Characteristics of Female Homicide Offenders Found Not Guilty by Reason of Insanity

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Until recently, there has been little information regarding female offenders who commit homicides that are motivated by psychosis. We investigated gender differences in the characteristics of psychosis and crime variables in psychotically motivated homicide. In the study, conducted at a large U.S. forensic facility, we reviewed the records of women ($n = 47$) found not guilty by reason of insanity (NGRI) who were hospitalized between January 1991 and August 2005 for a homicide offense. A random sample of 47 men who were committed during the same period for the same offenses was selected for comparison. Religious delusions were found more often in women who killed infants (0–1 year of age) and children between the ages of 2 and 18. Women were more likely to have a diagnosis of an affective problem and borderline personality disorder. The results indicate gender-specific areas to focus on during clinical and forensic assessments of the risk of violence in women with psychosis.

J Am Acad Psychiatry Law 41:516–22, 2013

Homicide constitutes the most extreme form of violence on the spectrum of human aggression. Although men commit most of these types of crimes, it has been estimated that 10 percent of all homicides are committed by women.[1] Research on men with homicidal behavior is extensive; however, there are relatively few studies that look at female criminality in general, with even fewer comparing the differences between women and men who commit homicide. Women who commit violent acts that are motivated by psychosis comprise an even smaller, understudied subset of offenders.

Aggression is traditionally regarded as a masculine rather than a feminine trait. However, the recent literature on risk of violence in the mentally ill indicates that women with mental illness have the potential to be as violent as their mentally ill male counterparts but choose to commit violent acts less frequently.[2] Hodgins[3] found that women with a major mental disorder were about 27 times more likely than their non-mentally ill counterparts to be convicted of a violent crime. Women who commit any violent crime, especially homicide, are violating social and psychological norms to a much higher extent than are their male counterparts.[4] Studies have suggested that when dealing with life's stressors, provocations, and anger, women are more likely than men to use noncriminal, and inward coping strategies, such as becoming depressed, feeling guilty, and misusing substances.[5] In general, women who engage in violence have been shown to have more psychosocial stressors throughout life than their male counterparts, such as negative family environment, physical and sexual abuse, and neglect by early caretakers.[5] Extreme acts of lethal violence by women seem to be born out of extreme life conditions.

Psychosis, especially the presence of delusions, may confer a disproportionate risk of violence on women over men, although in both sexes, the association is not clear. Some studies have found that delusions are associated with serious violence,[6] and other studies have failed to find a clear association between delusions and violence[7–9] or have been equivocal. For example, Beck[10] reported that although delusions alone are infrequently related to

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Disclosures of financial or other potential conflicts of interest: None.

violence, when present, they appear almost always to drive the violent behavior. Link *et al.*[11] coined the term threat-control override (TCO) to denote a type of delusion that causes perception of a personal threat and a lack of self-control. The authors reported that TCO delusions have been identified as correlating strongly with violence. Other studies have failed to find an association between TCO delusions and violence.[7,8]

In the United States, the most common mental condition of those found not guilty by reason of insanity is schizophrenia.[12] However, clinicians who work with individuals with schizophrenia know that patients can experience chronic and debilitating auditory hallucinations (voices) and delusions (fixed false beliefs) without acting out in response to them. With advancements in clinical and actuarial forensic violence risk assessment, we are becoming better at identifying those individuals at highest risk of engaging in severe psychotic violence. There is some evidence of special patterns in the relationship between psychosis and violence in women that requires more investigation. For example, Teasdale *et al.*[13] reported that when women experience threat delusions they exhibit lower rates of violence than do their male counterparts.

Delusions are informed and influenced by an individual's psychosocial experience, background, and culture. The type of delusion often reflects an essential or existential conflict or reflects the individual's position in our complex social world. We anticipated that we would find differences in the social and criminal variables present in the psychosocial history of the female homicide offenders in our study when we compared them to those of their male counterparts. Since delusions are expressed through the filter of an individual's psychosocial experience and psychology, we hypothesized that we would find differences in the thematic content of psychotic symptoms that would be reflected in the type of primary delusion. In the study reported here, with a sample size of 47 female homicide offenders, we examined the relationship between psychotic symptoms with emphasis on characteristics of delusions, the social and criminal variables of the offenders, and their homicidal acts. The goals of the present study were to investigate violence risk assessment factors that deserve special consideration in women with psychosis and, in particular, to identify risk factor variables and crime characteristics unique to women who have committed extreme acts of violence such as homicide.

Methods

This research was approved by the Human Subjects Committee at Napa State Hospital (NSH), the State (of California) Committee for the Protection of Human Subjects, and the University of California-Davis (UCD) School of Medicine Institutional Review Board.

The study was conducted at NSH, an approximately 1,200-bed inpatient psychiatric facility located in northern California. Eighty percent of the beds at NSH are designated as forensic beds, with the remaining 20 percent reserved for patients under nonforensic civil commitments. The records of all women found not guilty by reason of insanity (NGRI) of homicide and hospitalized at NSH at any time between January 1991 through August 2005 ($n = 47$) were reviewed. An offense was considered a homicide if the charge was murder, attempted murder, manslaughter, or attempted manslaughter. A total of 205 men were committed to the hospital for homicides during the same time period. We selected 47 of them by using the random sampling method contained in SPSS data analysis software. We did not match the comparison group on any clinical or demographic characteristics, as the purpose of the study was to examine differences between genders on all characteristics.

Subjects

The California statute for insanity codified in 1982 states that an individual is not guilty by reason of insanity if, as a result of a mental disease or defect, "he or she was incapable of knowing or understanding the nature and quality of his or her act and (or) was incapable of distinguishing right from wrong at the time of the commission of the offense."[14] Before 1982, California applied the American Law Institute (ALI) test, which defined insanity as the inability of a person, as a result of a mental illness or defect, to appreciate the nature and quality of his act or to conform his conduct to the requirements of the law.[15] Eighteen of the participants were committed before 1982: 6 women and 12 men. In 1994, the California State Senate amended the Penal Code, preventing California courts from finding a defendant insane solely on the basis of a personality disor-

der, adjustment disorder, seizure disorder, or addiction to or abuse of intoxicating substances.

Procedure

Data were collected with a structured chart-review instrument. When available, the following records were reviewed: hospital psychiatric records, mental health evaluations assessing criminal responsibility for the committing offense, police and witness reports regarding the committing offense, and the California criminal arrest history transcript. Training was provided by a research psychologist on the use of the coding sheet. Before collecting data for the study, research assistants each coded a subset of 10 records to achieve consistency. Training was continued until at least 85 percent of all the variables were coded identically for all raters.

In addition to coding information from records, we accessed existing databases. The Department of Mental Health (DMH) of California maintains a comprehensive database of all patients admitted to all state facilities (Operational Data Store, ODS). This database contains basic demographic information, including sex, race, education level, birth date (for age calculations), marital status, and the hospital to which the patient was admitted. Clinical information in this database includes a primary Axis I diagnosis.

Information coded included basic demographics, such as age, ethnicity, educational level, and marital status. The psychiatric information recorded included admission and discharge dates, admission diagnoses (Axes I and II), and mental health symptoms reported to have occurred at the time of the instant offense. Such symptoms included the presence of delusions, including the type of delusion (e.g., persecutory, religious, or grandiose) and the presence of hallucinations. Evidence of the use of substances at the time of the offense was also recorded, including the type of substance used. Other information coded included prior psychiatric hospitalizations, history of suicide attempts, abuse history, criminal history, history of prior incarceration, age at first arrest, victim type (family/friend/stranger), age of victim (if known), crime method (e.g., drowning or suffocation), and weapon used. Because some women had not been discharged at the time of the record review, admission diagnoses as recorded in the Admission Discharge Transfer (ADT) database were used in examining diagnostic differences.

Table 1 Demographic Characteristics of the Sample

	Female *n* (%)	Male *n* (%)
Race		
African-American	9 (19)	8 (17)
Caucasian	33 (70)	30 (64)
Hispanic	1 (2)	4 (9)
Other nonwhite	4 (9)	5 (11)
Marital status*		
Single	16 (34)	29 (62)
Ever married	31 (66)	18 (38)
Education		
Less than HS	12 (25)	12 (25)
High school equivalent	18 (38)	22 (47)
College or higher	17 (36)	13 (28)

* $p < .01$.

Analysis

A variety of statistical methods were used to evaluate differences, including the chi-square test, *t* test, and correlational analyses. All analyses were conducted with SPSS software.

Results

Demographic information is presented in Table 1. There were no differences between the men and women in ethnicity or education. The sample was primarily Caucasian and most had a high school diploma or higher. The women were more likely to have been married than the men, who were more likely to be single at the time of the offense.

As can be seen in Table 2, the clinical characteristics of the women versus the men showed substantial differences. When compared with their male counterparts, the women were far more likely to have an affective (mood) component to their illness. Twenty-five (52%) of the women had schizoaffective, major depressive, or bipolar disorder, compared with 10 (21%) of the men. Of those who had an Axis II diagnosis, the women were much more likely to have borderline personality disorder, whereas the men were more likely to have antisocial personality disorder or personality disorder not otherwise specified with antisocial traits.

Regarding historical factors, the women were slightly more likely to have experienced childhood physical abuse than were the men. In addition, a much higher percentage of the women were the victims of childhood sexual abuse and were more likely to be the victims of intimate-partner violence. There was a trend for the women to be older at the time of their offenses, but age at onset of the illness was iden-

Table 2 Clinical Characteristics

	Female *n* (%)	Male *n* (%)
Axis I diagnosis*		
Schizophrenia	12 (26)	24 (52)
Schizoaffective disorder	10 (21)	7 (15)
Substance use disorders	3 (6)	7 (15)
Other psychotic disorder	6 (13)	3 (6)
Major depressive disorder	11 (23)	1 (2)
Bipolar disorder	4 (8)	2 (4)
Other disorders	1 (1)	2 (2)
Axis II diagnosis†		
Antisocial personality disorder	1 (10)	4 (36)
Other personality disorder	3 (30)	6 (55)
Borderline personality disorder	6 (60)	1 (9)
Childhood physical abuse‡		
Yes	19 (56)	15 (34)
Childhood sexual abuse*		
Yes	22 (58)	8 (18)
Intimate partner violence*		
Yes	24 (65)	7 (17)
	Mean (SD)	Mean (SD)
Age at offense‡	35.7 (13.0)	31.4 (10.1)
Age at onset of illness	24.2 (13.3)	24.3 (10.7)
Age at first offense*	33.3 (13.5)	25.1 (8.7)

* $p < .01$; † $p < .05$; ‡$p < .06$.

tical in the men and the women. The women were more likely to be older at the time of their first offense. Consistent with this, for most of the women, the commitment offense was their first and only arrest.

Criminal offense characteristics are presented in Table 3. The majority of the women's victims were family members ($n = 30$, 64%) in contrast to the men's victims, the majority of whom were friends, acquaintances, or strangers ($n = 35$, 75%). Many of the victims of the women were under the age of 18 ($n = 19$, 50%) at the time of the offense, whereas none ($n = 0$) of the men's victims was under 18. The one biological child victim of the men was an adult at the time of the homicide.

As can be seen in Table 3, the weapon of choice for women was a knife, followed closely by the other weapons category, which would include, for example, pillows or cars. Very few of the women used firearms, which was the weapon of choice for the men. The method of homicide mirrored the weapon results (i.e., when a victim was shot, the weapon used was a gun; when the victim was stabbed, the weapon used was a knife).

When individual delusions were examined, only delusions of being followed distinguished the sexes, with 10 percent of the women endorsing this belief at the time of their offense compared with none of the men. In both sexes, visual hallucinations did not occur in the absence of delusions, although there was a small proportion of the sample that endorsed auditory hallucinations absent any delusions (14%). There were no differences between the sexes in the use of substances at the time of the offense, with records indicating that 34 percent of the women had evidence of substance use at the time of the offense compared with 38 percent of the men.

The type of delusion exhibited by the female offenders at the time of the offense was related to the age of the victim. Religious delusions were found more often in the women who killed infants (0–1 year of age) and children between the ages of 2 and 18 ($\chi^2 = 9.39$; $df = 3$; $p < .03$). Ideas of reference delusions were more commonly reported by female homicide offenders whose victims were in the elderly age group ($\chi^2 = 5.33$; $df = 2$; $p < .07$).

In our samples of both women and men, 36 percent of offenders had evidence in their records of substance use at the time of the offense. Although there were no differences between the sexes regarding substance use at the time of the offense, the results

Table 3 Offense Characteristics

	Female *n* (%)	Male ***n*** **(%)**
Victim*		
Child	18 (38)	1 (2)
Other family member	12 (26)	11 (23)
Friend/acquaintance/stranger	17 (36)	35 (75)
Victim's age*		
Infant (0–1)	10 (26)	0 (0)
Child (2–17)	7 (18)	0 (0)
Adult (18–59)	16 (32)	30 (79)
Elderly (60+)	5 (14)	8 (21)
Weapon†		
Firearm	9 (19)	16 (34)
Knife	20 (43)	15 (32)
Blunt object	2 (4)	6 (13)
Hands/fists	2 (4)	6 (13)
Other	14 (30)	4 (8)
Method†		
Shot	9 (19)	16 (34)
Stabbed	20 (43)	17 (36)
Strangled	3 (6)	3 (6)
Suffocated	4 (8)	0 (0)
Beat	2 (4)	9 (19)
Drowned	1 (2)	0 (0)
Poisoned	1 (2)	0 (0)
Other	7 (15)	2 (4)

* $p < .001$; † $p < .05$.

showed a difference in delusion type related to amphetamine use in women compared with that in men. Women using amphetamines at the time of the homicide were more likely to have grandiose delusions ($\chi^2 = 13.53$; $df = 1$; $p < .001$), whereas men using amphetamines were more likely to have persecutory delusions ($\chi^2 = 6.64$; $df = 1$; $p < .01$).

Basing a hypothesis on the earlier work of Teasdale *et al.*,[13] we investigated the presence of threat-control override (TCO) delusions and evaluated the data for gender differences. We did not find any gender differences related to the presence of TCO delusions. The men were more likely to experience threat delusions at the time of the offense if they were also using stimulants.

Discussion

The most significant finding of this study is the prevalence of religious delusions in female homicide offenders who killed infants and children. In our sample, the male homicide offenders did not have any victims under the age of 18, and religious delusions were less frequently present, regardless of the victim's age. Our results are consistent with recent research on child murder by female homicide offenders found not guilty by reason of insanity. For example, in a study of women found not guilty by reason of insanity for filicide, Friedman *et al.*[16] found that the women frequently had mood problems and experienced auditory hallucinations and that almost all perpetrators had altruistic or acutely psychotic (delusional) motives. In a population-based descriptive study, Flynn *et al.*,[17] investigated the psychosocial backgrounds and legal outcomes of a large group of homicide offenders in England over an eight-year period. They reported that the ages of victims killed by female homicide offenders who were mentally ill differed significantly from those of the victims of their male counterparts in the predominance of infants and children among the victims of the women. Our data, collected in the United States, are strikingly similar to the findings of Flynn *et al.* on the predominance of the persons under the age of 18 among the victims of mentally ill female homicide offenders. Our results support that female offenders tend to have a close social relationship with their victims and lend support to the concept of intergenerational violence within families.

The prominence of religious delusions in our sample of female homicide offenders who engaged in psychotic violence was a striking finding. The etiology of the formation of religious delusions in women who kill their children has been explored in the psychoanalytic literature, which suggests that religious delusions may be derived from the psychological conflicts of mothering.[18,19] The anxieties that are manifested in psychotic religious delusions may involve fantasies and fears of omnipotent creation (of a human life) linked with fears and fantasies of a woman's own potential for aggression and destructiveness (murder). Women who have religious delusions often have self-preservation or the preservation of their children as the goal. Altruistically motivated filicide has been described by Resnick[20] in his seminal work on major homicidal motives in women who kill their children. That many female perpetrators of homicide against children have religious delusions at the time of their offenses is a red flag for investigating clinicians who are psychiatrically evaluating women at risk of engaging in violence against their children. Clinicians should be vigilant in asking about religious ideas and assessing for delusional thought content that could lead to violence.

The results also add to the growing body of literature on the relationship between the content or type of delusion and violence. We hypothesized that we might see gender differences in response to threat and control-override delusions in our matched groups of NGRI homicide offenders. Gender differences in response to TCO delusions that were hypothesized in the work of Teasdale *et al.*[13] were not supported by our study. We found no difference in the presence of TCO delusions between male and female homicide offenders in our sample. TCO delusions involve psychotic experiences that lead an individual to fear personal harm (threat) while blocking internal constraints against violence (control-override) that then precipitate aggression. Our forensic population sample of women is distinct from any community sample of women, and it is possible that our sample bias influenced our findings pertaining to TCO delusions. For example, our forensic sample may have been biased by containing a large cohort of women with aggression-prone personality traits, such as are found in borderline personality disorder. If this is the case, the women in our sample were a skewed demographic that may have matched our male sample in their propensity to act violently in response to TCO delusions.

This analysis confirmed the findings in most earlier literature on gender differences in diagnostic profiles of homicide offenders.[17,21,22] Our female sample was more likely to have had a diagnosis of a mood disorder or borderline personality disorder and less likely to have had a diagnosis of antisocial personality disorder or substance misuse.[10,23] The question of whether the diagnosis of borderline personality disorder and the psychopathy construct contain within them gender biases is an interesting one to consider, as is whether there are sociological biases that cause practitioners to view affective dyscontrol problems more readily as female disorders. With regard to homicide prevention, our study supports that some violence risk factors that correlate with psychopathy, such as criminal versatility, reoffending rates, juvenile conduct disorder, and revocation of probation or parole, are not as meaningful in women who commit extreme acts of violence and so should not be weighed as heavily in violence risk profiling. For the majority of women in our sample, their homicide offense was their first and only arrest.

Logan and Blackburn[24] reported that in women, only measures of personality pathology were associated significantly with criminal offending. In their study, women incarcerated for a major violent offense were four times more likely to have a diagnosis of borderline personality disorder. Kuo and Linehan[25] investigated biologic vulnerability to high emotional reactivity in individuals with borderline personality disorder. They have written extensively on the psychopathology of borderline personality disorder, including the phenomenon of self-directed violence in individuals with the condition, such as parasuicidal and self-mutilation behaviors. Our data showing that 60 percent of our female homicide offenders carried a primary diagnosis of borderline personality disorder (compared with 9% of the matched male sample) provide evidence of its association in women with serious violence toward others.

Conclusions

Psychosis is an important risk factor for violence that should be carefully assessed in both men and women. The findings of this study are relevant to the clinical management of women with psychosis, violence risk assessment in women, and forensic assessments of criminal responsibility. Our data indicate that there are gender differences in the clinical and criminal characteristics of mentally ill homicide offenders who are adjudicated not guilty by reason of insanity in California and suggest some specific areas to focus on during clinical and forensic evaluations of violence risk assessment in women with psychosis. A detailed determination of psychotic symptomatology in the violence risk assessment of women should include a high vigilance for the presence of religious delusions in women with children under the age of 18. Particular attention should be paid to eliciting detailed content of the religious delusions, and clinicians and evaluators should give careful consideration to themes evoking death, spiritual salvation, or the afterlife. Careful consideration should also be given to Axis II comorbidity, particularly the presence of borderline personality traits in women with Axis I psychotic disorders. The presence of psychosis with religious delusions, unstable affect, access to children under the age of 18, and borderline traits on Axis II form a particularly ominous constellation of violence risk factors that warrants close clinical scrutiny. These factors, when they occur together in women with aggressive tendencies, should guide clinical decision-making in favor of higher levels of treatment to prevent acts of violence.

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