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The Relationship Between Violence  
and Mental Disorder

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## ABSTRACT

This paper examines the extent to which mental disorder predicts violence among jail detainees. The sample includes 728 randomly selected jail detainees who were administered psychiatric interviews and then followed up for three years to see if arrest rates for violent crime differed as a function of psychiatric diagnosis. Neither severe mental disorder nor substance abuse/dependence predicted the probability of arrest for violent crime. Only the schizophrenia subgroup had a somewhat higher number of violent arrests, compared to the "no disorder" group, albeit not significantly so. This trend was a result of high rates of violence perpetrated by a few individuals; the median and mode were zero. Overall, our findings do not support the stereotype that mentally ill criminals are almost invariably violent.

There is a longstanding stereotype that the mentally ill are particularly prone to violence (Fracchia, Canale, Cambria, Ruest, Sheppard 1976; Monahan, in press; Olmstead & Durham, 1976; Rabkin, 1979; Shah, 1975; Steadman & Cocozza, 1978). This image is perpetuated by the news and entertainment media (Gerbner, Gross, Morgan & Signorielli, 1981; Shain & Phillips, 1991).

Researchers have investigated this stereotype by comparing the incidence of violence (measured either by arrest rates or self-report) among the mentally ill (most often prior psychiatric patients) with general population rates. Some find a relationship between mental disorder and violence (Lindqvist & Allebeck, 1990; Schuerman & Kobrin, 1984; Sosowsky, 1978, 1980; Swanson, Holzer, Ganju, & Jono, 1990). Other studies find that, after controlling for demographic variables such as age, sex, and arrest history, persons with serious mental disorders (schizophrenia or major affective illnesses) are no more violent than the non-mentally ill (Monahan & Steadman, 1983; Rabkin, 1979; Steadman, Cocozza, & Melick, 1978; Steadman & Ribner, 1980; Teplin, 1985). Overall, a number of recent reviews conclude that, at worst, mental disorder poses only a slightly elevated risk for violence (Monahan, in press; Swanson, 1991; Wesseley & Taylor, in press).

Because most research investigated only state hospital psychiatric patients, however, we have little knowledge concerning the violence potential of other populations. One critical group -- jail detainees -- has received relatively little attention. Jail detainees are important to study because, irrespective of their psychiatric status, they are at risk for committing violent acts post-release (Dept. of Justice, 1991a).

Does mental disorder increase the risk of violence among jail detainees? This question is particularly timely: Because jails are so overcrowded (Dept. of Justice, 1991b), more arrestees are being released into the community than ever before (Dept. of Justice, 1988). It is thus critical to know if mental disorder is a significant risk factor for committing violence post-release.

This paper examines the following question: Does mental disorder predict violence among jail detainees?

### The Literature

There is little doubt that the prevalence of mental disorder among jail detainees is high compared to general population rates.<sup>1</sup> Rates of severe mental illness (sometimes defined as schizophrenia; other times defined as "any psychosis") range from 4-5% to 12% (cf. Bland, Newman, Dyck, & Orn, 1990; Bolton, 1976; Glaser, 1985; Guy, Platt, Zwerling, & Bullock, 1985; Herrman, McGorry, Mills, & Singh, 1991; Kal, 1977; Lamb & Grant, 1982, 1983; Monahan & McDonough, 1980; Morgan, 1981, 1982; Nielson, 1979; Ninzy, 1984; Petrich, 1976a, 1976b; Piotrowski, Losacco, & Guze, 1976; Schuckit, Herrman, & Schuckit 1977; Snow & Briar, 1990; Swank & Winer, 1976; Teplin, 1990a; Valdiserri, Carroll, & Hartl, 1986; Virginia Department of Mental Health, 1984; Whitmer, 1980). The range of rates most likely results from inconsistencies across studies in sampling and

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<sup>1</sup>Studies using prison samples (e.g., Guze et al., 1962; Guze et al., 1974; Sutker & Moan, 1973) are not discussed because recent research has shown that the rate of mental disorder among prison detainees in the United States is actually lower than that in the general population (Collins and Schlenger, 1983). This is because most seriously ill offenders are diverted to mental health facilities at some point during the adjudication process.

measurement techniques (Teplin, 1990a). Despite the variation in rates, one solid trend emerges: Even the lowest estimates of severe mental disorder are two to three times higher than general population rates (Teplin, 1990a).

Given that the number of mentally ill jail detainees is disproportionately high, information concerning their criminal careers is critical. Prior research has investigated this issue in two ways. Some researchers have compared the prevalence of mental disorder of violent jail detainees with those who are non-violent. Other studies have compared the criminal careers of mentally ill jail detainees with non-mentally ill jail detainees. A summary of each research approach follows.

(1) Comparing the prevalence of mental illness between "violent" and "non-violent" jail detainees. Two studies found greater psychopathology among detainees who had a history of violence than among those who did not (cf. Langevin, Ben-Aron, Wortzman, Dickey, & Handy, 1987; Taylor & Gunn, 1984). Unfortunately, neither of these studies sampled the entire range of offenders. Langevin et al. (1987), for example, compared murderers to property offenders. Taylor and Gunn (1984) used a somewhat broader sampling design, but still did not sample the entire range of offenders: They compared offenders arrested for violent crimes to all forensic patients. They omitted inmates who were not recognized as being ill by jail medical personnel as well as persons who were arrested for non-violent index offenses. To date, no study of jail detainees has sampled the breadth of offender categories. Our knowledge of the mental disorder-violence relationship is thus limited.

Other studies have provided descriptive data on specific populations such as sex offenders (Packard & Rosner, 1985) or forensic patients (Roman & Gerbing, 1989; Rosner, Wiederlight, & Wieczorek, 1985). All found that a large proportion of subjects exhibited severe psychopathology. These studies suffer from a major limitation, however: None included a control group. Without a control group, we do not know if the prevalence of severe mental disorder is greater among violent offenders than among non-violent offenders. These studies thus provide interesting data but do not address the role of mental disorder in predicting violence.

(2) Comparing the criminal careers of jail detainees who have severe mental disorders with those who do not. Research in this area is equivocal. One study of jail detainees found that mental disorder and violence were correlated (Ashford, 1989), while another found they were not (Valdiserri et al., 1986). Collins and Bailey (1990) found that it depends on the disorder; only some disorders were associated with selected measures of violence.

Part of the reason for the discrepancy may be methodological. Most investigators have not used random samples. Phillips et al. (1988), for example, studied only forensic patients. They found that the forensic patients were responsible for a very small proportion of violent crime. While their finding is provocative, we cannot know if their results would be the same had they sampled non-forensic patients as well. Other studies have used samples of jail detainees who were referred for mental health services (see, for example, Valdisseri et al., 1986) and did not sample from the jail's general population. Such treatment samples are biased because, by definition, they are limited to detainees who jail personnel

define to be in need of mental health services. Unfortunately, the jail's treatment decision is imperfectly correlated with the true presence or absence of mental disorder (Teplin, 1990b) and results in incalculable biases. Other studies sampled from the jail's general population but limited their focus to only one or two disorders. Collins and Bailey (1990), for example, studied the effect of mood disorders on violence, finding several intriguing relationships: Dysthymia and recurrent depression were associated with robbery and fighting; manic symptoms were sometimes associated with "expressive" violence. While their results are extremely interesting, we cannot generalize their findings to other disorders.

Perhaps the most relevant studies pertaining to our question are those by Ashford (1989) and Valdisseri et al. (1986). Both studies sampled a range of diagnostic categories. Ashford (1989) sampled the jail's general population, and found that mentally ill inmates were more likely to have a history of violence than "the average" inmate. Unfortunately, Ashford's definition of mental illness may have biased his results. He relied on the jail's identification of severe mental disorder. Such samples probably overrepresent the mentally ill who are disruptive (Teplin, 1990b) and are more likely to be violent, and underrepresent those who have less disruptive disorders such as depression (Teplin, 1990b). Valdisseri et al. (1986) sampled only persons referred for treatment, categorizing them as psychotic or non-psychotic. They found that psychotic inmates were four times more likely to have been incarcerated for less serious charges (such as disorderly conduct and threats) than the non-psychotic inmates. Their study, however, had two

problems: Like the Ashford study, their referred sample was biased. In addition, they relied on the current charge as the sole indicator of violence. Using current charge to measure violent behavior yields only a "snapshot" of the detainee's criminal career.

In sum, several studies have found a relationship between mental disorder and violence among jail detainees, while others have not. The source of the confusion may be methodological: To date no study has used an unbiased sample of jail detainees, an appropriate control group, and at the same time used reliable measures of mental disorder and violence.

The data presented here are part of a larger project investigating the prevalence and treatment of mentally disordered jail detainees (cf. Abram, 1989, 1990; Abram & Teplin, 1991; Teplin, 1990a, 1990b). For this epidemiologic study, we administered psychiatric interviews to a random sample of 728 jail detainees. The extensive diagnostic data we collected provides an ideal opportunity to compare the criminal careers of mentally ill and non-ill jail detainees. In the current paper, we present longitudinal arrest data for three years post-interview to see if arrest rates for violent crime differed as a function of psychiatric diagnosis.

#### Method

**Subjects.** Diagnostic data were collected between November 1983 and November 1984 at the Cook County Department of Corrections (CCDC), in Chicago, Illinois. CCDC is used solely for pretrial detention and for offenders sentenced on misdemeanor charges for less than one year.

Subjects were male detainees, randomly selected directly from pretrial arraignment; N = 728. In order that the study include a



sufficient number of detainees accused of serious crimes, the sample was stratified by category of charge (one half misdemeanants, one half felons). Persons charged with both misdemeanors and felonies were categorized as felons. Data were then weighted to reflect the jail's actual misdemeanor/felony distribution.

All detainees, excluding persons with gunshot wounds or other traumatic injuries, were part of the sampling pool. Personnel at the jail referred all persons targeted for participation in the project regardless of their mental state, potential for violence, or fitness to stand trial. Since virtually no detainee was a priori ruled ineligible, the sample was unbiased in relation to the characteristics of the larger jail population.

Subjects ranged in age from 16 to 68, with mean and median ages of 26.3 and 25, respectively. The majority were Black (80.8%), 12% were Caucasian and 6.5% were Hispanic. Most of the remaining (0.8%) subjects were Asian or American Indian. Fewer than half of the detainees were employed at the time of their arrest (42.6%). Education level ranged from 2 to 16 years, with mean and median being 10.6 and 11.0 years, respectively. These demographic characteristics are consistent with those of urban jails nationwide (Dept. of Justice, 1991c).

**Procedure.** Interviewers were three Ph.D. clinical psychologists, extensively trained in interviewing techniques, psychopathology and the data collection instrument. Persons targeted by the random sampling procedure (a random numbers table) were approached during the routine jail intake process by the research interviewer. The potential subjects were told that the goal of the project was "to find out more about the people who come to CCDC." The interviewer stressed that the detainees'

participation would not affect their treatment while in jail nor shorten their incarceration. Subjects who agreed to participate signed a consent form and were paid five dollars for taking part. Persons who declined to participate proceeded through intake.

Of 767 detainees approached, only 35 (4.6%) declined to participate. The low refusal rate was probably due to the detainees' viewing the research project as a way of avoiding the crowded and dismal conditions of the regular intake area. Two subjects were excluded because the interviewer felt they were inventing their responses. Two others were "duplicate" subjects; they were rearrested sometime after their initial interview and again randomly selected. The final N is 728.

Subjects were interviewed in a soundproof, private glass booth in the central receiving and processing area. Diagnostic assessments were made using the National Institute of Mental Health Diagnostic Interview Schedule (NIMH-DIS; Robins et al., 1981a). Empirical tests have documented the reliability of the NIMH-DIS in both institutionalized samples and the general population (Burke, 1986; Helzer et al., 1985; Robins, Helzer, Croughan, Williams, & Ratcliff, 1981b; Robins, Helzer, Ratcliff, & Seyfried, 1982; in contrast, see Anthony et al., 1985). The DIS systematically differentiates between disorders that were ever manifest, even if currently remitted ("lifetime" disorders), and disorders in which symptoms have been recently experienced ("current" disorders).

The NIMH-DIS provides diagnostic categories rather than global psychopathology scores. Because of subject variance over time and the rarity of many disorders, it is difficult to assess the reliability and validity of psychiatric assessments such as the DIS (Robins, 1985).

Nevertheless, a test-retest consistency check of 20 cases yielded results which compare favorably with other studies (Robins, 1985): 93% agreement across all diagnoses and 95% agreement for the severe disorders. Two independent interviewers gave nearly identical profiles to 85% of the cases. Interviewer consistency was scrupulously maintained after the initial three-month training period via mock interviews with live subjects, spot checks and videotape training.

The interview lasted 1 to 3 hours, depending on the number of positive symptoms of the detainee. After the interview, the detainee was thanked for his participation and escorted by jail staff back to the intake area.

Arrest data were obtained from Chicago Police Department records. Each file contains the detainee's "rap sheet" itemizing his arrest and conviction history. Charges incurred outside the county are routinely transcribed from FBI and IBI (Illinois Bureau of Investigation) records onto the rap sheet so that this procedure resulted in a relatively complete data set. For each subject, we obtained data on arrests incurred during the three years post-interview.

The criminal history data involve mostly objective variables which require low levels of coder inference. Nevertheless, for each data collection effort, two research assistants coded the data for at least two weeks in order to gather the data necessary to confirm the interrater reliability of the coding procedures. Analysis of the reliability of the coding instrument revealed interrater reliability consistently above 0.90.

## Definition of Terms and Data Management.

Diagnostic variables. Diagnostic categories were determined conservatively. In order to meet criteria for a particular disorder, the subject had to attain the "definite" or "severe" category (whichever was applicable); all "possible" or "mild" cases were scored as absent.

In no case does the presence of one of the disorders preclude the diagnosis of another disorder via "exclusionary" criteria (see Boyd, et al., 1984). Because most serious disorders tend to reoccur, we used lifetime diagnosis for these analyses.

Final Sample Size. We omitted subjects who met criteria for severe cognitive impairment (N=2) because there were too few cases. The three year follow-up data were unavailable for 51 of the subjects. An additional 57 subjects were omitted because they were in jail or prison (but never mental hospitals) for the entire three year follow-up. Of these 57 cases, 10.7% had a severe mental disorder (either schizophrenia, manic episode or major depressive episode), 46.4% had a drug or alcohol use disorder only (no major mental disorder), and 42.9% had no disorder. Our final sample size was 618.

Units of Analysis. Because subjects can have more than one disorder, we analyzed the data in two complementary ways: (1) Disorder as the Unit of Analysis. These tables show the effect of each disorder on the dependent variable. Because subjects may have more than one disorder, columns sum to more than 100.0%. (2) The Subject as the Unit of Analysis. These tables demonstrate what proportion of the sample was violent. For these analyses, we had to categorize each person into one diagnostic group. Given our interest in severe disorders and the purported

relationship between manic episode, schizophrenia and violence (Davis, 1991; Krakowski, Volavka, & Brizer, 1986), we developed the following hierarchy: schizophrenia/schizophreniform disorders, manic episode, major depressive episode, drug and alcohol use disorder, drug use disorder only, alcohol use disorder only, no disorder. For example, persons who had both schizophrenia and an alcohol use disorder would be categorized as "schizophrenic." Persons who had both manic episode and schizophrenia (n=6) were categorized as "schizophrenic." Persons categorized as "alcoholic" have neither drug use disorders, major depressive episode, manic episode or schizophrenia. This scheme is necessitated by our sample size: Although larger than prior studies (728) it is still too small to allow us to categorize persons into more specific categories reflecting their comorbidity.

Defining and Measuring Violence. Violent crime included both felony and misdemeanor crimes against persons: murder, manslaughter, kidnap, aggravated battery, unlawful restraint, aggravated assault, assault, battery, robbery, rape, and deviant sexual assault.

A common problem in longitudinal research is controlling for the time spent "at risk": In other words, the time that the subject is unavailable to commit crime during the follow-up period (cf. Blumstein & Cohen, 1979; Blumstein, Cohen, Roth & Visher, 1986). For example, a detainee who is in jail or in a mental hospital for two of the three follow-up years would ceteris paribus be less likely to be rearrested than a person who was free the entire time. Although 85% of our subjects were available for at least 90% of the follow-up period, we nevertheless adjusted both variables for time spent in the following institutions:

(1) hospitals: number of days spent in Illinois state mental hospitals;

(2) jails: the number of days spent in jail post-interview corresponding to the current arrest. (These data were available from jail records.) Once a detainee was released from the jail, either after being found not guilty, bonding out, or after having completed his sentence, his time available for rearrest began;

(3) prison: incarceration sentences (in days) received for any arrest taking place during the three-year follow-up period (these data are noted on the rap sheet). This period of time was an estimate since detainees were routinely released before their sentences elapsed. Because data on actual time served by detainees were unavailable, we weighted sentences by the calculated average sentence served by inmates in Illinois prisons based on Illinois sentencing law for a 10 year sentence, .475 (Illinois Criminal Justice Information Authority, 1989). This figure is consistent with the national average of percentage of time served in prison (Jamieson & Flanagan, 1989).

## Results

### Probability of Arrest for Violent Crime During Three-Year Follow-up:

Using the "time at risk" data, we calculated the probability of being arrested for a violent crime for each diagnostic group by dividing the number of persons in each group who had a rearrest for violent crime by "time at risk" (expressed in months). The three year probabilities reported in Table 1 are calculated as  $1 - (1 - p)^{36}$ .

Table 1 reports the probability of arrest for a violent crime by diagnostic group. As noted above, the N's sum to more than 100% because many subjects have more than one disorder. We used two-tailed difference of proportions tests to compare each of the diagnostic groups with the "no disorder" group. There were no significant differences between any of the diagnostic groups and the "no disorder" group.

Because the diagnostic groups in Table 1 are not independent, we cannot calculate significance tests to test for differences between them. Nevertheless, the heterogeneity of persons in the "severe disorder" group is notable. While the probability of arrest for a violent crime in the "severe disorder" group is .3458, the rates for each of the severe diagnoses are quite disparate: depressives have a low probability of arrest (.2977) during the follow-up period, compared to schizophrenia (.3954) and manic episode (.4665). Probabilities for the substance abuse disorders were fairly similar to the "no disorder" rate.

Table 2 presents the same data, but by hierarchical group (by subject as opposed to disorder). Results are substantially similar to Table 1.

#### Number of Arrests for Violent Crime:

For each group, we calculated the ratio of the total number of arrests for violent crime to the time at risk, a Poisson procedure (Mendenhall, 1987). While conducting this analysis, we noted that one schizophrenic subject was arrested 13 times for violent crimes, a score more than three standard deviations above the mean of the schizophrenia group. We confirmed that this score was an outlier by calculating Cook's Distance (Belsley, Kuh and Welsh, 1980), regressing the number of arrests

for violent crime on  $k - 1$  diagnostic dummy variables. Given the potential bias if we included this outlier, we adjusted his score by plotting the number of future rearrests for violent crime on a normal curve, and setting the outlier's score to the curve (8 rearrests) (Christopher Winship; personal communication).

Table 3 presents this measure of violence. As with Table 1, the N's sum to more than 100% because subjects may have more than one disorder. Interestingly, the median and mode for all groups were zero, indicating that more detainees did not commit a violent crime three years post-arrest than did. The rate of violence for the severely ill group was only slightly higher (1.4336) than the "no disorder" group (1.1883). There were no significant differences between the disordered groups and the "no disorder" group, although the difference between the schizophrenia group and the "no disorder" group was marginally significant ( $p=.06$ ), and would probably have been significant had the N been larger. Once again, however, when we separate the "severe disorder" group into separate diagnostic categories, we see disparities between the rates. Because the "severe disorder" groups are not independent, we cannot calculate significance tests between them. Nevertheless, it is interesting that major depressive episode and manic episode have lower rates than the schizophrenia group. Rates for the substance abuse groups -- whether alcohol and drug combined or alcohol or drug alone -- are substantially similar to the "no disorder" group.

We also calculated the same dependent variable using the hierarchical groups (the individual subject as the unit of analysis). These results are in Table 4 and confirm those presented in Table 3. The rates of



violence for the "severe disorder" group as a whole are not significantly different than the "no disorder" group. These apparent similarities, again, mask important diversity within the "severe disorder" category. Persons with manic episode and major depression have lower rates of violence than persons with schizophrenia. Again, persons with substance abuse -- whether drug only, alcohol only, or both -- have rates of violent arrest substantially similar to the "no disorder" group.

The schizophrenia and major depression groups are quite heterogeneous. For example, despite the small N of the schizophrenia subgroup, the range was 0-13 arrests. While more than one half of the schizophrenia group was never arrested for a violent crime during the follow-up period, four persons (17.4%) were arrested five or more times. In contrast, 6% of the "no disorder" group was arrested five or more times. The major depression group displayed similar diversity. While over three quarters had no arrests, two out of the 24 subjects were arrested five or more times. This suggests that while most mentally ill detainees are not any more likely to become violent than the "no disorder" group, those who did sometimes did so repeatedly.

It is instructive to explore whether the mentally ill groups were disproportionately arrested for the most serious violent crimes (rape, murder, manslaughter, kidnapping, aggravated battery, etc.). The schizophrenia group is important because it had the highest rate of arrests for violence. Of the 43 violent crime arrests perpetrated by the schizophrenic subjects, 25 (58.14%) were for less serious violent crimes such as battery or simple assault, one arrest was for robbery, and 17 (39.5%) were for the most serious violent acts. These patterns are

similar to the other diagnostic groups: In the schizophrenia group, however, only two subjects were responsible for 15 of the 17 (88%) serious violent acts. Twelve of these were perpetrated by our outlier subject.

#### Discussion

Among this sample of jail detainees, neither severe mental disorder nor substance abuse/dependence predicted the probability of arrest for violent crime, or the number of violent arrests. Only the schizophrenia subgroup had a somewhat higher number of violent arrests, compared to the "no disorder" group albeit not significantly so. In the schizophrenia subgroup, this trend was a result of high rates of violence perpetrated by a few individuals; the median and mode were zero. Overall, our findings do not support the stereotype that the mentally ill are almost invariably violent.

Unfortunately, television continues to present this image. One study of prime time television dramas found that 73% of the mentally ill television characters were portrayed as violent and/or homicidal compared to 40% of the "normal" television characters (Gerbner et. al., 1981). As Monahan (in press) has pointed out, news media are not much better: A content analysis of United Press International news stories found that 86% of all print stories dealing with former mental patients focused on the issue of violent crime, "usually murder or mass murder" (Shain & Phillips, 1991). Our data demonstrate that the image of the mentally ill as crazed psychotics may make intriguing movie plots but simply is not true. This stereotype is ultimately harmful to the deinstitutionalized mental patient who has no choice but to live within the community (Teplin, 1985).

How do our findings fit into the ongoing debate on the relationship between mental disorder and violence? Because our sample included only jail detainees, our results cannot be generalized to the deinstitutionalized mentally ill within the community. Nevertheless, this study has major public policy implications. If the violence potential of arrestees with severe mental disorder or substance abuse/dependence is substantially similar to their non-mentally ill counterparts, probation and parole decisions for mentally ill offenders could be based on similar decision rules used with non-mentally ill offenders. Ideally, such decision rules would allow us to discriminate between the majority of mentally ill jail detainees who do not commit violent acts post release, and those few who commit multiple violent acts. Our major finding -- most mentally ill jail detainees do not become violent, but a few may become repeatedly violent -- confirms that one of the best predictors of future violence is prior violence (Monahan & Steadman, 1983).

We found substantial diversity among the three "severe disorder" groups (schizophrenia, manic episode and major depression). These results demonstrate the pitfalls inherent in the practice of combining diverse diagnoses into one "psychotic" or "severely ill" group and comparing them to a "non-psychotic" group. Heterogeneity within a "severely ill" group could obfuscate important differences between diagnostic categories.

It is interesting that alcohol and drug use disorders did not predict violence. This failure of alcohol use disorder to be related to violence is particularly striking because it has been assumed to play a strong role in violence (Collins, 1988, 1989; Fagan, 1990). There are two plausible explanations for the inconsistency between our findings on alcohol and the

extant literature. First, alcohol intoxication may be a better predictor of violence than alcoholism per se. Second, the link between alcohol and crime found in other studies may be an artifact of the association between alcohol and a third correlated variable such as antisocial personality disorder.

One potential threat to validity should be highlighted: Perhaps mental disorder failed to predict the probability of arrest for violent crime because our subjects were diverted to mental hospitals instead of arrested (Klassen & O'Connor). This is unlikely. In Illinois, persons charged with felonies must be arrested first, and then treated for their mental disorder (Teplin, 1984). In practice, even mentally ill misdemeanants are usually arrested before being treated (Teplin & Pruett, 1992). Our present study also confirmed this. Of the 36 severely ill persons who were never arrested for a violent crime during the three year follow-up (possible false negatives), only 6 (16.66%) were hospitalized one or more times during the follow-up. Because of their arrest history, former jail detainees may be more likely to be rearrested when they are violent rather than hospitalized.

Several limitations of this study should be kept in mind. First, our generalizability is limited to other large urban jails. Second, our sample included only criminal "failures": All had been caught. Thus, our data may be more generalizable of the mental disorder-violence relationship among failed criminals than among the universe of offenders. Third, the dependent variable -- violence -- incorporated only detected crime. This variable has a built in bias because relatively few crimes are detected; even fewer culminate in an arrest. Moreover, the criminal

acts that do become "crimes" are clearly not a random sample of all violent acts. Finally, our sample of persons with severe mental disorder was relatively small and did not allow us to control for variables thought to influence violence such as age and comorbidity with other psychiatric disorders.

Notwithstanding the need for further refinements, our results demonstrate the importance of further research in this area, in particular exploring violence within a broader context. For example, studies should use a multi-indicator cross-validated approach where self-reported violent activity is compared with arrest rates. This approach would provide a fuller picture of the relationship between mental disorder and violence. Future studies should also use larger samples, and test whether combinations of disorders -- for example, schizophrenia coupled with drug abuse/dependence -- interacts to produce greater violence than either disorder alone. Larger samples would also allow researchers to control for demographic factors that are known to affect violence predictions. Finally, the tremendous diversity within the schizophrenia group (most were never violent; a few were very violent) suggests that diagnosis per se may not be a meaningful predictor of violence. A new study suggests that psychotic symptoms may be more accurate predictors of violence than diagnosis per se (Link et al., in press).

Additional research on the violence potential of the mentally ill is vital to dispel inaccurate stereotypes. It is also vital, however, because mental health professionals will continue to be required to assess the violence potential of the mentally ill (Monahan, 1981). New research designed to improve violence prediction holds promise (Steadman et al., in

press). By learning to predict violence more accurately, both among the mentally ill and non-mentally ill, we may balance our need to provide treatment for the mentally disordered offender with our obligation to protect the safety and welfare of the public.

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Table 1. Probability of Being Arrested One or More Times During Three-Year Follow-up Period by Diagnosis, Adjusted for Time at Risk\*

Psychiatric Disorder	Three-Year Probability of Arrest	n
Severe Disorder	0.3458	57
Schizophrenia	0.3954	23
Manic Episode	0.4665	15
Depression	0.2977	34
Any Substance Abuse or Dependence Disorder	0.3745	381
Drug and Alcohol	0.3525	137
Drug	0.3544	204
Alcohol	0.3775	314
No Disorder	0.3752	233
Totals	0.3743	618

\*No significant differences between the No Disorder group and each Diagnostic Group at the .05 level.

Table 2. Probability of Being Arrested One or More Times During Three-Year Follow-up Period by Hierarchical Diagnostic Group, Adjusted for Time at Risk\*

Psychiatric Disorder	Three-Year Probability of Arrest	n
Severely Disordered	0.3458	57
Schizophrenia	0.3954	23
Manic Episode	0.4540	10
Depression	0.2343	24
Any Substance Abuse or Dependence Disorder	0.3779	328
Drug and Alcohol	0.3468	110
Drug	0.3732	62
Alcohol	0.4013	156
No Disorder	0.3752	233
Totals	0.3743	618

\*No significant differences between the No Diagnosis Group and each Diagnostic Group at the .05 level.

Table 3. Number of Arrests for Violent Crimes Per Three-Year Period by  
 Diagnosis, Adjusted for Time at Risk\*

Psychiatric Disorder	Number of Violent Rearrests	n
Severely Disordered	1.4336	57
Schizophrenia	2.0050	23
Manic Episode	0.8355	15
Depression	1.1231	34
Any Substance Abuse or Dependence Disorder	1.0561	381
Drug and Alcohol	1.1799	137
Drug	1.0899	204
Alcohol	1.0888	314
No Disorder	1.1883	233
Totals	1.1019	618

\*No significant differences between the No Disorder Group and each  
 Diagnostic Group at the .05 level.

Table 4. Number of Arrests for Violent Crimes Per Three-Year Period by Hierarchical Diagnostic Group, Adjusted for time at Risk

Psychiatric Disorder	Number of Violent Rearrests	n
Severely Disordered	1.4336	57
Schizophrenia	2.0050	23
Manic Episode	0.6927*	10
Depression	1.0712	24
Any Substance Abuse or Dependence Disorder	0.9882	328
Drug and Alcohol	0.9689	110
Drug	0.9487	62
Alcohol	1.0165	156
No Disorder	1.1883	233
Totals	1.1019	618

\*Significantly different from the No Disorder Group at .05.