

## INTRODUCTION

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### 1. Clinical Assessment of Dangerousness: An Overview of the Literature

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“I think you have to define for yourself the word ‘danger’ and then having decided that in your mind, you go see the patient and look for it with every conceivable means that you have at your command, and if you wind up not knowing something, you ought to say so. This is a complex business”

(John A. Ordway in Rappeport, 1967) (p. 53)

In spring 1965, this was in reply to audience demands for a definition of dangerousness at the first panel discussion ever held on the topic at a meeting of the American Psychiatric Association. Almost a decade after the symposium proceedings were published, Steadman (1973) once again grappled with the concept of dangerousness. He offered that it represents a probability estimation that something “dangerous” will happen in the presence of an individual. In attempts to further clarify the concept, he added that dangerousness is not an inherent characteristic of a person or situation and that it does not represent a quality, but rather an attribution of a quality.

Because of such vague conceptualizations, misguided public perceptions, and the tendency to clinically overestimate violence potential, the prediction of dangerousness among persons with mental disorders has been viewed as an inherently dangerous proposition (Shah, 1975). While the risks are not underestimated, more than ever, the assessment of dangerousness has important consequences in numerous decision-making processes: (1) Mental health professionals remain accountable to the public and courts, for their clinical judgments regarding future violence potential of patients (Lidz & Mulvey, 1995); (2) Estimates of dangerousness represent essential components of day-to-day management of many patients (Jones, 1995); and (3) There is a duty to protect potential victims (Monahan, 1993). Hence, concerns of the new millen-

nium will focus on improving the accuracy of clinical predictions by developing empirically driven models of dangerousness for specific populations.

Empirical approaches to improving clinical judgments suggest that the “complex business” referred to by our predecessors can be broken down into simpler parts. This chapter reviews the components of the dangerousness assessment equation.

### **Dangerousness: Clinical Concept and Operationalized Variable**

Although clinical conceptualizations of dangerousness reflect concern about potential harm to others, their components vary (reviewed in Foucault, 1981; Jones 1995): risk of inflicting serious, irreversible injury or destruction, or to induce others to engage in this risk; propensity to cause serious and lasting physical harm; risk of inflicting serious violence on others (physical and/or psychological) or damaging property that places others at risk of physical injury. The common thread among these is the concept of probability.

Gunn (1982) underscored three key elements: destructiveness, prediction, and fear. In a later publication (Gunn, 1993), he added that dangerousness represents an attribution that is made to people (or things) that is partially influenced by actuarial risk (based on computations of probability) and gut feelings (subjective fear). Hence, predictions of this attribute refer to overall clinical impressions of the likelihood that an individual will engage in something destructive in the future.

The clinical assessment of dangerousness represents an inexact science, partially because it is subjectively driven, but also because of factors such as individual choice and triggering contextual influences (Foucault, 1981; Gunn, 1993). The accuracy of such estimates further depends on patient management issues (i.e., patient compliance, symptom control, and abstinence from illicit drug and alcohol use; Noriko, 1999). There is a consensus that dangerousness represents a state and not a trait and that an individual’s potential for violence should be viewed on a continuum (Melton, Petrila, Poythress, & Slobogin, 1997). That is, violence potential should not be treated as a fixed level of risk, but rather as a fluctuating level of risk that varies with time, symptoms, and situations (Mulvey, 1994).

Empirical approaches are challenged by the concept of dangerousness because it does not have the measurable characteristics of matter

like weight, length, or speed (Jones, 1995). As such, research studies typically use officially recorded violence (arrests, convictions, incarcerations, etc.) to represent this variable in their prediction models. Hospitalizations serve as another official source of data as well. Both strategies can bias the results because violent individuals are more likely to be “medicalized or criminalized” (Link, Andrews, & Cullen, 1992). There is always the chance that violent individuals may be more easily hospitalized or that psychiatric patients may be more easily apprehended by the police. As a result, studies using this approach are likely to have the greatest power to detect more severe disorders (i.e., schizophrenia) or crimes (e.g., homicide). The operationalization of dangerousness through official records will be most relevant to disorders and crimes that are most likely to be detected and officially documented. This is an important consideration when examining the potential for violence in populations with mental disorders.

### *The Link*

Using a number of approaches (i.e., prospective, retrospective, and epidemiological), researchers have established a significant relationship between mental disorders and violent behavior (Link & Stueve, 1998; Marzuk, 1996). Several caveats are in order prior to appreciating its predictive power. While significant, the magnitude of this link is comparable to that of sociodemographic factors (Swanson, Holzer, Ganju, & Jono, 1990). This relationship is also limited to specific disorders and symptom constellations (Link & Stueve, 1994). Finally, persons with mental illness represent a small percentage of the population, most of which are neither criminal nor violent (Marzuk, 1996). This is in far contrast to increasing beliefs by the general public that stereotype individuals with mental illness as dangerous (Phelan, Link, Stueve, & Pescosolido, 1997). These considerations provide a perspective for interpreting this link.

The link between mental disorders and dangerousness is robust, even after controlling for socioeconomic characteristics (Marzuk, 1996). Although this link appears strongest for severe mental disorders, active psychotic symptoms are more reliable as predictors than diagnosis per se (Mulvey, 1994). Perhaps this explains why, for persons without diagnosed mental illness, the potential for dangerous behavior is increased by the use of alcohol and psychoactive substances (Marzuk, 1996).

Recent strategies have focused on establishing the magnitude of risk associated with specific mental disorders (see Litwack & Schlesinger, 1999 for an extensive historical review of earlier generation studies). By doing so, we can learn more about the risks associated with different subgroups of individuals. Epidemiological studies have been most promising in achieving this objective. These assess violence rates among *all* individuals in their community samples, treated or not, over a specified time period. These have noted elevated rates of violence for some disorders but not all (Link & Stueve, 1998).

Swanson et al. (1990) used data from the NIMH Epidemiological Catchment Area (ECA) survey to examine the relationship between violence and psychiatric disorder among 10,000 American adults from Baltimore, Raleigh-Durham, and Los Angeles. More than half of the adults who reported violent behavior met *DSM-III* criteria for one or more psychiatric disorders. Among those who met the criteria for one disorder, subjects with a diagnosis of substance abuse were more than twice as likely to report violent behavior than those with schizophrenia (21.30% versus 8.36%). The risk of violent behavior significantly increased with the number of psychiatric disorders. One could argue that the ECA survey data are biased by a cultural context marked by urban standards of higher levels of interpersonal violence. Would this link be robust in a less violent culture? Stueve and Link (1997) addressed this question with a large, community-based, epidemiological sample from Israel ( $N = 2678$ ). The 5-year prevalence of interpersonal violence (fighting and weapon use) was lower than that observed in an upper Manhattan sample (Link et al., 1992). This sample also had lower base rates of substance abuse and antisocial personality disorders. Self-reports of recent interpersonal violence were significantly elevated among adults diagnosed with psychotic or bipolar disorders compared to respondents without psychiatric disorders. However, they were not elevated among adults diagnosed with nonpsychotic depression, generalized anxiety disorder, or phobias. These results were independent of lifetime substance abuse, antisocial personality disorder, and sociodemographic factors that moderate the link between mental illness and violence.

Is this link robust for more extreme violence? Homicidal behavior in cultures with a relatively low crime rate (and a high rate of solved cases) appears to be linked with some specific mental disorders classified according to *DSM-III-R* classifications. Using a Finnish sample, Eronen, Hakola, and Tiihonen (1996) found that the risk of homicidal

violence was substantially highest in both men and women with schizophrenia, antisocial personality disorder, and alcoholism compared to the general population. It is important to note that this study took place in a cultural context where violent crime is not significantly influenced by organized crime and drug abuse. In another Finnish study, Tiihonen and Hakola (1994) investigated the relationship between psychiatric disorders and homicide recidivism. Their sample included all homicide recidivists from prisons or high-security hospitals who had committed their last offense during a three-year period (1988–1991). All recidivists (13 subjects) suffered from either severe alcoholism combined with personality disorder (85%) or from schizophrenia (15%). Based on 30 years of experience conducting studies on homicide recidivism, these authors concluded that homicidal recidivists are almost always affected by a mental disorder. Severe alcoholism, schizophrenia, paranoid psychosis, and paranoid personality disorders are the most common diagnoses (by order of frequency).

### *Prediction*

Given that this link has been suspected for quite some time (Hamilton, 1916), researchers in the past several decades have tried to assess just how correct clinicians are in their assessments of dangerousness. Until the early 1990s, many doubted the validity and legitimacy of such clinical predictions, to the point that some have suggested that mental health professionals are not competent in that capacity (e.g., American Psychological Association, 1978; Dershowitz, 1969; Megargee, 1981). However, hindsight tells us that such conclusions were drawn from a literature plagued by serious methodological problems (see Gunn, 1993; Litwack & Schlesinger, 1999; or Melton et al., 1997 for a more detailed discussion). That is, the studies cited in numerous reports and reviews of the research were flawed in ways that increased the risk of inflating false-positive predictions (i.e., overestimation of someone's potential for violence). Moreover, the true test of whether such predictions are correct would be to conduct naturalistic observations (i.e., not interfering with the environment) and see if the person would indeed be dangerous as predicted. Of course, this is unethical and, as a result, challenges the literature. Finally, the fact that we are trying to predict a variable that is based, to begin with, on a weak link that is not well understood (in terms of mediating and moderating variables) is not helpful.

A more cautious look at dangerous assessment as a variable suggests that: (1) clinical judgments are valuable (Otto, 1992); (2) clinical predictions are not wrong most of the time (Litwack & Schlesinger, 1999); and (3) although there is need for improvement, clinicians do better than chance in their evaluations of dangerousness (Lidz, Mulvey, & Gardner, 1993). When we think about accountability to either patients (in the event of a false-positive prediction) or potential victims (in the event of a false-negative prediction), better than chance is simply not good enough.

Inter-rater reliability among clinicians must also improve if this field is to move forward. One study found that, although they were no better than other professionals, levels of agreement between psychiatrists were as low as 35% (Harding & Montandon, 1982). This extreme variability may be attributable to semantics. That is, perhaps for some, clinical determinations of dangerousness could mean making a prediction (i.e., clinical prognosis) and, for others, it could mean expressing concern (i.e., clinical impression). These two approaches could theoretically generate two different assessment statements, with the former yielding a more conservative judgment (i.e., dangerous and thus confine) in borderline cases (Melton et al., 1997). Dangerous assessments might become more reliable if we distinguish between predictions and expressions of concern regarding risk of violence. Mulvey & Lidz (1994) recommend that clinicians express their degree of concern about the probability of future violence in specific circumstances. As such, clinical concerns about risk of causing serious harm that warrant further confinement would not equate to a prediction of definite violence if the patient is released into the community and unsupervised. This suggestion seems to be consistent with making a medical prognosis (Gunn, 1993).

Tardiff (1989) maintains that the clinical assessments are more reliable if they address short-term risk. In this case, short-term refers to a few days to a week at most. Beyond that time frame, other factors that might change the condition may come into play (noncompliance with medication, resuming alcohol/drug use, etc.). Others, developing a new psychometric technology, show promise for longer-term risk assessment (to be discussed later in this chapter).

Whether short-term or long-term, a proper dangerous assessment demands consideration of all known risk factors. As a general rule, the cumulative number of risk factors is proportional to the degree of risk for future violence. Some factors are modifiable, but some are not. A risk

factor assessment affects not only the clinical impression of probability for future violence but also the clinical management of the individual.

## Components of the Risk Assessment Equation

### *Sociodemographic Factors*

Although factors indicating access to or control of wealth (i.e., SES) have long been considered predictors of violence (Hamilton, 1916), current research has clarified the role of specific sociodemographic characteristics as moderators of the relationship between mental disorders and violence.

*SES.* Those who were violent in the study by Swanson et al. (1990) were more likely to come from low SES groups. Similarly, the study reported by Stueve and Link (1997) found the association between mental disorders and violence stronger among those with less education.

*Age.* Youth is generally associated with violence risk (Swanson et al., 1990). In psychiatric populations, this is especially noted for males under 20 and females under 34 years of age (Tardiff & Sweillam, 1982). While geriatric status also predicts some risk for violence, this risk is associated with less severe injury (Tardiff, 1989). The means used suggest the etiology of geriatric violence (Petrie, 1982). When a weapon is used, violence on the part of senior citizens is often the result of paranoid delusions and first experiences with psychiatric treatment. When no weapon is used, the act seems more disorganized and accompanied by a clouded sensorium, indicating possible organicity.

*Sex.* This is an easily misunderstood variable. Men do commit the majority of violent crimes in every culture (Marzuk, 1996). However, when we refer to the relationship between mental disorders and violence, the sex ratio is approximately equal (Binder & McNeil, 1990; Eronen et al., 1996; Tardiff, 1992).

*Race.* When controlling for diagnosis, the significant relationship between nonwhite racial status and aggression disappears (Lawson, Yesavage, & Werner, 1984). There are no significant racial differences as inpatients, outpatients, or preceding admission (Tardiff & Koenigsberg, 1985).

### Historical Factors

A history of childhood deprivation influenced by harsh and inconsistent parenting seems to be an important theme in the lives of those individuals who are at greatest risk of violence (Faulk, 1994). A childhood history of abuse and neglect also figures prominently as a risk factor (Widom, 1989).

Virkkunen, Eggert, Rawlings, and Linnoila (1996) found that paternal violence, alcoholism, and absence were associated with recidivism (of violence or fire setting) among forensic psychiatric patients. In the study by Tiihonen and Hakola (1994), we note that, when data were available, paternal alcoholism played a significant role in the lives of homicide recidivists.

Early signs of persistent antisocial behavior, difficulties in peer relationships, and deep hostility toward authority are established risk factors for later violence risk (Farrington, Loeber, Stouthamer-Loeber, Vankammen, & Schmidt, 1996; Melton et al., 1997). A childhood history triad of fire setting, enuresis, and cruelty to animals should be of particular concern (Festhouse & Kellert, 1987). Early onset represents a significant predictor of later antisocial behavior (Robins, 1978). It is not surprising that past history of violent behavior represents the best "objective" indicator of future risk (Monahan, 1981; Tardiff, 1992). The risk of violence increases with a past history of "making threats" of assault (MacDonald, 1963) and each additional previous act of aggression (Shah, 1978). Antisocial personality disorder increases the risk of homicidal behavior in both sexes (Eronen et al., 1996). Such individuals typically engage in violence proactively or reactively, especially during periods of heavy drinking (Kausch & Resnick, 1999).

### Situational Factors

Although earlier research indicated otherwise (e.g., Steadman, 1982), more recent epidemiological data suggest similar contextual factors for violence in both the general and mentally disordered populations. Steadman, Mulvey, Monahan, Clark Robbins, Appelbaum, Grisso, et al. (1998) found that family members and close friends were the most likely victims for both populations. This represents a narrow class of victims who are readily available, since the violent acts either took place in the home of the victim or the perpetrator. Risk of violence may

be enhanced if there is a history of previous domestic violence and when family members are involved in limit-setting (Gondolf, Mulvey, & Lidz, 1991). Among more specific contextual factors, the risk of violence is enhanced when arms are readily available (Melton et al., 1997). This is especially true for more lethal forms of violence.

### **Mental Status as a Risk Factor**

For violence that is detected, rates of violence peak around the time of hospital admission or contact with the police. Most violence occurs in the 10 weeks prior to contact with treatment, with violence peaking around the time of hospitalization (Steadman et al., 1998). Interestingly, 10 to 17% of psychiatric emergency visits involve homicidal ideation (Norko, 1999).

Thought processes and intentions represent factors of critical importance (Gunn, 1993). Summarized by Litwack & Schlesinger (1999), the following thought processes indicate significantly greater risk of violence in comparison to individuals with similar risk profiles who do not exhibit these symptoms: Active psychotic symptoms, accompanied by substance abuse and a history of antisocial behavior; delusions of threat or control by outside forces; delusions that a significant other has been replaced by an impostor; command hallucinations to commit violence; erotomania, accompanied by multiple delusional objects and prior serious antisocial behavior unrelated to the delusions; recent and current narcissistic injury (feelings of having been humiliated); or a history of sadistic fantasies.

The dynamics and risks vary according to diagnostic profile. For the same reasons they contemplate suicide or extended suicide, depressed persons may become violent due to despair (Resnick, 1969). Many persons in a manic state threaten and/or assault others, but serious violence is rare (Kausch & Resnick, 1999). Because they maintain an ability to organize a plan and retain some contact with reality, it has been suggested that paranoid schizophrenics pose the most serious risk for violence (Wessely, Castle, & Douglas, 1994). Persecutory delusions are most likely to be acted upon, with the violent act being directed at the perceived persecutor. Violence is rationalized as an effort to protect oneself. It is not surprising that the accumulation of weapons is associated with paranoid features (Meloy, 1995). Paranoid symptoms may also be influenced by another major mental disorder, personality traits, or substance abuse.

The occurrence or hint of threat represents an important indicator of violence potential. A threat's seriousness is in direct proportion to how well the threat is articulated and organized (Tardiff, 1989). Timing and duration of the threat is important as well. Threats based on longstanding delusional beliefs are less serious than recently developed plans that are influenced by a current mental state.

### Substance Abuse

As it has for the general population, the increasingly pervasive use of illicit psychoactive drugs and alcohol has increased the chances of violence among persons with mental disorders (Marzuk, 1996). This applies to both the intoxicated state and withdrawal (Tardiff, 1989). Substance abuse is also associated with the accumulation of weapons (Meloy, 1995). This especially applies to the illicit use of stimulants.

In the epidemiological study by Steadman et al. (1998), the presence of a co-occurring substance abuse disorder was a key factor in violence potential. A large proportion of cases with a primary diagnosis of mental disorder had a co-occurring diagnosis of substance abuse (49.6% for depression; 41% for schizophrenia; 37.7% for bipolar disorder; 45% for other psychotic disorder). At a one-year follow-up, the prevalence of violence was 17.9% for individuals with a major mental disorder and no substance abuse disorder; 31.1% for those with a major mental disorder and substance abuse disorder; 43.0% for those with some other form of mental disorder (personality or adjustment disorder, and several cases of suicidality) and a substance abuse disorder. The prevalence of violence among patients without symptoms of substance abuse was not significantly different from the prevalence of violence among their neighbors without symptoms of substance abuse (Steadman et al., 1998). Swanson et al. (1990) found that substance abuse and the presence of more than one diagnosis increases the risk of violence substantially.

Alcohol intoxication is implicated in the majority of violent crimes, including murders, physical and sexual assaults, and domestic violence (Brain, 1986). When looking at extreme forms of violence, Tiihonen and Hakola (1994) found that 85% of homicide recidivists were classified as type 2 alcoholics combined with antisocial personality disorder. This is not surprising given previous studies relating alcohol intake to crime (Guze et al., 1962) and homicide (Felson & Steadman, 1983). Moreover, it is not just a male problem. Alcohol and