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The Appraisal of Violence Risk

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Abstract and Introduction

Abstract

Purpose of review: Public concern about violence by the mentally ill means that mental health professionals are increasingly called upon to assess the risk of violence in a wide range of client populations. The past year, like the previous few, has seen an increase in the number of articles on the topic.
Recent findings: The evidence favouring actuarial methods for appraising the risk of violence is increasing. There are, however, some professionals who still argue against their use, especially their exclusive use. One of the liveliest debates is the extent to which dynamic variables, especially those to do with treatment, can add to static variables in the prediction of violence. The available evidence suggests that dynamic predictors contribute little to the question of who is at greatest risk, but might be valuable in predicting when an individual at high risk is likely to offend. Several papers in the past year have compared the accuracy of two or more actuarial or other prediction instruments. Surprisingly, instruments often show little variation in predictive accuracy, although actuarial instruments frequently outperform non-actuarial instruments. Several articles have examined predictors of violence among civilly committed patients and other subgroups of violent individuals. Schizophrenia and psychotic symptomatology have been found to be negatively, if at all, related to future violence. The predictors of violence appear to be common across subgroups, follow-up periods, and definitions of violent recidivism.
Summary: Risk assessments using empirically validated instruments can enhance public safety without increasing the number of individuals detained.

Introduction

The field of violence risk assessment has come a long way since 1981, when Monahan,[1] in a widely cited monograph, stated 'psychiatrists or psychologists are accurate in no more than one out of three predictions of violent behavior... ;' (p. 47). Of course, this did not mean that professionals performed at a worse-than-chance level overall; when they predicted that someone was not likely to be violent, they were much more likely to be correct than incorrect. The problem was thought to be primarily one of overprediction, and that professionals were operating in the same fashion as laypersons. Follow-up periods in early studies were generally short, violence was measured only by arrests or convictions, and the individuals released into the community were generally quite old, all of which resulted in low base rates of subsequent violent behaviour.[2] Research since has shown that base rates of violence are considerably higher when individuals are younger upon release, violence includes self-reported violent acts or those reported by significant others, and follow-up periods are longer[3,4**].

Several studies showed that measures of psychopathy (the Psychopathy Checklist - Revised[5] and related instruments) are excellent predictors of violence, even though the tools were not designed for risk assessment[3,6]. Many of the same studies showed that diagnostic variables indicative of serious mental illness such as schizophrenia and major affective disorders, once thought to be positive indicators for future violence, were in fact unrelated or negatively related to the risk of violence among clinical and forensic populations[3,6].

During the past two decades, there have been many studies of the predictors of future violence, and a few meta-analyses of particular populations undertaken to determine the relative strengths of various predictors. Interestingly, such studies

have generally shown that the predictors tend to be largely the same across populations of mentally disordered offenders, criminal offenders in general, and sex offenders in particular[7-9].

Over the past decade, actuarial risk assessment tools have been developed using predictor variables that have been shown in earlier studies to be related to future violence. Individuals are scored on those risk variables before release (or scored using only that information available before release) and then followed up some time afterwards to see which combination of variables best predicts later violence[3, 6,10]. In addition, 'structured clinical' risk assessments have been created. These are not actuarial, inasmuch as they were not derived by following up a sample of individuals, but rather were developed by putting together variables obtained from previous research and from clinical experience, and instructing clinical users to arrive at a final determination intuitively or impressionistically.[11]

The Clinical Versus Actuarial Debate

The latest work coming from the multi-million-dollar study of violence risk assessment funded by the MacArthur Foundation[4**] stated that actuarial methods have been sufficiently shown to be superior to clinical methods of prediction that 'More research demonstrating that the outcome of unstructured clinical assessments left a great deal to be desired seemed to be overkill: That horse was already dead' (p. 7). Actuarial risk assessment tools have shown large effect sizes in predictive accuracy using large development samples (e.g. the Iterative Classification Tree[4**]), or on several cross-validation samples (e.g. the Violence Risk Appraisal Guide (VRAG) or the Sex Offender Risk Appraisal Guide[12]; http://www.mhcp-research.com).

It is nevertheless sometimes argued that the superiority of actuarial over clinical methods has not been established.[13] Others claim that the accuracy of actuarial assessments has been overstated, primarily because the low base of violence means that far too many non-violent individuals must be detained in order to prevent one individual who really would be violent from being released[14*,15]. These critics have not taken into account the fact that (for reasons outlined in the introduction) base rates in many recent studies have exceeded 25%[4**], 30%,[3] or even 50%.[16] When base rates are this high, the number needed to be detained in order to prevent one violent act is considerably less than one. Also, such critics rarely describe an alternative method to make better risk-related decisions.

The argument that clinicians' judgements of the risk of violence may be sufficiently accurate for forensic decision-making is severely undermined by the finding in one study[17**] that there was no association between clinicians' judgements and the actuarial risk score (on the VRAG) even when clinicians had the VRAG score available. It is further undermined by a study that compared clinical judgement and actuarial assessment directly in a prospective study.[18] Part of the reason for the lesser accuracy of clinical than actuarial appraisals of risk may be that clinicians' judgements are influenced by their emotions[19*]. Also, some research shows that clinicians cannot make the kinds of conditional probability judgements required for the management of continuously changing, idiosyncratic violence risk factors.[20]

Studies Comparing the Predictive Accuracy of Risk Assessment Instruments

A recent advance in risk assessment has been studies comparing the accuracies of more than one actuarial or structured clinical instrument on the same sample of individuals. Surprisingly, such studies have found few significant differences among instruments in the prediction of either violence in general or sexual violence in particular[21*-25**], although some found that actuarial instruments performed significantly better than structured clinical instruments.

Violence Risk Among Individuals With Major Mental Disorder

The results of the MacArthur Study of Mental Disorder and Violence[4**] yielded findings challenging the idea that symptoms of major mental disorder are violence risk factors. In that study, civil psychiatric patients were rated while in hospital on a wide range of predictor variables, released to the community, and followed for one year. Violence included self-reported acts as well as those reported by official and other sources. Diagnoses of schizophrenia, or major mental disorder without substance abuse, threat-control override symptoms, delusions at the time of admission, and persecutory delusions, all were indicators of reduced violence risk upon release. Furthermore, hallucinations, command hallucinations, grandiose delusions, score on the Global Assessment of Functioning, total score on the Brief Psychiatric Rating Scale, and diagnoses of mania and depression were all unrelated to future violence. The largest predictors were score on the screening version of the Psychopathy Checklist, a diagnosis of antisocial personality disorder, drug or alcohol abuse, and anger as measured by the Novaco Anger Scale.

In another study using the MacArthur data[26**] it was found that the psychopathy score retained its predictive power even after relevant covariates were controlled statistically. Moreover, although few patients met the customary diagnostic

threshold for psychopathy, their scores predicted violence. Also, high scores on the items reflecting antisocial behaviour were more indicative of risk than high scores on the items reflecting emotional detachment. Similar results were found in two other studies. In one study,[27] threat-control override symptoms were negatively related, and a diagnosis of schizophrenia unrelated, to aggression on a 3-year follow-up of psychotic patients making their first contact with psychiatric services. In a study of violence among inpatients,[28] a diagnosis of schizophrenia was unrelated, and three types of personality disorder diagnoses were positively related to subsequent violence.

These findings are at odds with studies reporting that men with schizophrenia are more likely to commit violent crimes than non-disordered men.[29] One study shed some light on this apparent contradiction[25**]. Male offenders with schizophrenia were divided into those who began to offend early versus those who began late. Early starters were more likely to have alcohol or drug abuse disorders, antisocial personality disorder, high scores on the Psychopathy Checklist, unstable work histories, histories of separation from biological parents before the age of 16 years, and histories of dependence on social welfare. Early starters also had more previous violent offences. The minority of men with schizophrenia who also had co-morbid psychopathy or antisocial personality disorder were therefore the ones who accounted for most of the violence committed by the entire sample. It is quite possible that, in the studies comparing rates of violence among individuals with schizophrenia and the general population, it is the early starters of criminal behaviour who are disproportionately represented in the group with schizophrenia, because they are more likely to come to the attention of mental health professionals and thus receive a diagnosis. By this reasoning, it is antisocial personality disorder, psychopathy, and substance-use disorders that are related to the risk of violence, not schizophrenia.

Risk Assessment in Other Groups

Several studies have examined risk assessment in such other specific groups as incest offenders[30*], stalkers,[31] wife assaulters,[32] and juveniles[33**-35]. In general, those studies found that the risk factors for violence were generally the same as those reported in other groups of offenders and mentally disordered populations.

Dynamic Risk Factors

Several studies have examined the contribution of 'dynamic' risk factors in risk assessment[36-39], and have argued that risk assessments containing dynamic variables can be more accurate than risk assessments consisting only of static variables. No studies, however, have evaluated whether change in a variable purported to be dynamic is related to a parallel change in risk, a requirement that must be met before it can be said that a variable is, in fact, a dynamic risk factor.[40] Following the methodology of an earlier study,[41] one study[37] found some evidence that an increase in hostility may be useful in predicting when an offender is at higher risk. Unfortunately, the role of dynamic characteristics in violence risk assessment has become complicated and confused. This is illustrated by structured checklists in which such characteristics as antisocial personality, insight, and response to treatment are said to be changeable personal (i.e. dynamic) characteristics essential for accurate risk assessment. In the hope of clarifying some of this confusion, we highlight several issues relevant to 'dynamic' risk:

Whether antisocial personality can be made to change is empirically unclear; certainly the stability of standard personality measures, especially in adults, is remarkably high.

The assessment of anything at one point in time is a static variable. Using information obtained only at or before release in attempting to predict which offenders will recidivate means that all predictors are static variables. This is true whether predictors are just in principle modifiable or whether they are believed to have actually changed before the release decision.

Change scores derived from measures of modifiable characteristics gathered entirely before release become purely historic variables, even if based on dynamic traits.

Everything assessed before the opportunity to reoffend competes for outcome variance. Any predictive accuracy achieved by already-identified static, historical variables reduces the amount available for such putatively 'dynamic' variables as insight or procriminal attitudes. For example, offenders who complete treatment programmes exhibit less recidivism than those who drop out; but offenders with antisocial personalities are both more likely to recidivate and more likely to drop out of treatment. These facts mean that it cannot be assumed that treatment completion adds anything to an antisocial personality. It could be that the effect of treatment completion on recidivism is entirely subsumed by the effect of antisocial personality. The question of the incremental validity of dynamic predictors is relevant to the idea that various attitudes, values, and intentions must be evaluated for valid pre-release risk assessment. In some studies, the addition of pre-release evaluations of several purportedly dynamic variables to static, historical variables actually decreased the predictive accuracy for violent crime[21*,42].

This might occur because bona fide dynamic variables that undergo unobserved changes during the follow-up period

would be expected to lose their predictive ability. By definition, this cannot happen to truly static, historical predictors.

Changes in dynamic variables that can be observed during the follow-up do not compete with measures (static or 'dynamic') obtained entirely before release. The two prediction issues are incommensurate; one is relevant to release decisions and long-term supervision, and the other to short-term adjustments in disposition and supervision. Whether the associations between violence and change in dynamic variables (during follow-up) vary as a function of long-term (static) risk level is unknown. Some post-release changes in the offender or environment must influence reoffending - behaviour has contemporaneous causes and offenders' recidivistic behaviour shows day-to-day variability - but research on the interplay between these domains is just beginning. It is unknown, for example, how well static, historical variables predict post-release circumstances. (Are psychopaths most likely to select antisocial peers and procriminal environments after release?) Unlike other fields such as meteorology, we are a long way from having an agreed-upon and empirically validated theory of human violence.

The reduction in risk that may be accomplished by treatment is of particular relevance. Unfortunately, there continues to be little evidence that the risk of violence has been reduced by the treatment of adult offenders[21,43,44]. A methodological contribution to the quasi-experimental, non-random evaluation of treatment (especially in view of the inadequacy of covariance approaches[45]) is exemplified by an inter-institutional comparison study suggesting that criminal (not specifically violent) recidivism and relapse to drug use was reduced by prison-based drug treatment programmes[46*].

Conclusion

Progress in violence risk assessment is continuing at a rapid pace. Most of the progress has been made through the use of actuarial risk assessment tools that consist of static predictors. Evidence continues to mount that schizophrenia and psychotic symptoms are negatively, if at all, related to the risk of future violence among offenders and individuals who receive psychiatric services. There is as yet no convincing evidence that dynamic variables (especially treatment) play a role in determining who is likely to engage in future violence. There is good evidence that forensic decision-making is improved when based on actuarial methods.

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