

Patterns of Substance Abuse and Intoxication Among Murderers

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A series of 100 murderers was examined to discern patterns of substance abuse and intoxication in relation to homicidal events. More than half of the study subjects were found to be actively abusing drugs at the time of their crime, and almost half were intoxicated. Alcohol was the drug most often abused. Demographic and other discriminating factors were utilized to examine the hypothesis that murderers do not constitute a homogeneous population and that subgroups differ in their abuse patterns. Cluster analytic techniques were applied to the study population. Utilizing a set of 13 proximate causal factors, a typology of seven distinct homicide profiles was created. Two of the seven profiles exhibited extremely high abuse and intoxication rates, three others intermediate rates, and two profiles very low rates. Moreover, different substances were prime offenders in different profiles. These findings demonstrate that substance abuse is an important etiological contributor in some types of murderer but not in all types.

If the media and the public utterances of politicians are to be believed, there is a constant, inviolate, and, for all practical purposes, omnipresent relationship between criminal violence and substance abuse. This view argues that if substance abuse can be reduced, violence will diminish dramatically. All this rhetoric aside, an examination of the psychiatric literature reveals that surprisingly sparse attention has been paid to this connection. Moreover, those connections which have been reported have been anecdotal or descriptive rather than

analytic in nature.¹⁻⁸ Older studies such as that of Lanzkron⁹ reported lower levels of drug abuse among murderers than have more recent studies such as that of Langevin and coworkers.¹⁰ Also, the mix of substances reported upon has changed over time as prevailing substance abuse patterns change. For example, reports of cocaine abuse among prison inmates including murderers have increased 10-fold in the last decade while reports of methadone abuse have diminished by 50 percent.¹¹

Neither the older nor the newer studies have attempted to place the contribution of substance abuse in its proper etiological context relative to other causal factors. This is especially important given recent research by this

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author¹² which has demonstrated that etiological contributors to homicide are multiple in nature and cumulative in their impact. Moreover, this same research effort has delineated seven distinct homicide profiles, each different in its etiological pattern. This paper will examine detailed social and psychological data collected from 100 murderers to:

1. delineate the prevalence of temporally proximate illicit and nonmedically prescribed drug abuse and alcohol abuse among those who commit acts of homicidal violence;
2. delineate the incidence of intoxication in this same group;
3. specify which substances of abuse are most associated with homicidal behavior;
4. determine the relative contributions of abuse and intoxication within seven different homicide profiles.

Methodology

One-hundred men and women charged with murder or nonnegligent manslaughter were referred to the author for psychiatric evaluation between January 1, 1980 and December 31, 1988. Excluded from the study were two persons for whom the issue of culpability remained in doubt.

Each study subject was examined directly by the author for a minimum of four and a maximum of more than 100 hours. Other relevant persons including family members, friends, employers, teachers, and therapists were also inter-

viewed when accessible for the purpose of corroborating and elaborating upon information provided by defendants. All relevant records were examined including military, educational, medical, psychiatric, and criminal justice records. The investigatory reports relating to the homicide(s) including at times audio and/or videotapes of police interrogations of the defendant were examined.

No information about substance abuse or intoxication was utilized unless validated in some manner independent of the defendant's statements. This is especially important in the evaluation of criminal defendants. A finding linking substance abuse and/or intoxication to homicidal behavior can influence the outcome of an adjudication process causing some defendants to be less than candid about such matters. To substantiate the presence of current substance abuse, the author sought documentation of such abuse in medical, psychiatric, or substance abuse treatment records, physical evidence such as needle tracks, and reliable history from persons knowledgeable about the defendant. With respect to intoxication, the author accepted as substantiation the results of urine or blood analyses undertaken with specimens collected in close temporal proximity to the homicide (within two hours) when available or unequivocal observations by reliable and unbiased witnesses to the crime coupled with a reliable history regarding substance abuse on the day of the crime.

For purposes of this study, active substance abuse was defined as use on three or more occasions during the 30-day

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period preceding the homicidal event (except alcohol for which five abuse incidents were required). The definitions for intoxication were appropriated from DSM-III and utilized the criteria specified in diagnostic codes 303.00, 305.20–305.70, and 305.90 which define intoxication for alcohol, sympathomimetics, cannabis, cocaine, hallucinogens, inhalants, opioids, phencyclidine, and hypnotics.¹³ (DSM-III-R was not utilized for this study.)

It was not possible to select subjects using a random or stratified random study design from the total universe of murderers in a defined geographic area during a specified time period. Therefore, it was imperative to compare the study population with the larger universe of murderers from which it was drawn to uncover any biases present in the sample. For the purpose of the study, the universe of murderers was defined as all persons who committed homicides in the state of California between January 1, 1980 and December 31, 1988, the period during which study cases were evaluated. Comparative data reflecting the age, sex, racial, and ethnic status of murderers as well as data reflecting the relationship between assailants and victims were available for both this universe and the study population. Data for the universe were selected for two years, one early and one late in the study period (1982 and 1987). The data were averaged and then used for comparison purposes.^{14,15} These comparisons are presented in Table 1.

In most respects, the population profile of the county from which many of

the study subjects came did not differ significantly from that of the state from which the universe of murderers came. In only one such instance was adjustment of the data needed. (See Yarvis¹² for details.) As can be seen in Table 1, there is a fairly close match between the study population and the universe population with respect to the available demographic measures. The study population was subjected to detailed demographic analyses. Data from these analyses have previously been published.¹⁶

Finally, cluster analysis techniques were applied to the study population utilizing the 14 proximate causal factors enumerated in Table 2. The cluster analysis procedure identified seven distinct homicide profiles, each of whose substance abuse patterns could then be examined. Cluster analysis is not a well-known statistical technique. A more detailed discussion of it can be found in an earlier publication by the author¹² or in three well-known texts on the subject.^{17–19}

Substance Abuse Findings for the Study Population Examined as a Whole

More than one-half of all the study subjects experienced some type of active substance abuse problem in proximity to their homicidal behavior, and almost one-half were intoxicated at the time of the homicidal events. Table 3 summarizes these overall prevalence rates. The data in this table also reflect a known but infrequently emphasized finding

Table 1
Demographic Comparisons Between Study Subjects and the Study Universe

Demographic Categories	Study Subjects (%)	Data for All Convicted Murderers in California, Two-Year Average, 1982 and 1987 (%)
Age <25 years	33.0	40.0
Age <40 years	85.0	85.9
Males	88.0	89.6
Females	12.0	10.4
Caucasians	68.0	58.3
Blacks	30.0	37.1
Hispanics	12.0	12.3*
Assailant/victim relationship		
Spouse	13.0	8.4
Neighbor, friend, acquaintance	40.0	50.8
Parent/child	7.0	5.8
Stranger	32.0	27.5
All others	8.0	7.8

* Adjusted to reflect differences between state population of Hispanics and population of Hispanics in the area from which the study population was drawn.

Table 2
Proximate Causal Factors Utilized in Cluster Analysis

Factors 1 through 8
Baseline mental functions
Impaired interpersonal relations
Impaired impulse control
Impaired reality testing
Impaired thinking
Impaired cognition
Impaired self-image
Presence of antisocial values
Presence of alienation/disenfranchisement
Factor 9
Presence of an Axis I psychiatric disorder—all cases allocated to one of the following categories: Psychosis; psychoneurosis or adjustment reaction; substance abuse disorder, behavior/organic/ mental retardation disorder, no Axis I disorder
Factor 10
Presence of an Axis II personality disorder—all cases allocated to one of the following categories: Antisocial personality; borderline, paranoid, schizoid, or schizotypal personality; histrionic or narcissistic personality; low-impact disorders (avoidant, dependent, obsessive-compulsive, or passive-aggressive), no Axis II disorder
Factor 11
Presence of substance abuse problems (with or without diagnosis of substance abuse disorder)
Factor 12
Presence of rationalizing or justifying motives
Factor 13
Presence of intoxication
Factor 14
Presence of significant stress

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Table 3
Overall Abuse and Intoxication Patterns (in %)

Pattern	All Substances	Alcohol Only	Drugs Only	Alcohol and Drugs
Substance abuse present	58.0	18.0	14.0	26.0
Intoxication present	48.0	19.0	12.0	17.0

Table 4
Abuse Patterns Selected by Demographic Group (in %)

Demographic Categories	All Abuse	Alcohol Only	Drugs Only	Alcohol and Drugs
Males (n = 88)	63.6	19.3	14.8	29.5
Females (n = 12)	16.6	8.3	8.3	0.0
Prior criminal history (n = 56)	75.0	26.8	19.6	28.6
No prior criminal history (n = 44)	36.3	6.8	6.8	22.7

that alcohol is the predominant substance of abuse in homicide cases.

Demographically, homicide cases are not homogeneous with respect to substance abuse as can be seen in Table 4. Based on maximum likelihood ratio chi-square analyses, male murderers were significantly more likely to be actively abusing substances than were females ($p = .009$). Murderers with prior criminal histories, violent or otherwise, were significantly more likely to be active abusers than were those without such histories ($p = .003$).

Additionally, the presence of intoxication was not distributed homogeneously within the study population. As can be seen in Table 5, male murderers were significantly more likely to have been intoxicated at the time of the crime than were female murderers ($p = .026$). Murderers with prior criminal histories were significantly more likely to have been intoxicated at the time of the crime than murderers without prior criminal histories ($p = .011$).

Choice of substances was also examined. Here the measure employed was *use* three or more times during the month prior to the crime for substances other than alcohol and five times for alcohol. These measures were chosen because they could be compared with national survey data collected from a representative sample of American households conducted by the National Institute on Drug Abuse.²⁰ Data from a household survey conducted in 1982 (a year during the data collection phase of the homicide study) is presented in Table 6 along with study sample data. The abuse rates for all substances for which comparison data was available were higher in the homicide subjects than in the household subjects by factors of almost two to more than five times.

Substance Abuse Patterns in Homicide Clusters

While the above findings are interesting, they have a descriptive focus. For a more etiological focus, homicide clusters

Table 5
Intoxication Patterns by Selected Demographic Groups (in %)

Demographic Categories	All Intoxication	Alcohol Only	Drugs Only	Alcohol and Drugs
Males (n = 88)	52.3	20.5	12.5	19.3
Females (n = 12)	16.6	8.3	8.3	0.0
Prior criminal history (n = 56)	60.8	28.6	14.3	17.9
No prior criminal history (n = 44)	31.8	6.8	9.1	15.9

Table 6
Abuse by Substance (in %)

Substance	Study Sample (n = 100)	NIDA Data for 1982 (n = 5,624)
Alcohol	42.0	24.2**
Marijuana	27.0	8.4*
Amphetamines	15.0	NA
Cocaine	10.0	1.7*
PCP or other hallucinogens	8.0	1.5*
Heroin	7.0	0.4*
Barbiturates	7.0	NA
Others	1.0	NA

* Used three or more times in past month.

** Used five or more times in past month.

and their concomitant substance abuse problems were examined. Cluster analysis techniques were applied to the study population utilizing the 14 etiological factors enumerated in Table 2. This analysis yields seven discrete homicide profiles. Five of the profiles share a "prototypical" core of characteristics but differ in important respects. Two profiles are more profoundly different. The seven profiles are characterized by different substance abuse patterns. They will be discussed in ascending order with respect to the degree to which substance abuse plays an etiological role in them.

A "pure psychotic" cluster, into which eight percent of the study subjects fall, is one of the nonprototype clusters. As can be seen from Table 7, murderers in this cluster all share psychotic symptoms

which are primarily delusional and hallucinatory in nature. Substance abuse does not play a significant role in this cluster. Only 12.5 percent were actively abusing at the time of the homicidal event, and none was intoxicated.

A prototypical cluster shares a set of core characteristics in sum or in part with four prototype variant clusters. Twenty percent of the study subjects fell into the prototype cluster. As can be seen in Table 8, most exhibited antisocial values and were afflicted with personality disorders, but no Axis I pathology was observed. Most were profoundly alienated from community and peers and expressed strongly held beliefs that they had been cheated throughout life, had few, if any, future prospects, and little or nothing to lose by way of conse-

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Table 7
Characteristics of the Pure Psychosis Cluster

A. Core characteristics
1. All with psychotic Axis I diagnoses
2. Lack of any motive or motives related to delusions
B. Other distinguishing characteristics
1. None with Axis II personality disorders
2. None with antisocial values
3. Many experience alienation and disenfranchisement but only during periods of psychotic disorganization
C. Substance abuse characteristics
1. 12.5% abuse some substance
2. 0.0% were intoxicated
3. Substance abused—marijuana (12.5%)

Table 8
Characteristics of the Prototypical Cluster

A. Core characteristics
1. Most with Axis II personality disorders—many are antisocial disorders
2. Most with antisocial values
3. Most with long-standing alienation and/or disenfranchisement—global blame
B. Other distinguishing characteristics
1. Motives are related to claims of self-defense or there are outright denials of culpability
2. Few with Axis I diagnoses—all are behavioral
C. Substance abuse characteristics
1. 20% abuse some substance
2. 5.0% were intoxicated
3. Substances abused—alcohol (15%), marijuana (10%), amphetamines (5%)

quences if they engaged in antisocial behavior. The prevalence of substance abuse was only 20 percent, and the incidence of intoxication at the time of the homicidal behavior was only five percent in this cluster. Only the prevalence of alcohol abuse exceeded 10 percent in these cases. Neither abuse nor intoxication rates high among the proximate etiological factors which affect this cluster's behavior pattern.

Twenty percent of the study subjects fell into the "A" variant of the prototype cluster. As can be seen from Table 9, variant "A" shares many of the prototype cluster's core characteristics. There are several distinguishing characteristics,

however. Unlike the prototype, all members of this cluster exhibited psychotic Axis I diagnoses. Moreover, rather than expressing motives of self-defense or denying culpability altogether, this group expresses motives that are directly attributable to paranoid delusions. The etiological contribution of substance abuse is more substantial in this cluster than it was in the prototype. Abuse and intoxication rates approached 50 percent. Moreover, marijuana and amphetamines in addition to alcohol were abused in 10 percent or more of the cases. In all respects, substance abuse is a more significant etiological contributory in this group of murderers than in prototype murderers.

Table 9
Characteristics of Prototype Variant A

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- A. Core characteristics
 1. Most with Axis II personality disorders—most are antisocial and borderline disorders
 2. Most with antisocial values
 3. Most with long-standing alienation and/or disenfranchisement—global blame
 - B. Other distinguishing characteristics
 1. All with psychotic Axis I diagnoses
 2. Motives are related to persecutory delusions
 - C. Substance abuse characteristics
 1. 40.0% abuse some substance
 2. 45.0% were intoxicated
 3. Substances abused—alcohol (30%), marijuana (25%), amphetamines (15%), barbiturates (10%), cocaine (5%), heroin (5%), hallucinogens (5%)
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Table 10
Characteristics of Prototype Variant B

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- A. Core characteristics
 1. Most with Axis II personality disorders—more are dependent, avoidant, or passive-aggressive disorders
 2. Almost half with antisocial values
 3. Most with alienation and/or disenfranchisement—recent in origin and specifically linked to victim
 - B. Other distinguishing characteristics
 1. Almost all with psychoneurotic Axis I diagnoses
 2. Motives are related to revenge and disputes over romance or money
 3. Almost all show evidence of impoverished self-esteem
 4. Almost all exhibit recent exposure to significant stress
 - C. Substance abuse characteristics
 1. 61.6% abuse some substance
 2. 53.8% were intoxicated
 3. Substances abused—alcohol (53.8%), marijuana (15.4%), amphetamines (7.7%), barbiturates (7.7%)
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Thirteen percent of all study subjects fell into the prototype variant “B” cluster. As can be seen from Table 10, personality disorders, antisocial values, and alienation are common characteristics of this cluster’s members although the specific quality of the disorders and alienation differ from that seen in the prototype. Distinguishing characteristics include a triad which encompasses psychoneurotic Axis I diagnoses, a dramatic impoverishment of self-esteem, and recent exposure to a wide range of significant stresses. Finally, motives re-

volve not around self-serving claims of self-defense or paranoid delusions but rather concern revenge and romantic or monetary disputes. Substance abuse ranks as a more prominent etiological contributory in this cluster than in either of the other two described above. Both abuse and intoxication are present more than half the time. Two substances, alcohol and marijuana, exceed the 10 percent prevalence level.

The “nonpsychotic/stress” cluster, the other nonprototype cluster, includes the smallest number of study subjects, only

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Table 11
Characteristics of the Nonpsychotic/Stress Cluster

A. Core characteristics
1. All have some nonpsychotic Axis I diagnoses
2. Almost all have current exposure to severe stress
3. Crimes usually described as unintentional—regret is usually expressed
B. Other distinguishing characteristics
1. None with Axis II personality disorders
2. Few with antisocial values
3. Few with alienation and/or disenfranchisement
C. Substance abuse characteristics
1. 66.7% abuse some substance
2. 33.3% were intoxicated
3. Substances abused—alcohol (50%), marijuana (33.3%), cocaine (16.7%), amphetamines (16.7%), barbiturates (16.7%), hallucinogens (16.7%), PCP (16.7%)

six percent. As can be seen in Table 11, two prominent characteristics of these subjects are a high prevalence of some nonpsychotic Axis I disorder *and* concomitant exposure to severe stress. This cluster's murderers usually deny that they intended a murderous outcome and express regret and remorse at that outcome. Active substance abuse is quite prevalent in this cluster, 66.7 percent, and a wide range of substances reach or exceed the 10 percent prevalence level. One-third of all cluster members were intoxicated at the time of the homicidal event. In this cluster, substance abuse appears to have tipped a fragile balance precipitating the violence.

Prototype variants "C" and "D" will be considered together because in both clusters, substance abuse plays a predominant role. One-third of all study subjects fell into these two clusters. In many respects, these variants are similar. In some important respects, they differ. As can be seen from Tables 12 and 13, personality disorders, alienation/disenfranchisement, and antisocial values are common in both clusters. Also, all mem-

bers suffer from an Axis I substance abuse disorder in both clusters. However, the murderers in variant D are more predatory and callous by far. Two-thirds murdered in connection with another violent crime, either armed robbery or rape. Those who were willing to acknowledge culpability at all admitted that they killed their victims to eliminate the sole witness to their crime. They expressed little or no remorse. In contrast, variant "C" murderers killed to avenge some self-perceived wrong and did so in conjunction with a loss of control over behavior that was linked to intoxication. Usually these murderers did express considerable remorse in retrospect. In both clusters, polysubstance abuse is rampant. Also, most or all murderers were intoxicated in both clusters. In each, a wide range of substances was abused in 10 percent or more of the cases.

Conclusions

The data presented above afford an assessment of the association between substance abuse and intoxication on the

Table 12
Characteristics of the Prototype Variant C

A. Core characteristics
1. Most with Axis II personality disorders—many borderline and some dependent, avoidant, or passive-aggressive disorders
2. Most with antisocial values
3. Most with alienation and disenfranchisement, recent or long-standing—global or victim-specific blame
B. Other distinguishing characteristics
1. All with substance abuse Axis I diagnoses
2. Motives are related predominantly to revenge and romance
C. Substance abuse characteristics
1. 100.0% abuse
2. 100.0% were intoxicated
3. Substances abused—alcohol (86.7%), marijuana (33.3%), cocaine (20%), heroin (13.3%), amphetamines (13.3%), PCP (6.7%), hallucinogens (6.7%), barbiturates (6.7%)

Table 13
Characteristics of the Prototype Variant D

A. Core characteristics
1. All with Axis II antisocial personality disorders
2. All with antisocial values
3. Most with long-standing alienation and/or disenfranchisement—global blame
B. Other distinguishing characteristics
1. All with substance abuse Axis I diagnoses
2. Motives related to avoidance of detection or there are outright denials of culpability
C. Substance abuse characteristics
1. 100.0% abuse some substance
2. 77.8% were intoxicated
3. Substances abused—alcohol (55.6%), marijuana (55.6%), amphetamines (38.9%), cocaine (27.8%), heroin (22.2%), hallucinogens (16.7%), barbiturates (11.1%)

one hand and homicidal behavior on the other. They demonstrate that while substance abuse and intoxication would appear to be common etiological contributors to homicidal violence, they are by no means always present in such cases. In slightly more than one-half of cases, active substance abuse was present, and in significantly less the murderer was intoxicated at the time of his crime. While it is conceivable that an isolated instance of intoxication could occur unrelated to active abuse, such was the case in only one instance in the study population. Hence, it is fair to say that active abusers who were sometimes intoxi-

cated, on occasion committed homicidal acts.

Given the potential impact of active abuse and intoxication upon mental functioning (i.e., judgment, reality testing, and impulse control), the links demonstrated by the data should not be surprising. The findings also make clear that other factors of probable etiological significance are also at work since in almost one-half of the cases, active abuse was not present. Some demographic subgroups demonstrated particularly high abuse and intoxication rates, for example male murderers and those with prior criminal histories in contrast to

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women and those without prior criminal histories.

While cocaine, amphetamines, and hallucinogens, especially PCP, are often the focus of any discussion of the connections between substance abuse and violence, alcohol was the most common substance of abuse in these homicide cases. However, the data clearly indicate that murderers tend to abuse alcohol and virtually every other substance of abuse at rates that exceed by 1.8 to 8 times those rates observed in the general population.

The cluster analysis procedure enabled the discernment of a hierarchy of groups in which the connection between substance abuse and homicide vary greatly. In two of seven clusters, substance abuse and intoxication were the preeminent etiological factors. These clusters comprise one-third of the study subjects. In them, a substance abuse disorder was invariably *the* primary Axis I diagnosis, polysubstance abuse was exceedingly common, and intoxication was almost always present at the time of the crime.

In three other clusters comprising almost 40 percent of the study subjects, substance abuse vied with other etiological factors for preeminence. In these clusters, abuse rates ranged from 40 to 67 percent and intoxication rates from 33 to 54 percent. Polysubstance abuse was present but not as commonly so. Also, substance abuse may have functioned as a factor which tipped an already-fragile balance, but it certainly did not determine the homicidal outcome predominantly or exclusively.

In two final clusters comprising almost 30 percent of the study subjects, substance abuse did not play an important etiological role. Abuse rates ranged from 13 to 20 percent, and intoxication rates did not exceed five percent. While abuse and intoxication may have played contributory roles in a few of these cases, the dye was in fact cast with respect to a murderous outcome, substance abuse notwithstanding.

The data indicate that homicidal behavior is the product of multicausality and that substance abuse and intoxication are but two factors that play a role. To be sure, their role is sometimes preeminent, but it is never a role played in isolation. More important perhaps is the suggestion that substance abuse and intoxication are factors that can tip a fragile balance. Hence, their presence can in some circumstances contribute to an outcome that was by no means assured without their presence. The other side of this coin, however, suggests that in some cases the outcome is assured regardless of the absence or presence of these factors.

What, if any, significance do these findings have with respect to the issues of criminal responsibility and insanity defenses? In California where this study was conducted, the McNaughton standard for criminal insanity is utilized. Its very restrictive nature precludes utilizing a defense based on substance abuse in most cases. Another related defense, diminished capacity, has been abandoned as a basis for abrogating responsibility although a remnant of it can be used as a basis for mitigation at the time of

sentencing. In practice, however, in the author's experience, few judges or juries are willing to take into account a potential causal factor which is perceived rightly or wrongly to emanate from volitional behavior.

While the findings of this study make clear that substance abuse is a significant contributory to homicidal behavior, its import must not be overstated and other important contributories left neglected.

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