Mental illness and violence: A brief review of research and assessment strategies

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Abstract

Examinations of the relationship between mental disorders and violent behavior can be found throughout history and across cultures. Many examples of the cultural and social construction of dangerousness and mental illness also have appeared during the modern era. This article examines the evolution of thought and research regarding the relationship between mental illness and violence, from studies in the early twentieth century through the more recent MacArthur Violence Risk Assessment Study. In addition, the article explores the state of knowledge and practices surrounding the assessment and management of violence risk among individuals with mental illness.
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Contents

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1. Introduction

Harkening to the days of Plato and Shakespeare, Monahan (1996) noted that discussions of the purported relationship between mental disorders and violent behavior can be found throughout history and across cultures. Many examples of the cultural and social construction of dangerousness and mental illness also have appeared during the modern era. For example, in the late nineteenth century, the burgeoning mass media and the growing field of psychiatry cast the "insane killer" as a pervasive and unpredictable threat. These images, perpetuated in films and television programs throughout the twentieth century, led to the widespread belief that mental illness is associated invariably with personal instability and a strong predilection toward violence. Today's news and entertainment industries still perpetuate the image of the "violent mental patient" (Porter, 2003). Nonetheless, a more comprehensive and accurate understanding of the relationship between mental illness and violence has emerged over the past 30 years.

By the late 1970s and early 1980s, advances in mental health law, the rising influence of the consumer movement, and the initiation of federally sponsored large-scale epidemiological research (Robins & Regier, 1991), led to more critical evaluations of widely held beliefs about the violence-mental illness connection. Some studies at the time found no association between violence and mental illness or reported that persons with serious mental illness (PSMIs) (*i.e.*, schizophrenia, major depression, and bipolar disorder) were no more likely to commit violent acts than those without serious mental illness.

However, by the early 1990s, growing evidence confirmed a relationship between mental illness and violence, yet suggested that this relationship was far more complex than previously acknowledged. Hence, the notion that mental illness causes violent behavior has been largely dispelled and supplanted by explanations that focus on the specific conditions and circumstances in which PSMIs are at risk of committing violent acts.

The current article examines the evolution of our understanding of the relationship between mental illness and violence, with particular emphasis on the shape of current research and practices in this area. The discussion begins with descriptions of studies conducted in the first half of the last century and continues with a presentation of the MacArthur Violence Risk Assessment Study, the most comprehensive, sophisticated, and definitive study of mental illness and violence performed to date. Following this review, the article examines the practical application of our current knowledge to the prediction, assessment, and management of violence risk among populations of individuals with mental illness.

2. Linkage between mental illness and violence

The propensity of PSMIs to commit acts of violence has been a topic of scholarly debate for more than 70 years. Fueled by sensational media reports, negative stereotypes concerning the dangerousness of PSMIs are long-standing and widespread and seem to have become more entrenched over time (Link & Stueve, 1994; Monahan, 1992; Phelan, Link, Stueve, & Pescosolido, 1997; Shah, 1975; Shain & Phillips, 1991). Misconceptions and unfounded fears often determine the responses of both the general public and criminal justice professionals to the mentally ill and can greatly affect social policies and legal practices relating to their sentencing, treatment, and care (Barlow & Durand, 1999; Steadman et al., 1998).

2.1. Early studies

Although the relationship between mental illness and violence was explored as early as the mid-nineteenth century (*e.g.*, Gray, 1857), one of the first studies to explicitly investigate whether or not former psychiatric patients posed a criminal threat to the community was conducted in the 1920s. Ashley (1922) followed a sample of 700 patients for 3 months after their release from the hospital, and reported that only 12 were arrested for offenses, including "vagrancy, assault and battery, forgery, swindlery or profiteering" (p. 65). These findings, however, were impossible to interpret because Ashley neglected to compare the patient arrest rate with the arrest rate in the general population.

In the four decades following Ashley's work, a series of studies assessed the relationship between mental illness and criminal behavior (Monahan & Steadman, 1983). Pollock's (1938) study of patients paroled from all New York state hospitals in 1937, found that these patients were less likely to be arrested than members of the general population. Subsequently, Cohen and Freeman's (1945) study of approximately 1700 patients paroled from state hospitals in Connecticut indicated that the arrest rate in the general population was 15 times greater than the arrest rate in the

hospital patient sample. These two investigations, as well as other early studies, "led to the oft-quoted claim that the mentally ill are no more dangerous than the general population, which was true prior to the era of deinstitutionalization [*i.e.*, the release of large numbers of PSMIs from State psychiatric hospitals] because most potentially dangerous patients were kept in the hospital [for long periods of time]" (Torrey, 1997, p. 45).

In the early 1960s, Brill and Maltzberg (1962) produced the broadest and most influential study completed during the early years of deinstitutionalization (Rabkin, 1979). Brill and Malzberg analyzed the arrests of 10,000 New York state hospital patients, both 5 years before and 5 years after recent hospitalizations. Patients with a criminal record had a subsequent arrest rate dramatically higher than patients with no criminal record and persons in the general population. In contrast, patients without previous offenses were arrested significantly less often than members of the general population.

2.2. Studies in the era of deinstitutionalization

During the mid-1960s and throughout the 1970s, several researchers reported that arrest rates among former psychiatric patients were significantly higher than those in the general population (*e.g.*, Durbin, Paswark, & Albers, 1977; Rappeport & Lassen, 1965; Zitrin, Hardesty, Burdack, & Drossmen, 1976). In one investigation, Cocozza, Steadman, and Melick (1978) examined the arrest records of nearly 4000 patients released from New York state psychiatric hospitals and found that patients had a higher arrest rate than persons in the general population for all classes of offenses. They also, however, established that the likelihood of arrest increased when patients had criminal histories before they were hospitalized. Echoing Brill and Salzburg's (1962) findings, Cocozza et al. (1978, p. 333) noted that the apparent increase in the criminality of mental patients could be attributed to "the changing clientele of state hospitals"—that is, to the growing numbers of patients with previous offense histories. Comparable results and conclusions were reported by Steadman (1988), Steadman, Cocozza, and Melick (1978), and Rabkin (1979) (*cf.* Sosowsky, 1980).

Summarizing the more than 200 studies conducted through the early 1980s, Monahan and Steadman (1983, p. 152) concluded:

> The conclusion to which our review is drawn is that the relation between… crime and mental disorder can be accounted for largely by demographic and historical characteristics that the two groups share. When appropriate statistical controls are applied for factors, such as age, gender, race, social class, and previous institutionalization, whatever relations between crime and mental disorder are reported, tend to disappear.

2.3. Post-deinstitutionalization research

During the latter part of the 1980s and through the 1990s, studies continued to question the notion that PSMIs were no more likely to commit violent acts than individuals within the general population (Monahan, 1993). Swanson, Holzer, Ganju, and Jono (1990), for example, analyzed data from the National Institute of Mental Health's Epidemiological Catchment Area Study (ECA). Drawing from the ECA's representative sample of adult residents of three major cities, the study focused on the co-occurrence of violence and mental disorders. The researchers found that self-reported violent behaviors were five times higher among individuals who met the criteria for psychiatric diagnoses than among those who did not.

A random community area survey conducted in Stockholm, Sweden, explored the nature and extent of violent crimes committed by PSMIs, compared with persons living in the same city who had never been diagnosed with a major mental illness (*e.g.*, schizophrenia and major affective disorders) (Hodgins, 1992). Results indicated that men and women with serious mental illness were more than 4 and 27 times more likely, respectively, to have been convicted of violent crimes than persons with no psychiatric diagnoses.

Link, Andrews, and Cullen (1992) compared the criminality of former psychiatric patients in New York City with that of 400 adults who lived in the same neighborhoods as the patients but who had never been treated for mental illness. Controlling for age, gender, ethnicity, and socioeconomic status, the researchers found that a significantly greater percentage of the former patients had been arrested for violent crimes. Furthermore, a greater percentage of the former patients reported violent acts (*e.g.*, hitting, fighting, hurting someone badly) and the use of weapons than non-patients did (*cf.* Steadman & Felson, 1984).

Link et al. (1992, p. 291) noted that "the association between mental patient status and violent behavior was too remarkably robust to attempts to explain it away as artifact." However, after the investigators controlled for current

psychiatric symptoms, this relationship disappeared. Specifically, when former patients were experiencing psychotic symptoms (*e.g.*, hallucinations, delusions) their risk of violence was significantly increased; when they were not, their risk of violence was no higher than the risk in a sample of community residents who were free of serious mental illness. Hence, the data indicated that when researchers controlled for whether or not a person was exhibiting psychotic symptoms, the difference was substantially reduced, leading to the conclusion that perhaps the severity of symptoms was more predictive of violent acts than the mere presence of a mental illness.

In a related study, Link and Stueve (1994) refined this explanation, noting that that certain types of symptoms– namely those that involved feelings of personal threat or thoughts that over-rode the individual's self control–were most likely to lead to violent behavior. In other words, the violent behavior of PSMIs resulted from their belief that they were facing imminent danger and, therefore, were compelled to act in self-defense.

Teplin (1994) found that PSMIs who experienced hallucinations and delusions were more likely than non-PSMIs– but not significantly so–to be rearrested for violent crimes 6 years after their release from jail. Underscoring the importance of treatment in curbing potential violence among PSMIs, Beck (1998) described several studies demonstrating that the violent acts of persons with schizophrenia frequently resulted from delusions and could be diminished with the proper use of antipsychotic medications.

In light of the independent evidence of Link et al. (1992), and Swanson et al. (1990), Monahan (1993, p. 295) revised his earlier position on mental disorders and crime, which declared that PSMIs are no more violent than members of the general population. As he suggested:

> Together, these two studies suggest that the currently mentally disordered–those actively experiencing serious psychotic symptoms–are involved in violent behaviors at rates several times those of non-disordered members of the general population, and that this difference persists even when a wide array of demographic and social factors are taken into consideration. Since the studies were conducted using representative samples of the open community, selection biases are not a plausible alternative explanation for their findings.

2.4. MacArthur Violence Risk Assessment Study

In the context of this changing orientation, a team of researchers from across the United States embarked in the early 1990s on an ambitious research project aimed at overcoming the methodological limitations of previous research on mental illness and violence. The project, known as the MacArthur Violence Risk Assessment Study, was a multiyear effort that focused on the identification of specific risk factors for violence among psychiatric populations and on understanding the predictive strength of those factors. The study was undertaken in three cities and monitored the violent acts of men and women patients during the first year after their release from the hospital. Patients' own reports of violent behaviors, the reports of collateral informants regarding patients' behaviors, and patients' police and hospital reports were compared with those of control groups of persons who lived in the same neighborhoods as former patients but had no psychiatric hospitalizations.

During the project's formative stages, Steadman and Monahan (1994) identified four major methodological challenges facing risk assessment research: limited range of predictor variables, weak criterion variables (*i.e.* outcome indicators), constricted validation samples, and unsynchronized research efforts. These challenges laid the groundwork for the study's comprehensive design. For example, whereas previous studies depended primarily on a one-dimensional view of violence (generally drawn from arrest or conviction data), the MacArthur Violence Risk Assessment Study drew from a variety of sources, including official records and collateral contacts with persons who had regular interactions with the individual in the community. This expanded reach permitted the study to capture a wide range of interpersonal violence, ranging from serious acts of felonious assault to milder forms of violence such as shoving or other minor altercations.

Confirming the results of previous studies (*e.g.* Johns, 1997; Swanson, Borum, Swartz, & Monahan, 1996), Steadman et al. (1998) found that the prevalence rates for violence were significantly affected by the existence of co-occurring substance use disorders. Former patients reported relatively more substance abuse and dependence problems than persons in the general population, and patients who abused drugs and alcohol committed more violent acts than members of the general population who had no substance use problems. The study also established that patients with personality and adjustment disorders were most likely to commit violent acts in the follow-up period. Both former patients and community members were more likely to perpetrate their aggressive acts against family

members, friends, and acquaintances than against strangers. In addition, patients were more likely than community residents to commit violent acts at home, which concurred with several other researchers who also have reported that family members are often the targets of violent PSMIs (*e.g.*, Runions & Prudo, 1983; Straznickas, McNeil, & Binder, 1993; Tardiff, 1984).

Based on a 20-week follow-up period, the MacArthur data indicated that 18.7% of the patients studied were involved in violent altercations that resulted in police contact. Table 1 summarizes some of the key factors found to be associated with the risk of violence among individuals with mental illness.

Although these data indicate important bivariate relationships between violence and a range of independent variables, they fail to address the exclusivity or the dynamics of those relationships. Factors such as psychopathy, antisocial behavior, and anger are significant predictors of violence among individuals without serious mental illness; thus, the independent effects of mental illness on violence are unclear. Moreover, bivariate associations by definition fail to address the fundamental issue of how factors interact with one another. Considering this, the MacArthur researchers noted that the most useful research must focus on multivariate relationships among predictor variables and outcomes as well as the situational and contextual factors that are predictive of violent acts in general and in particular cases. This fundamental premise provided the foundation for the MacArthur project's ensuing work in the creation of the Iterative Classification Tree, a risk assessment technology examined in the following section.

3. Assessing and managing risk: Violence and mental illness in an applied context

The practice of assessing and managing the risk of violence has evolved considerably over recent decades. Once dominated by dichotomous predictions and loosely defined notions of "dangerousness," the field now encompasses a more multi-faceted conception of violence risk that is becoming increasingly aligned with the practical demands of violence prevention (Douglas & Kropp, 2002). This section traces the evolution and development of contemporary risk assessment practices, and describes the current direction of the field.

3.1. From "dangerousness" to risk assessment

For much of the twentieth century, the assessment of violence risk in a legal context was the responsibility of clinical experts who were deemed to be sufficiently qualified to make clinical judgments solely on the basis of their clinical training and experience. This model flourished during the era of psychiatric institutionalization, in the decades leading

Table 1
MacArthur study: Summary of selected bivariate relationships

Gender: Men were somewhat more likely than women to be violent but the difference was not large. Violence by women was more likely than violence by men to be directed against family members and to occur at home and less likely to result in medical treatment or arrest.

Previous violence: All measures of previous violence (self-report, arrest records, and hospital records) were strongly related to future violence.

Childhood experiences: The seriousness and frequency of having been physically abused as a child predicted subsequent violent behavior, as did having a parent–particularly a father–who was a substance abuser or a criminal.

Neighborhood and race: Although there was an overall association between race and violence, African Americans and whites who lived in comparably disadvantaged neighborhoods had the same rates of violence.

Diagnosis: A diagnosis of a major mental disorder–especially a diagnosis of schizophrenia–was associated with a lower rate of violence than a diagnosis of a personality or adjustment disorder. A co-occurring diagnosis of a substance use disorder was strongly predictive of violence.

Psychopathy: Psychopathy, as measured by a screening version of the Hare Psychopathy Checklist, was more strongly associated with violence than any other risk factor studied. The "antisocial behavior" component of psychopathy, rather than the "emotional detachment" component, accounted for most of this relationship.

Delusions: The presence of delusions–or the type of delusions or the content of delusions–as not associated with violence. A generally "suspicious" attitude toward others was related to violence.

Hallucinations: Neither hallucinations in general, nor "command" hallucinations in particular, elevated the risk of violence. If voices specifically commanded a violent act, however, the likelihood of violence was increased.

Violent thoughts: Thinking or daydreaming about harming others was associated with violence, particularly if the thoughts or daydreams were persistent.

Anger: The higher patients scored on the Novaco Anger Scale in the hospital, the more likely the more likely they were to be violent later in the community.

Note. Adapted from Monahan et al. (2001).

up to the early 1960s. At the peak of institutionalization in 1955, more than half a million individuals were held in state-run psychiatric institutions. Many were placed in these facilities as a form of preventive detention pursuant to psychiatric determinations of dangerousness (Grob, 1995).

In the 1960s, a convergence of factors–notably state budget pressures, the active civil rights movement, and shifts in the practice of psychiatry–led to a widespread movement to reduce the use of institutionalization as a means of social control (Grob, 1995). Operating in this general context, the 1966 U.S. Supreme Court ruling in *Baxstrom v. Herald* called into question the methods employed to assess dangerousness for the purpose of involuntary civil psychiatric commitment. As a consequence, more than 900 individuals who had been civilly committed in New York State, based on presumptions of dangerousness, were released into the community.

The Baxstrom case awakened simmering doubts about clinicians' ability to predict violence effectively. In their follow-up study of individuals released pursuant to the *Baxstrom* ruling, Steadman and Cocozza (1974) found strong support for the contention that clinicians making dangerousness determinations tended to over-predict future violence. Of the 966 individuals followed in the study–all of whom had been committed pursuant to a psychiatric determination of dangerousness–only 20% had been convicted criminally during the four-year follow-up period, the majority for nonviolent offenses (Steadman & Cocozza, 1974).

Throughout the 1970s, legal scholars and researchers expressed little faith in the legality and accuracy of clinical predictions of violent behavior. Summarizing their review of the evidence concerning psychiatry's role in the prediction of dangerousness, Ennis and Litwack (1974) concluded:

> The professional literature confirms (that)… psychiatrists have bitten off more than they can chew. The fault, however, is not theirs alone, for legislatures and courts, in an attempt to shift responsibility for making the determinations of who shall be allowed to remain free and who shall be confined, have turned to psychiatry for easy answers when there are none. (p. 714)

Concurrent with these developments, structured studies of actuarial methods as an alternative to subjective determinations of dangerousness drew the avid attention of researchers and practitioners (Grove & Meehl, 1996). Often traced to Meehl's (1954) seminal monograph, *Clinical Versus Statistical Prediction*, the actuarial approach to violence prediction maintained that statistically based-mechanical models were superior to impressionistic judgments. Beginning in the late 1970s and over the next two decades, an increasing emphasis on empirically validated-actuarial models would shape profoundly the nature of contemporary risk assessment (Monahan, 1988; Monahan & Steadman, 1994).

The expanded focus on actuarial methods marked a significant transition between older notions of "dangerousness" and contemporary risk assessment practices. In 1981, Monahan clarified the boundaries between clinical and actuarial approaches, citing the apparent superior predictive capacity of actuarial methods in assessing *a priori* risk through largely static variables and the potential role of clinical judgment in addressing dynamic factors that might inform short-term efforts at mitigating risk (Monahan, 1981).

3.2. Contemporary risk assessment tools

From a purely predictive context, actuarial approaches dominated the landscape for much of the 1990s. One of the more prominent "pure" actuarial instruments, the Violence Risk Appraisal Guide (VRAG), was developed pursuant to a major longitudinal study of 800 serious offenders released from a maximum-security Canadian psychiatric facility and translated empirically derived risk factors into an actuarial scale (Quinsey, Harris, Rice, & Cormier, 1998). The VRAG consists of 12 items that address a range of demographic, criminal history, and psychometric characteristics, and produce a score that indicates the likelihood that an individual will commit a violent act within a circumscribed time period. One of the VRAG's core predictive factors is the level of psychopathy as measured by the Hare Psychopathy Checklist-Revised (PCL-R) (Hare, 1991). This measure, which figures prominently in several other actuarial scales, has been cited repeatedly in contemporary literature as a strong predictor of future violence.

Although much of the clinical-actuarial debate was framed in terms of a "bright line" distinction between unstructured, purely subjective, judgments and objective, standardized measures that predict risk levels based on statistical formulations (Dawes, Faust, & Meehl, 1989), a more balanced view of this traditional distinction has appeared recently. Clinical methods have becoming increasingly grounded in empirical research (Webster, Douglas, Eaves, & Hart, 1997), and actuarial approaches more closely mirror the process of clinical decision-making (Monahan et al., 2005).

One example of this blending can be found in a guided clinical evaluation tool known as the Historical/Clinical/Risk Management-20 (HCR-20). Originally developed in 1995 and revised in 1997, the instrument became a prototype for structured clinical decision-making, representing an alternative to the relative rigidity of pure actuarial models, such as the VRAG. The HCR-20 captures many similar variables as the PCL-R and is balanced in terms of static, stable, and dynamic variables. Its 20 items (rated on a 0–2 scale like the PCL-R) are divided into three sections that integrate key information from the past (Historical), present (Clinical), and future (Risk Management) (Webster et al., 1997).

Perhaps the most ambitious attempt to bridge the clinical-actuarial divide is reflected in the development of the Iterative Classification Tree (ICT) and the associated Classification of Violence Risk (COVR). Stemming from the previously described MacArthur Violence Risk Assessment Study, the ICT and COVR set forth a new paradigm for evaluating violence risk, addressing many of the methodological shortcomings that characterized previous risk assessment research (Banks et al., 2004; Monahan et al., 2005; Monahan et al., 2000).

The ICT was created in line with a new vision for violence risk assessment practices—one predicated on a more nuanced and interactive view of violence and its causal processes and was predicated on the recognition that actuarial tools, of considerable interest to researchers, had been largely resisted by members of the clinical community. This resistance was explained in part by the actuarial tools' primary dependence on linear regression models that place individuals along a singular spectrum of risk and ignore critical within-group distinctions. The ICT approach was conceived in part to more closely mirror the clinical decision-making process through the use of decision trees and the establishment of dual thresholds for isolating high- and low-risk cases (Steadman et al., 2000).

Based on the ICT model, MacArthur researchers developed the computer-assisted Classification of Violence Risk (COVR) tool and conducted a prospective validation study to test this new approach (Monahan et al., 2005). The study established the COVR tool as an effective means of differentiating between low- and high-risk populations, although it was unable to draw firm conclusions about the instrument's ability to discriminate among moderate-risk cases. Further investigations of the COVR tool should be conducted, as it has yet to be validated beyond psychiatric populations. However, the tool's conceptual, methodological, and operational foundations appear to hold significant promise. Through its multi-dimensional view of risk and its technology-supported administration, the COVR tool has significant implications for decision-making within high-risk populations in the fields of community corrections and law enforcement.

3.3. Developments in contemporary risk assessment practice

The shifting nature of violence risk assessment during the past two decades has been guided by at least three notable themes. First, traditional monolithic notions of "dangerousness" have been deconstructed, and changes have been made in how risk is defined and communicated. For example, in 1989, the National Research Council suggested that the term "dangerousness" should distinguish among risk factors (*i.e.*, variables associated with the probability that violence will occur), harm (the nature and severity of the results of the violent behavior), and risk level (the probability that violence will occur) (National Research Council, 1989). These elements have been operationalized in the risk assessment field by extending and improving the categorization of risk variables, expanding definitions of outcome criteria to encompass a broader range of violent behaviors, and shifting from dichotomous determinations to models that gauge risk along a continuum or employ multiple risk thresholds (Steadman et al., 2000).

Second, the fundamental orientation of risk assessment has moved from a predominant focus on one-time predictions of risk to an emphasis more consistent with ongoing violence prevention (Douglas & Kropp, 2002; Hart, 1998). This shift has occurred in the midst of growing attention to the roles of static variables (factors that are immutable and potentially correlated with long-term risk of violence) and dynamic variables (factors that are contextual or otherwise amenable to change, and potentially correlated with immediate or short-term violence risk) in the assessment and management of violence risk.

In distinguishing between predictive- and management-oriented risk-assessment approaches, Heilbrun (1997) suggested that the identification of *a priori* risk (through prediction) might have limited practical utility in cases in which the goal is to prevent violence through the identification and mitigation of potential risk. Taking this one step further, the prediction-management distinction bridges the actuarial-clinical divide, with actuarial methods (typically dependent on static variables) most applicable in contexts that call for prediction and clinical methods (focused in dynamic factors) that are more appropriate for evaluation and management of short-term risk (Dvoskin & Heilbrun, 2001).

Third, attempts to gain a better appreciation of the nature of clinical decision-making have influenced the direction of risk assessment practices. Once derided as arbitrary and unstructured, the role of professional judgment has shifted dramatically with the development of empirically guided instruments to support the risk assessment process. Structured professional assessment tools guide the evaluator to consider a range of empirically validated risk factors, which are then applied to a general estimate of risk (Webster et al., 1997). In contrast to the prescriptive nature of pure actuarial instruments, structured professional judgment systems, such as the HCR-20, have been applied as guidelines and therefore provide considerable flexibility to the evaluator in terms of the inclusion, weighting, and combination of specific risk factors.

The confluence of these developments–the disaggregation of "dangerousness;" the shift from fixed predictive models to more dynamic systems of risk management; the emergence of empirically grounded professional judgments; and an enhanced focus on bridging research and practice–reshaped the range and emphasis of decision-support technologies associated with preventing violence in high-risk populations. In the process, these developments also have facilitated a shift toward a middle ground between the traditional boundaries of clinical and actuarial approaches, with professional determinations that are now informed by empirical evidence and actuarial tools more closely aligned with the clinical decision-making process.

4. Conclusion: Violence and mental disorder in a broader context

Over the past decade, the general field of violence risk assessment has flourished, producing a steadily expanding evidence base and a refinement of conceptual and theoretical models (Hanson & Harris, 2000a,b; Monahan, 1988; Monahan & Steadman, 1994). Along with these developments, specialized risk assessment technologies have proliferated for a range of groups beyond traditional psychiatric populations, including sexual offenders, perpetrators of domestic violence, juveniles, and general criminal populations.

As the field of violence risk assessment has expanded, the quest for understanding the relationship between violence and mental illness has been a driving force in the evolution of contemporary practice. From Steadman and Cocozza's groundbreaking study in the wake of *Baxstrom*, to Monahan's reframing of the clinical-actuarial debate, to the recent work of the MacArthur Violence Risk Assessment Project, the relationship between psychopathology and violence has been at the forefront of the field.

In the broader framework of risk assessment in the criminal justice arena, understanding the relationship between violence and mental disorder is crucial, for several reasons. First, from a methodological standpoint, the development and validation of risk assessment tools and methods within psychiatric populations has produced a range of useful tools that might be applied to broader offender populations. One prominent example is the Iterative Classification Tree model described earlier in this article.

Second, although the dynamics between mental illness and violence carry certain particular characteristics, many of the strongest predictors of violence among individuals with mental illness also are strong predictors of violence in the general criminal population. For example, psychopathy and antisocial personality order, while not synonymous, are closely related to each other and play a role in the general propensity for violence in both psychiatric and nonpsychiatric populations (Quinsey, Harris, Rice, & Cormier, 2006).

Third, although the boundaries between the mental health and criminal justice systems always have been somewhat blurred, policymakers, researchers, and practitioners widely recognize that the growing number of individuals with serious mental illness and criminal involvement present substantial challenges to virtually every aspect of the criminal justice system (Council of State Governments, 2002). Considering these factors, an understanding of the linkage between violence and mental disorder serves many purposes: eliminating the destructive and still-pervasive myths concerning the relationship between violence and mental illness, improving the criminal justice system's responses to individuals with serious mental illness, and reducing the overall incidence of violence in communities.

References

Ashley, M. (1922). Outcome of 1,000 cases paroled from the Middletown State Hospital. *State Hospital Quarterly*, *8*, 64−70.

Banks, S., Robbins, P. C., Silver, E., Vesselinov, R., Steadman, H. J., Monahan, J., et al. (2004). A multiple-models approach to violence risk assessment among people with mental disorder. *Criminal Justice and Behavior*, *31*, 324−340.

Barlow, D. H., & Durand, M. V. (1999). *Abnormal psychology* (2nd ed.). New York: Brooks/Cole.

Beck, J. L. (1998). Mental *illness and violent acts: Protecting the patient and public.* Paper presented at the annual meeting of the American Psychiatric Association, Toronto, Ontario.

Brill, H., & Maltzberg, B. (1962). Statistical report on the arrest record of male ex-patients released from New York State mental hospitals during the period 1946–8. *Criminal acts of ex-mental hospital patients. Supplement*, *Vol. 153*. Washington, D.C.: American Psychiatric Association, Mental Hospital Service.

Cocozza, J. J., Steadman, H. J., & Melick, M. E. (1978). Trends in violent crime among ex-mental patients. *Criminology*, *16*, 317−334.

Cohen, L., & Freeman, H. (1945). How dangerous to the community are state hospital patients? *Connecticut State Medical Journal*, *9*, 697−700.

Council of State Governments. (2002). *Criminal justice-mental health consensus project report.* New York: Author.

Dawes, R. M., Faust, D., & Meehl, P. E. (1989). Clinical versus actuarial judgment. *Science*, *243*, 1668−1674.

Douglas, K., & Kropp, P. (2002). A prevention-based paradigm for violence risk assessment. *Criminal Justice and Behavior*, *29*, 617−658.

Durbin, J., Pasewark, R., & Albers, D. (1977). Criminality and mental illness: A study of arrest rates in a rural state. *American Journal of Psychiatry*, *134*, 80−83.

Dvoskin, J., & Heilbrun, K. (2001). Risk assessment and release decision-making: Toward resolving the great debate. *Journal of the American Academy of Psychiatry and the Law*, *29*, 6−10.

Ennis, B. J., & Litwack, T. R. (1974). Psychiatry and the presumption of expertise: Flipping coins in the courtroom. *California Law Review*, *62*, 693−752.

Gray, J. P. (1857). Homicide in insanity. *American Journal of Insanity*, *14*, 119−143.

Grob, G. (1995). *The mad among us: A history of the care of America's mentally ill.* Cambridge: Harvard University Press.

Grove, W. M., & Meehl, P. E. (1996). Comparative efficiency of informal (subjective, impressionistic) and formal (mechanical, algorithmic) prediction procedures: The clinical–statistical controversy. *Psychology, Public Policy, and Law*, *2*, 293−323.

Hanson, R. K., & Harris, A. J. R. (2000a). Where should we intervene? *Criminal Justice and Behavior*, *27*, 6−35.

Hanson, R. K., & Harris, A. J. R. (2000b). *The sex offender needs assessment rating (SONAR): A method for measuring change in risk levels.* Department of the Solicitor General of Canada Retrieved June 7, 2006, from the World Wide Web: http://ww2.psepc-sppcc.gc.ca/publications/corrections/pdf/200001b_e.pdf

Hare, R. (1991). *The Hare psychopathy checklist—revised: Manual.* N. Tonawanda, NY: Multi-Health Systems.

Hart, S. D. (1998). The role of psychopathy in assessing risk for violence: Conceptual and methodological issues. *Legal Criminological Psychology*, *3*, 123−140.

Heilbrun, K. (1997). Prediction versus management models relevant to risk assessment: The importance of legal decision-making context. *Law and Human Behavior*, *21*, 347−359.

Hodgins, S. (1992). Mental disorder, intellectual deficiency, and crime: Evidence from a birth cohort. *Archives of General Psychiatry*, *49*, 476−483.

Johns, A. (1997). Substance misuse: A primary risk and a major problem of comorbidity. *International Review of Psychiatry*, *9*, 233−241.

Link, B., Andrews, H., & Cullen, F. (1992). The violent and illegal behavior of mental patients reconsidered. *American Sociological Review*, *57*, 275−292.

Link, B., & Stueve, A. (1994). Psychotic symptoms and the violent/illegal behavior of mental patients compared to community controls. In J. Monahan & H. Steadman (Eds.), *Violence and mental disorder: Developments in risk assessment* (pp. 137−159). Chicago: University of Chicago Press.

Meehl, P. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence.* Minneapolis: University of Minnesota Press.

Monahan, J. (1981). *Predicting violent behavior: An assessment of clinical techniques.* Beverly Hills: Sage Publications.

Monahan, J. (1988). Risk assessment of violence among the mentally disordered: Generating useful knowledge. *International Journal of Law and Psychiatry*, *11*, 257.

Monahan, J. (1992). Mental disorder and violent behavior: Perceptions and evidence. *American Psychologist*, *47*, 511−521.

Monahan, J. (1993). Mental disorder and violence: Another look. In S. Hodgins (Ed.), *Mental disorder and crime* (pp. 287−302). Newbury Park, CA: Sage.

Monahan, J. (1996). *Mental illness and violent crime.* Washington DC: National Institute of Justice.

Monahan, J., & Steadman, H. (1983). Crime and mental disorder: An epidemiological approach. In N. Morris & M. Tonry (Eds.), *Crime and justice: An annual review of research* (pp. 145−189). Chicago: University of Chicago Press.

Monahan, J., & Steadman, H. J. (1994). *Violence and mental disorder: Developments in risk assessment.* Chicago: University of Chicago Press.

Monahan, J., Steadman, H. J., Robbins, P. C., Appelbaum, P., Banks, S., Grisso, T., et al. (2005). An actuarial model of violence risk assessment for persons with mental disorders. *Psychiatric Services*, *56*, 810−815.

Monahan, J., Steadman, H. J., Robbins, P. C., Silver, E., Appelbaum, P., Grisso, T., et al. (2000). Developing a clinically useful actuarial tool for assessing violence risk. *British Journal of Psychiatry*, *176*, 312−319.

Monahan, J., Steadman, H., Silver, E., Appelbaum, A., Robbins, P., Mulvey, E., et al. (2001). *Rethinking risk assessment: The MacArthur study of mental disorder and violence.* New York: Oxford University Press.

National Research Council. (1989). *Improving risk communication.* Washington D.C.: National Academy Press.

Phelan, J., Link, B., Stueve, A., & Pescosolido, B. (1997). *Public conceptions of mental illness in 1950 and today: Findings from the 1996 General Social Survey Module on Mental Health.* Paper presented at the annual meeting of the American Sociological Association, Toronto, Ontario.

Pollock, H. H. (1938). Is the paroled patient a threat to the community? *Psychiatric Quarterly*, *12*, 236−244.

Porter, R. (2003). *Madness: A brief history.* England: Oxford University Press.

Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. (1998). *Violent offenders: Appraising and managing risk.* Washington, D.C.: American Psychological Association.

Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. A. (2006). *Violent offenders: Appraising and managing risk* (2nd ed.). Washington, D.C.: American Psychological Association.

Rabkin, J. (1979). Criminal behavior of discharged mental patients: A critical appraisal of the research. *Psychological Bulletin*, *86*, 1−27.

Rappeport, J., & Lassen, G. (1965). The dangerousness of female patients: A comparison of the arrest rate of discharged patients and the general population. *American Journal of Psychiatry*, *123*, 413−419.

Robins, L. N. & Regier, D. A. (Eds.). (1991). *Psychiatric disorders in America: The Epidemiologic Catchment Area Study.* New York: Free Press.

Runions, J., & Prudo, R. (1983). Problem behaviors encountered by families living with a schizophrenic member. *Canadian Journal of Psychiatry*, *28*, 383−386.

Shah, S. A. (1975). Dangerous and civil commitment of the mentally ill: Some public policy considerations. *American Journal of Psychiatry*, *132*, 501−505.

Shain, R., & Phillips, J. (1991). The stigma of mental illness: Labeling and stereotyping in the news. In L. Wilkins & P. Patterson (Eds.), *Risky business: Communicating issues of science, risk, and public policy* (pp. 61−74). Westport, CT: Greenwood Press.

Sosowsky, L. (1980). Explaining the increased arrest rate among mental patients: A cautionary note. *American Journal of Psychiatry*, *137*, 1602−1605.

Steadman, H. J., & Cocozza, J. (1974). *Careers of the criminally insane: Excessive social control of deviance.* Lexington, MA: Lexington Books.

Steadman, H. J., Cocozza, J., & Melick, M. (1978). Explaining the increased crime rate of mental patients: The changing clientele of state hospitals. *American Journal of Psychiatry*, *135*, 816−820.

Steadman, H. J., & Felson, R. B. (1984). Self-reports of violence. *Criminology*, *22*, 321−342.

Steadman, H., & Monahan, J. (1994). Toward a rejuvenation of risk assessment research. In J. Monahan & H. Steadman (Eds.), *Violence and Mental Disorder* (pp. 10−16). Chicago: University of Chicago Press.

Steadman, H. J., Mulvey, E. P., Monahan, J., Robbins, P. C., Appelbaum, P. S., Grisso, T., et al. (1998). Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. *Archives of General Psychiatry*, *55*, 393−401.

Steadman, H. J., Silver, E., Monahan, J., Appelbaum, P., Robbins, P. C., Mulvey, E. P., et al. (2000). A Classification Tree Approach to the Development of Actuarial Violence Risk Assessment Tools. *24*(1).

Straznickas, K. A., McNeil, D. E., & Binder, R. L. (1993). Violence toward family caregivers by mentally ill relatives. *Hospital and Community Psychiatry*, *44*, 385−387.

Swanson, J., Borum, R., Swartz, M., & Monahan, J. (1996). Psychotic symptoms and disorders and the risk of violent behavior in the community. *Criminal Behavior and Mental Health*, *6*, 317−332.

Swanson, J., Holzer, C., Ganju, V., & Jono, R. (1990). Violence and psychiatric disorder in the community: Evidence from the Epidemiologic Catchment Area surveys. *Hospital and Community Psychiatry*, *41*, 761−770.

Tardiff, K. (1984). Characteristics of assaultive patients in private hospitals. *American Journal of Psychiatry*, *141*, 1232−1235.

Teplin, L. A. (1994). Psychiatric and substance abuse disorders among male urban jail detainees. *American Journal of Public Health*, *84*, 290−293.

Torrey, E. F. (1997). *Out of the shadows: Confronting America's mental illness crisis.* New York: John Wiley.

Webster, C., Douglas, K., Eaves, D., & Hart, S. (1997). *Manual for the HCR-20: Assessing risk for violence.* Burnaby, British Columbia: Mental Health Law and Policy Institute, Simon Fraser University.

Zitrin, A., Hardesty, A. S., Burdock, E. T., & Drossman, A. K. (1976). Crime and violence among mental patients. *American Journal of Psychiatry*, *133*, 142−149.