted of murder have been conducted in countries where the murder rates were so low that the results cannot be generalized to the U.S. population.[30,41,52–54] As a result, there is still very little known about imprisoned mentally ill persons who commit murder in the United States.

This investigation provides a more reflective profile of mentally ill persons convicted of murder in the United States by utilizing data on offenders sentenced for murder in Indiana between 1990 and 2002. By analyzing factors considered important in the study of homicide[55] and that have been examined in previous studies of mental illness and nonlethal violence (i.e., legal, personal, situational, and clinical factors), we have provided a more complete description of adults with mental illness incarcerated for murder than have prior studies that have focused exclusively on the prevalence of specific psychiatric diagnoses and substance use. Finally, we have expanded on the findings of other descriptive studies that have focused on just a few characteristics of offenders, by highlighting the differences between our findings and those of others who have studied persons with mental illness who have engaged in a broad definition of violence, have been hospitalized for violent behavior, or have been incarcerated for murder outside the United States.

Methods

Overview

We analyzed data collected by a state criminal justice planning agency that is conducting research to identify factors that predict sentencing outcomes

(i.e., a death sentence versus life in prison without the possibility of parole versus a determinate sentence) for the commission of murder in Indiana.[56] Data source documents were collected from state and local, legal, and criminal justice agencies and then analyzed by internal staff and university students who had been trained in using highly structured data collection forms designed specifically to gather information on legal and extralegal characteristics of each murder case. For the purposes of this study, we analyzed the legal, personal, situational, and clinical variables of 95 persons with a severe mental illness who were incarcerated for the crime of murder between 1990 and 2002 in Indiana. We sought and received approval for this study from the University of Pennsylvania's Institutional Review Board.

Sample

The Indiana Department of Correction (DOC) provided the sampling frame for this study through a list of basic case, sentencing, and demographic information on 1,397 persons sentenced to prison for the crime of murder, defined by state law as knowingly or intentionally killing another human being.[57] The target population consisted of all persons sentenced to death between 1977 and 2002 ($n = 89$), all persons sentenced to life without parole between 1993 and 2002 ($n = 73$), and all offenders sentenced to a fixed term between 1990 and 2002 ($n = 1{,}235$).

Data were collected on a total of 723 persons (the overall sample), including a random sample of cases involving 485 determinate sentences, 89 sentences of death penalty and 73 sentences of life without parole, and an additional 76 sentences of fixed terms for murder that were included to round out specific populations of murderers (e.g., females, Hispanics). Of these 723 offenders, 164 were excluded, as there was insufficient information available to determine the presence of a psychiatric diagnosis. To provide a more current profile, we also excluded from the analyses individuals sentenced before 1990 ($n = 41$). As determinately sentenced cases did not enter the overall sample until after 1990 and life without parole cases until 1993, the 205 excluded cases necessarily overrepresented death penalty cases. Exclusions also contained a greater proportion of males, individuals with fewer prior arrests, and a slightly lower average number of victims per offender than those who remained in the overall sample. Of the remaining 518 offenders, 95 had a recorded diagnosis of severe mental illness (i.e., a lifetime clinical diagnosis of schizophrenia or other psychotic disorder, major depression, mania, or bipolar disorder), and they composed the sample for the present analyses.

Data Collection

Data collection methods presented are from information gleaned from the original report (Ref. 56, pp 7–11) and the first author of the current study who served as a research associate on the original project. Data collection occurred in two stages: the collection of source documents and the collection of specified information from these documents. In the first stage, multiple agencies provided data for the project. Information not found within offender packets provided by the DOC was sought from the Clerks of the Supreme, Appeals, and Tax Courts; Attorney General's Office; Office of the Public Defender; local courts; and county Clerk of the Courts' offices. Information regarding victims of murder was obtained from death certificates maintained by the State Department of Health and supplemental sources, such as affidavits of probable cause. Fourteen different source documents were sought to provide pertinent information about the offender, the victim(s), the crime itself, and the trial, conviction, and sentencing (e.g., arrest reports and psychological evaluation reports). Not all of the desired documents were located for several of the offenders. The most complete information was available for death penalty offenders and persons sentenced to life without parole.

During the second stage of data collection, structured electronic forms were developed to reflect a specific study area (e.g., mental health). Data collection was conducted by trained research personnel. During the process, project personnel met regularly to resolve any data-reliability issues, and lead investigators reviewed data that had been collected on portions of case records, to ensure the reliability of the data.

Measures

Within some variables, original response categories were collapsed because of low response rates and to reduce the complexity of the variables (e.g., the original 31 response categories for location of the crime were collapsed to form six location categories). The analyses focused on specific personal, situational, clinical, and legal variables that were selected based on a review of research that has been conducted

on murder and on the association between mental illness and lethal and nonlethal violence. However, some variables common to the literature were necessarily omitted from the current analyses due to the unavailability of data.

Personal Variables

These variables included general demographic characteristics of the offender. The information for the variables was collected from official records and offender self-reports in presentence investigation (PSI) reports and intake documents completed during entry into the DOC.[56] Values reported for demographic variables such as age, marital, parental, educational, and residential status reflect the offender's standing at the time of the murder.

Situational Variables

These variables included characteristics of the crime, the victim, and information on the role of substance use by the offender in the instant offense. Victim, location, motive, and information on method of murder were collected from various official records (e.g., PSI and arrest reports). Substance use data were collected from official records, offender self-reports in the PSI, intake documents completed during entry into the DOC, and clinical/psychiatric assessments (both court-ordered and otherwise).[56]

The motive for murder was recorded, and when more than one motive was identified, all were reported. Twenty-three specific motives and "other" responses were collapsed into the following six categories: hatred, retaliation, animosity, or revenge (e.g., hate crimes based on race or sexual orientation); gain of money and property (e.g., contract killing or collecting on a drug debt); rage or anger (e.g., conflict in an intimate or familial situation); gratification (e.g., thrill killing or sexual gratification); related to other crimes (e.g., facilitation of robbery or silencing a witness to a past crime); and delusional (e.g., command hallucinations to kill) or suicidal.

The relationship of victim to offender was reported in four mutually exclusive categories: an intimate relationship was a spouse, ex-spouse, a boyfriend/girlfriend, or an ex-boyfriend/ex-girlfriend; a familial relationship was with a nonspousal family member; a friend/acquaintance relationship was with a person with whom the offender had had contact before the offense but was a nonfamily member and a nonintimate; and a stranger relationship was with a person with whom the offender had had no contact before the instant offense. It was possible for an offender to have had more than one victim and a victim to have been murdered by more than one offender. In such instances, all relationships were reported.

The influence of substance use by the offender in the commission of the crime was assessed through items that reported substance use within the 24 hours preceding the murder, with resulting impairment. Positive impairment was reported if the defendant had claimed at anytime to be significantly impaired by alcohol or drugs or if impairment was used as a defense at trial.

Clinical Variables

Clinical variables provided information on mental health and substance use history and treatment and on physical disabilities. Clinical data were collected from official records and offender self-reports in the PSI and intake documents completed during entry into the DOC and the clinical/psychiatric assessments (both court-ordered and otherwise).[56] The proportion of psychotic and mood disorders reported for the sample reflect each diagnosis the defendant had ever received from a clinician. Self-reported diagnoses were not included. Any record of the offender's attempting to commit suicide before or after the instant offense was also coded.

For both alcohol and drug abuse treatment, treatment episodes were categorized as inpatient or outpatient. Self-help groups and detoxification episodes were not recorded. Treatment episodes associated with diagnoses of co-occurring substance use and mental disorders were captured only under the mental health treatment variable (i.e., not under alcohol or drug abuse treatment). If the offender had both a history of alcohol abuse and a history of drug abuse identified, treatment episodes for general substance abuse were included under both alcohol abuse and drug abuse treatment.

Data were collected to assess whether offenders had "a stigmatizing physical illness, condition, or disability (e.g., dwarfism, missing limb, or full blown AIDS)"[56] and its temporal relation to the instant offense. In cases in which a suspected stigmatizing physical condition was present before the instant offense, two of the authors independently identified each condition as either stigmatizing or nonstigmatizing. Results were compared (89% initial agreement), and discrepancies were reconciled through an

Table 1 Personal Variables

	n	%	Wt %
Age: weighted mean = 30.84 years; SD = 11.18; range, 14–63			
Gender			
Male	73	77	87
Female	22	23	13
Ethnicity			
White	67	71	73
Black	22	23	24
Hispanic	3	3	2
Asian/Pacific Islander	3	3	2
Year of school completed			
Eighth grade or less	22	23	25
Ninth-eleventh grade	32	34	33
GED obtained			
Yes	14	15	13
No	36	38	42
Unknown	4	5	5
Twelfth grade or higher	40	42	40
Unknown	1	1	1
Marital Status			
Never been married	47	49	52
Divorced	22	23	23
Married	16	17	15
Separated	8	8	7
Widowed	1	1	2
Unknown	1	1	2
Parental Status			
No	38	40	40
Unknown	2	2	2
Yes	55	58	57
Some contact with child	40	42	39
No contact	6	3	6
Unknown	9	10	12
Employment			
Unemployed	48	51	51
Unknown	11	12	14
Employed	36	38	34
Full-time	10	11	9
Part-time	2	2	3
Unknown	24	25	23
Transient or Homeless			
Yes	4	4	4
No	84	88	89
Unknown	7	7	7
Upbringing			
Raised at one time by			
Both biological parents	70	74	71
Single biological parent	49	52	50
Biological and stepparent	33	35	35
Grandparents	17	18	18
Adopted or foster parents	11	12	11
Children's or group home	5	5	6
Any abuse as a child	43	45	43
Physically abused	36	38	35
Emotionally abused	29	31	29
Sexually abused	11	12	11
Any caregiver dysfunction	46	48	44
Caregiver alcohol abuse	41	43	40
Caregiver drug abuse	15	16	14
Caregiver criminal history	20	21	19

open discussion process, to make the final determination of the presence of a stigmatizing physical condition.

Legal Variables

Legal variables consisted of criminal history and sentencing outcome. This information was obtained from official records and offender self-reports in PSIs and intake documents completed upon entry into the DOC.[56]

Analysis

The 723 cases in our study sample contained the complete population of female, Hispanic, American Indian, and Asian/Pacific Islander murderers, as well as anyone who was sentenced to death or life without parole during the study period. To reflect the total population of offenders sentenced for murder in Indiana during the study period, we used propensity scoring to weight each sample case according to the inverse of its probability of inclusion in the sample. We determined the weights by first creating a logistic regression model including all 1,397 persons in the sample frame. The dependent variable was a binary indicator of whether the person was included in the sample (n = 723) and the independent variables were gender, ethnicity, and sentence type. This model was used to produce the predicted probability of being in the overall sample. The inverse of this probability, normalized to sum to the sample size of 723, was taken as the weight for each case in the study sample. The results contain counts, raw percentages, and weighted percentages for categorical variables and weighted measures of dispersion for continuous variables.

Results

Personal Variables

Table 1 displays demographic information on the study sample of 95 offenders with severe mental ill-

Table 2 Situational Variables

	n	%	Wt %
Number of victims: *n* = 130; weighted mean = 1.28; SD = 0.85; range = 1–7			
Victim gender			
Male	68	52	52
Female	62	48	48
Same gender as offender			
Yes	61	47	49
No	69	53	51
Victim's ethnicity			
White	98	75	75
Black	21	16	16
Hispanic	3	2	2
Asian/Pacific Islander	3	2	1
American Indian	1	1	1
Unknown	4	3	4
Same ethnicity as offender			
Yes	114	88	88
No	12	9	9
Unknown	4	3	4
Relationship to offender			
Familial (nonspouse)	37	29	27
Acquaintance or friend	36	28	26
Intimate	26	20	21
Stranger	11	9	8
Unknown	20	15	18
Day of murder			
Monday	14	11	12
Tuesday	13	10	14
Wednesday	16	12	14
Thursday	27	21	19
Friday	14	11	9
Saturday	27	21	18
Sunday	18	14	14
Unknown	1	1	1
Accomplice†			
Yes	15	16	15
No	70	74	75
Unknown	10	11	10
Method of murder*			
Firearm	67	52	55
Knife or other sharp instrument	27	21	20
Strangulation or suffocation	12	9	9
Bludgeon with object or fists	13	10	10
Automobile	7	5	3
Burning	3	2	1
Drowning	3	2	2
Other	1	1	1
Unknown	2	2	2
Location of murder			
Victim's residence	43	33	27
Victim and offenders' shared residence	26	20	23
Public area (e.g. street, park)	23	17	18
Other residence or victim's vehicle	22	17	17
Place of business	11	9	10
Other	2	2	2
Unknown	3	2	3
Alcohol use prior to murder†			
No	19	20	18
Unknown	54	57	60
Yes	22	23	22
Alcohol impairment			
Yes	16	17	15
No	1	1	1
Unknown	5	5	6
Drug use prior to murder†			
No	23	24	23
Unknown	51	54	58
Yes	21	22	20
Drug impairment			
Yes	14	15	14
No	1	1	1
Unknown	6	6	7

*More than one weapon possible.
†Offender-level data (*n* = 95).

ness. In addition to the information presented, data were available on 38 of the 78 unmarried subjects' involvement in a significant relationship at the time of the murder; 35 reported involvement in such a relationship. Available information indicated that nearly half of all defendants reported having been sexually, physically, or emotionally abused as a child. Similarly, almost half reported that their caregivers had a history of alcohol or drug abuse or a criminal record. It should be noted that the number of cases with missing data on these variables ranged from 20 to 50. As such, the percentages in Table 1 very likely understate the level of the offenders' family dysfunction.

Situational Variables

Data on the crime and victim are presented in Table 2. The 95 offenders were convicted of murdering 130 persons. Three-fourths of the victims were known to the offender; nearly half were either a fam-

Table 3 Motives and Diagnoses*

	Schizophrenia			Other Psychotic Disorders			Bipolar Disorder			Major Depression			Mania		
	n	%	Wt %	*n*	%	Wt %	*n*	%	Wt %	*n*	%	Wt %	*n*	%	Wt %
Rage or anger	9	33	32	6	43	39	6	50	58	35	60	59	1	50	50
Intimate or familial situation	6	22	20	5	36	39	5	42	42	28	48	45	0	0	0
Nonintimate or nonfamilial situation	3	11	13	1	7	7	1	8	9	7	12	14	1	50	50
Hatred, animosity, or revenge	6	22	21	7	50	50	4	33	33	26	45	43	1	50	50
Related to other crimes	7	26	16	3	21	14	2	17	17	17	29	28	1	50	50
Money/property gained	5	19	12	3	21	15	2	17	17	14	24	24	1	50	50
Delusional	5	19	20	0	0	0	1	8	8	4	7	6	0	0	0
Gratification	1	4	4	1	7	8	2	17	17	5	9	8	0	0	0
Unknown	4	15	21	2	14	21	2	17	17	1	2	2	0	0	0
Other	1	4	4	0	0	0	0	0	0	2	4	4	0	0	0

*There are 95 offenders with 158 motives; more than one diagnosis per offender possible.

ily member (27%) or had been in an intimate relationship with the offender (21%). Not surprisingly, half of all murders were committed either in the victim's residence or the shared residence of the victim and offender.

More than half of offenders' motives for murder were identified as rage or anger. While research has attributed violent behavior among persons with severe mental illness to psychotic symptoms and delusions of perceived threat,[58] delusional thinking was not commonly identified as a motive for murder, perhaps because of a limitation of the data which, for example, did not allow for an in-depth analysis of the source of the rage or anger that commonly motivated murder. Table 3 provides

Table 4 Clinical Variables

	n	%	Wt %
Diagnosis*			
Major depression	58	61	60
Schizophrenia	27	28	28
Other psychotic disorder	14	15	15
Bipolar disorder	12	13	14
Mania	2	2	2
Drug abuse and treatment			
Age at first use			
Weighted mean = 14.30; SD = 3.35; range, 7–25			
Never used drugs	8	8	7
Unknown	48	42	47
History of drug abuse			
No	22	23	25
Unknown	5	5	6
Yes	68	72	69
Drug of choice			
Marijuana	45	47	47
Stimulants	12	13	10
Inhalants	4	4	5
Other	7	7	8
Drug treatment			
No	43	45	41
Unknown	8	8	8
Yes	17	18	20
Once	5	5	6
More than once	7	7	9
Unknown	5	5	5
Mental health treatment			
None	15	16	17
Once	18	19	18
More than once	43	46	47
Unknown	19	20	19
History of suicide attempts			
Yes	47	49	47
No	23	24	26
Unknown	25	26	27
Physical disability			
Yes	16	17	21
No	68	72	70
Unknown	11	12	9
Alcohol abuse and treatment			
Age at first use			
Weighted mean = 14.77, SD = 3.89, range = 5–25			
Never used alcohol	2	2	1
Unknown	33	35	38
History of alcohol abuse			
No	24	25	26
Unknown	7	7	6
Yes	64	67	68
Alcohol treatment			
No	34	36	34
Unknown	5	5	5
Yes	25	26	30
Once	10	11	12
More than once	15	16	17

*More than one diagnosis per offender possible.

Table 5 Substance Abuse History by Diagnosis

	n	%	Wt %
All disorders with a history of both alcohol and drug abuse	53	56	56
Major depression (*n* = 58)			
Alcohol abuse	37	64	68
Drug abuse	46	80	80
Both	33	57	61
Schizophrenia (*n* = 27)			
Alcohol abuse	18	67	63
Drug abuse	18	67	63
Both	14	52	45
Other psychotic disorder (*n* = 14)			
Alcohol abuse	9	64	58
Drug abuse	6	43	35
History of both	6	43	35
Bipolar disorder (*n* = 13)			
Alcohol abuse	10	83	80
Drug abuse	10	83	80
Both	9	75	70
Mania (*n* = 2)			
Alcohol abuse history	2	100	100
Drug abuse	2	100	100
Both	2	100	100

data on motives by diagnosis. For example, rage or anger was identified as a motive for 32 percent of persons with schizophrenia. This anger arose from an intimate or familial situation in 20 percent of persons with schizophrenia.

Clinical Variables

Table 4 identifies major depression as the most common diagnosis, followed by schizophrenia and other psychotic disorders. Fewer than two-thirds of offenders had been treated at least once, as an inpatient or outpatient, for their mental illness; fewer than half had been treated more than once. Nearly half the offenders had a history of suicide attempts, the majority (58%) of which were associated with having a diagnosis of major depression. In addition to psychiatric disorders, about one-fifth of offenders possessed myriad physical disabilities that were determined to be "stigmatizing" by the researchers (e.g., hepatitis, a deformed limb, or a speech impediment).

More than two-thirds of all subjects had a history of drug abuse, and a nearly identical percentage had a history of alcohol abuse, while more than half of the sample reported both. Treatment for substance abuse was even less common than treatment for mental illness among offenders. Table 5 presents substance abuse histories by diagnosis.

Legal Variables

Before the instant offense, 78 offenders tallied 602 arrests for 887 offenses. The offense types and counts of prior criminal arrests and the number of unique offenders per crime (e.g., 13 offenders had 21 prior arrests for sex offense charges) are listed in Table 6. Despite their criminal histories, most offenders were not on parole or probation at the time of their offense. For the instant offense, 75 offenders received fixed terms of incarceration ranging from 30 to 240 years. Eleven were sentenced to life in prison without the possibility of parole, and nine were sentenced to death.

Discussion

The results characterize the offender with severe mental illness who has been incarcerated for murder in Indiana as predominately suffering from a mood disorder, being white and male with a high school education or equivalent, living in stabilized housing, and, to a lesser degree, having significant intimate and familial relationships. Rage or anger was the most frequently mentioned motive for murder, and this emotion was overwhelmingly directed toward intimate or familial relations via firearm or sharp object. In general, the offenders were raised in households with significant family dysfunction, had extensive histories of substance abuse and criminal activity before their murder conviction, and received a paucity of treatment for their mental and substance use disorders. These findings comport with those in previous studies of persons with mental illness, which utilized nonlethal violence as an outcome, were conducted on hospitalized murderers or persons solely with psychoses or schizophrenia, or were performed in countries other than the United States. However, many other findings differ substantially from prior descriptive research.

Nonlethal Violence Studies

Substance abuse appears to be a consistent predictor of violent behavior in the literature that assesses the relationship between mental illness and general violence.[9,24–26,28,29,59] Findings support the salience of the early onset of substance abuse[28] and the combination of substance abuse and medication noncompliance (especially when both alcohol and drugs are abused[25,26]) in violent behavior among persons with mental illness. The average age of first use of

Table 6 Legal Variables

	n	%	Wt %		*n*	%	Wt %
Sentence				Any prior arrests			
Death penalty	9	10	6	Yes	78	82	81
Life without parole	11	12	7	No	17	18	19
Fixed term	75	79	88	On probation			
Length of fixed term				Yes	12	13	15
Weighted mean = 64.84 y, SD = 36.67, range, 30–240				No	69	73	70
				Unknown	14	15	16
Number of prior arrests (*n* = 602)				On parole			
Weighted mean = 6.12, SD = 5.04, range, 1–29				Yes	4	4	4
Number of charges per arrest (*n* = 887)				No	81	85	84
Weighted mean = 1.45, SD = 0.93, range, 1–8				Unknown	10	11	12

	Offenders With Arrests*			Offense Frequency†		
Prior Arrest Offenses	*n*	%	Wt %	*n*	%	Wt %
Murder/manslaughter/homicide (includes attempts)	7	7	7	8	1	1
Sex offenses	13	14	13	21	2	2
Assault/battery offenses	44	46	42	127	14	13
Robbery	10	11	10	19	2	2
Crimes against people (general)	19	20	16	53	6	5
Weapon offenses	13	14	10	24	3	2
Arson	2	2	2	2	0	0
Theft/burglary offenses	53	56	55	198	22	24
Fraud	13	14	12	21	2	2
Juvenile/child offenses	24	25	24	61	7	7
Drug offenses	15	16	16	37	4	4
Vehicle/driving offenses	38	40	38	105	12	12
Escape/resisting offenses/failure to appear	30	32	33	59	7	8
Alcohol offenses (adults)	18	19	17	33	4	4
Property crimes (not theft/burglary/arson)	21	22	21	45	5	5
Disorderly conduct	20	21	17	45	5	5
Unknown	5	5	5	10	1	1
Other	16	17	13	19	2	2

*95 offenders with multiple arrests.
†*n* = 887, e.g., 44 offenders were arrested for 127 assault/battery offenses.

alcohol and of illicit substances before the offenders' 15th birthday indicates that substance abuse probably began at an early age. Despite the fact that data on medication and treatment compliance were not collected, the dearth of mental health treatment reported suggests that many of the offenders were not receiving treatment, a factor commonly associated with violence for adults with severe and persistent mental illness,[60] or taking medication for their severe mental illness at the time of the murder. Such findings echo the call of previous studies for consistent and accessible mental health treatment.

Results from the Epidemiological Catchment Area Study[9] show no difference in the prevalence of violence across psychiatric diagnoses; however, our results support a different conclusion, as 73 percent of offenders had diagnoses of major depression, bipolar disorder, or mania, while a psychotic disorder, including schizophrenia, was diagnosed in only 41 percent, although there was some overlap among the diagnoses. This finding may be explained by the fact that mood-disordered offenders had higher rates of co-occurring substance abuse than did offenders with schizophrenia or other psychotic disorders. Swanson and colleagues[9] reported that the prevalence of violence is higher among persons with an affective disorder and co-occurring substance abuse disorder than among persons with schizophrenia only. This trend is reflected in our high percentage of persons with mood disorders who had high rates of co-occurring substance abuse and our lower percentage of persons with schizophrenia who had relatively low rates of substance abuse.

It should be noted that the clinical disparities between the present sample reported here and in other studies may be influenced by the inherent weakness

of collecting data from records over a long period, as well as how mental illness and culpability for murder are dealt with in the Indiana courts. Although only diagnoses from a clinician were reported, they are not the result of a standardized clinical assessment, training probably varied among clinicians (e.g., psychiatrists, psychologists, clinical social workers), and assessment guidelines changed over the 12-year study period. Nonetheless, it appears that the most severe form of violence is more commonly perpetrated not by the "psycho killer" so often spotlighted in the media, but rather by persons who have a major mood disorder with a long history of substance abuse. Such findings underscore the need to address co-occurring substance abuse among the severely mentally ill and to consider the interaction of substance abuse and other diagnoses when assessing risk for both lethal and nonlethal violence.

Despite the fact that the literature implicates delusional thinking and psychotic symptoms in violent behavior among persons with serious mental illness,[15–17,58,61] delusional motives were rare in our sample, perhaps because of the diagnostic makeup of the sample (i.e., not enough persons with psychotic disorders to find similar results). Thus, while 43 percent of the sample had diagnosed schizophrenia or other psychotic disorder, the fact that just 6 percent of the motives for murder were attributed to psychotic symptoms does not discount the role that delusional thinking, specifically threat/control-override delusions,[58] may play in homicide. Since most of the killings were attributed to rage or anger toward the victim, it is possible that these emotions were stirred by a delusional threat and that the data collection methods were unable to distinguish between fury resulting from a real or imagined threat.

In addition, findings of not guilty by reason of insanity are based on a state statute that precludes culpability for illegal behavior based on "a severely abnormal mental condition that grossly and demonstrably impairs a person's perception" and that results in an inability to appreciate the wrongfulness of the conduct at the time of the offense.[62] Reflecting the findings of Nestor and Haycock,[43] this criterion may result in persons with psychotic symptoms at the time of their offense avoiding incarceration and, thus, may cause them to be underrepresented in the study sample.

Murder victims were primarily family or intimate relations of their attackers and were as likely to have been killed in their own residences as elsewhere. This result is consistent with research findings[24,63] and reviews of the literature on mental illness and nonlethal violence[27,64] that show that public fears[65] of violent victimization on the street by an unknown person with mental illness are not supported by the empirical evidence. The findings by Steadman *et al.*[24] and Estroff and colleagues,[63] however, indicate a higher rate of strangers targeted for nonlethal violence (14% and 16%, respectively) than the 8% we found. This discrepancy could be due to missing victim relation data on 18 percent of the cases in the present study, or it could indicate that more intense relations and frequent interactions are associated with a more lethal outcome for persons with severe mental illness. This latter assertion is supported by the fact that the majority of offenders sentenced for murder were either married or in a significant relationship at the time of the offense. In addition, most were parents, many were employed, and nearly all had stable housing. Thus, the social relations of murderers with mental illness appear distinctly different from the reports of social rejection and isolation among persons with mental illness presented in the general mental health literature (e.g., Refs. 48, 66). As a result of increased opportunity, socially embedded persons with mental illness convicted of murder could be more likely to target nonstrangers for such violence than are persons with mental illness who are not as socially integrated. Educational programs aimed at family members and intimates of persons with severe mental illness that provide information about mental illness, coping strategies, and how to manage aggressive behavior could be helpful in reducing the murder rates among close relations of persons with severe mental illness.[64]

Murderers Sentenced to Psychiatric Hospitals and Schizophrenic and Psychotic Killers

We suggested earlier that persons who have been sentenced to a psychiatric hospital for murder are likely to suffer from more severe mental illness than those with mental illness who had been sentenced to the penal system for murder, and that findings from studies of this population would not transfer well to the prison population. This assertion was supported, in that the studies that used hospitalized samples tended to have a higher proportion of persons with a diagnosis of schizophrenia[33–37,51] and persons who were experiencing psychotic symptoms[33–35,51] at the

time of the murder than was found in the present study. Our findings on the prevalence of alcohol abuse were twice those of two previous studies,[33,37] but were comparable with those in another.[35] The findings reported in four of the referenced studies describing hospitalized murderers were not so disparate from our findings when it came to age at time of offense, target, location, and method of murder. Although there are similarities between persons incarcerated for murder and those who were hospitalized for the same crime, the limited information provided in the hospital studies does not assure that such a setting is generalizable to persons with a mental illness who are convicted of murder and sentenced to prison.

Limiting studies of mental illness and murder to the subset of persons with psychotic or schizophrenic disorders presents similar problems. Studies on this subpopulation[20,38,39] report a similar age at the time of the offense and target preference as the current study and as the aforementioned hospital-setting studies. Leong and Silva[39] reported rates of types of murder weapons and common murder locations similar to our findings. However, our sample had a much higher rate of alcohol and substance abuse and much lower rates of active delusions at the time of the offense than were reported in the studies of murderers with psychotic and schizophrenic disorders.[20,38,39] As such, findings from analyses conducted with persons with psychotic or schizophrenic disorders who have been convicted of murder may not adequately reflect the more psychiatrically heterogeneous population of incarcerated severely mentally ill murderers.

Studies of Persons With Mental Illness Convicted of Murder Outside the United States

While research on mentally ill persons convicted of homicide (including intentional and unintentional homicide) in Iceland[53,54] found comparable rates of average age at the time of murder, the influence of alcohol, and the days of the week on which most murders occurred, we found that similarly situated offenders in the midwestern United States had a much more extensive criminal history before the murder, had lower rates of physical disabilities, were much more likely to use a firearm to kill and to kill a family member rather than a stranger, had lower rates of psychotic disorders and of experiencing active delusions at the time of the offense, had higher rates of major depression, and had much higher rates of killing for financial gain than did Icelanders.[53,54] Comparisons to Finnish studies are difficult because of their focus on schizophrenic or personality-disordered offenders,[41,52] the latter of which were not included in our study. Although targets of violence and family dysfunction were similar to ours, the presence of psychotic symptoms and past psychiatric contact was higher; killing by firearm and the presence of alcohol and drug abuse and a criminal history were lower. In Sweden,[30] substance abuse and depressive disorders were much lower than we noted in our study. In New Zealand,[40] mentally ill murderers had similar rates of psychotic disorders.[20]

We might expect results from a more diverse sample of persons with mental illness who have been convicted of murder in England and Wales[49–51] to be more consistent with our descriptions. However, despite some similar findings, such as age at offense, percent unemployed, rates of homelessness, and targeting of nonstrangers, the findings from abroad offer an incomplete picture of the murderers with a mental illness in the midwestern United States. Our study found rates of alcohol abuse twice as high and rates of drug abuse four times as high as in the comparable population in the United Kingdom. We also identified much higher rates of violent histories, diagnoses of schizophrenia and major depression, and lifetime mental health treatment.

Implications and Directions for Future Research

While some of our findings were similar to those in the aforementioned studies, many pointed to the distinctive characteristics of persons with severe mental illness who have been convicted and sentenced to prison for murder in the United States, particularly in Indiana. In addition, none of these prior studies offered information on the entirety of variables that we have employed. By the use of data on imprisoned murderers, our study provides a more complete description of adults with mental illness incarcerated for murder than do prior studies. Given the descriptive nature of the study, it is not possible to ascertain risk factors for murder among persons with severe mental illness. However, it is a first step toward providing a more complete overview of the characteristics of persons with severe mental illness who have been sentenced to prison for murder in the United States. The findings will allow for future analysis of risk factors for murder among persons with a mental illness by comparison to non-mentally

ill murderers and to persons with a mental illness who engage in nonlethal violence.

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