

The Use of Actuarials at Civil Commitment Hearings to Predict the Likelihood of Future

Sexual Violence

by

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INTRODUCTION:

The civil commitment of so-called “sexually violent predators” requires that a prediction be made regarding the likelihood that a given individual will engage in future acts of “sexual violence.” In an effort to make any such prediction as accurate as possible, a variety of actuarial methods have been proposed.

Utilizing an actuarial method to make a prediction involves documenting the existence of a statistical correlation between the presence of certain “risk factors” and a particular outcome. For example, when setting premium costs, a medical insurance company needs to have some sense of which groups of individuals are likely to be at heightened risk of having a heart attack in the future. A group that likely would be at such a heightened risk would be one made up predominately of obese, cigarette smoking males, who had both hypertension and high levels of cholesterol.

It is critical to note that individuals within any such “high risk” group are not all at equal risk. Thus, cardiac angiography, which is capable of revealing differences amongst individuals within such a group, would likely document that some have significantly clogged coronary arteries, whereas others do not. That could be one reason why many men within that so-called “high risk” group will nevertheless still not have a heart attack. Documenting that a given percentage of persons within any previously screened group (e.g., 50%) are likely to have a predicted outcome (e.g., either a heart attack, or future sexual misconduct) does not mean that each individual within that group is himself at a 50% risk. Some may be at a 70% risk, and others at 30%. Ordinarily, actuarial methods cannot distinguish one from the other. Absent accurate statistical confidence levels, one may not even be clear about the range of risk applicable to any given individual within such a group.

Actuarials in Use at Civil Commitment Hearings:

Actuarials currently in use at civil commitment hearings have included (1) the Rapid Risk Assessment for Sex Offender Recidivism (the RRASOR) (Hanson, 1997), (2) the Minnesota Sex Offender Screening Tool – Revised (the MNSOST – R) (Epperson, Kaul & Hesselton, 1999), and (3) a more recently developed tool that incorporates aspects of the RRASOR into it (the Static-99) (Hanson & Thornton, 1999). The RRASOR rates an individual based upon either the presence or absence of 4 identifiable “risk factors:” (1) the number of sex offenses for which he has previously been either charged or convicted, (2) his current age, (3) the gender of his former victims, and (4) the nature of his relationship to them (intra or extra familial).

Some have claimed that the RRASOR can be quite precise in making predictions (Hanson & Bussiere, 1998). For example, a version of the RRASOR Scoring Guide that has been in use at civil commitment hearings in the State of Florida states (a) that those with a score of 1 have a 2.4% and 6.5% risk of recidivism at 5 and 10 years respectively; (b) that those with a score of 3 have a 21.8% and a 36.9% risk of recidivism at 5 and 10 years respectively; and that those with a score of 5 have a 49.8% and 73.1% risk of recidivism at 5 and 10 years respectively. It should be noted, however, that Doren (1997, 1998) has cautioned that some assumptions have been made in developing those numbers. In other words, the above-noted percentages may, or may not, be correct depending upon the validity of those assumptions.

Even if one were to assume for the sake of discussion that the percentages listed are correct, and that in a number of prior studies 49.8% of persons with a RRASOR score of 5 had indeed actually recidivated in 5 years time, as noted above, that does not mean that everybody with a score of 5 has a 49.8% risk of doing so. For any given individual with a score of 5, his true risk of recidivism may actually be much higher or much lower.

Testing the RRASOR:

Conceptual arguments aside, one way of determining how helpful the RRASOR can be at predicting the likelihood of “future sexual violence” would be to test it under real life circumstances. Although some such validation testing has been done in the past with promising results (Hanson & Thornton, 2000), if the RRASOR is going to be employed at civil commitment hearings it would be important to know whether such results can be expected invariably. Unless that is the case, its practical utility at civil commitment hearings around the country, even as a preliminary screening tool, might be open to question.

One such opportunity to field test the RRASOR presented itself in Minnesota while researchers there were in the process of developing their own actuarial tool, the MNSOST-R. Those researchers documented a correlation coefficient (r) of .13 between a person’s score on the RRASOR and the likelihood of sexual recidivism. What that means in practical terms is that the percentage of the variance (r^2) in recidivism that could be accounted for by what had been measured by the RRASOR was only .02 (that is 2%). Ninety-eight percent of what had determined whether or not persons were likely to recidivate had had to do with factors other than those that had been assessed by the RRASOR. These were not necessarily surprising findings, since as noted above, the RRASOR primarily considers current age, number of prior offenses, victim gender, and the relationship to prior victims, with no consideration of the multitude of other factors that can effect whether recidivism is likely to occur. Thus, although the RRASOR achieved statistical significance, it may not have had much practical significance. In the Minnesota sample, the Psychopathy Check List, PCL-SV (Hare, 1991) was also a very poor predictor of the likelihood of sexual recidivism ($r = .04$).

The Minnesota Sex Offender Screening Tool – Revised:

The Minnesota Sex Offender Screening Tool – Revised (the MNSOST-R) is a 16 item actuarial tool (Epperson, Kaul & Hesselton, 1999). Its developers have made an attempt to address the important issue of predictive accuracy. After all, it is not difficult to

correctly identify in advance every person who is going to eventually recidivate if one is willing to sacrifice accuracy. To do so, one needs merely to predict that everybody will recidivate. As future instances of recidivism occur, each will have been by someone about whom such an outcome had been correctly predicted. The problem will be that the predictions made will not have been very accurate, because many who are not going to recidivate will also falsely have been predicted to have been likely to do so. These are the so-called “false positives.” Thus, predictions about who is likely to recidivate must not only be correct; they must also be accurate.

In practice, a MNSOST-R score of 8 or higher is often considered suggestive of a “high risk” of recidivism. In the construction sample (the sample used to develop the MNSOST-R), a score of 8 or higher would have accurately identified 70% (40 out of the 57 men who had had a score of 8 or higher) as recidivists. Conversely, however, 30%, or about 1/3, of those labeled as likely recidivists (17 out of the 57) would actually have been non-recidivists. A MNSOST-R score of 17 or higher would have correctly identified 92% (11 out of the 12 men who have had a score of 17 or higher) as recidivists. It would have mislabeled only 8% of non-recidivists (1 out of the 12 men with a score of 17 or higher) as a recidivist.

If future validation studies of the MNSOST-R can replicate such high levels of accuracy, that will be helpful. However, in a recent study (Wollert, 2002) the predictive accuracy of the MNSOST-R was evaluated from a cross-validated perspective. That study concluded that the original predictions of the MNSOST-R were found to be “greatly inflated.” Thus, given the fact that there is still considerable uncertainty about how well the MNSOST-R will be able to do in accurately predicting the likelihood of a person engaging in a future act of “sexual violence,” its use at civil commitment hearings at this time may be quite premature.

The Static-99:

The Static-99 is a ten item actuarial tool (Hanson & Thornton, 1999). The 10 items that need to be rated are (1) a number of prior sex offenses, (2) the number of prior sentencing dates, (3) any convictions for non-contact sex offenses, (4) index case nonsexual violence, (5) prior nonsexual violence, (6) any unrelated victims, (7) any stranger victims, (8) any male victims, (9) current age of the offender, and (10) single. Note that all 4 items of the RRASOR have been incorporated into the Static-99. A total Static-99 score of 6 or more is considered to be reflective of a “high risk of sexual recidivism.” Table 1 below lists the sexual recidivism rates at 5, 10, and 15-year follow-up intervals, that have been associated with various scores on the Static-99 (Hanson & Thornton, 1999).

In viewing the 15-year follow-up data in Table 1, it is clear in going down that column that in general, the higher the Static-99 score, the higher the percentage of individuals who eventually recidivated. Thus, it appears that the Static-99 may be quite capable of functioning as a good screening tool that can identify a group of individuals (e.g., those with a score of 6 and above), who when considered as a group, are at heightened risk. Note that approximately 50% of individuals with a Static-99 score of 6 and above did, indeed, recidivate within a 15-year follow-up period. However, the other 50% or so did not. Given the fact that not all persons within that so-called “high risk” group are at equal risk, the Static-99 can take us no further, by identifying specifically which individuals with a score of 6 or greater are actually more or less likely to recidivate. In point of fact, when it comes to determining specifically which persons with a score of 6 or higher are more or less likely (whether likely means 50% or 40%) to commit a future act of “sexual violence,” the Static-99 cannot do much better than a coin flip. What the Static-99 has demonstrated is that many persons, including those with multiple prior offenses, who might have been expected to recidivate, did not do so. Thus, to consider all such persons to be at “high risk” is clearly both unjustified by the data, as well as misleading. A recent study (Nunes et. al., 2002) has shown even lower rates of recidivism for Static-99 so-called “high risk” individuals. In that study, those with a

Static-99 score of 6 or higher had only a 30% sexual recidivism rate at 7.3 years, compared with the 39% sexual recidivism rate at 5 years noted in Table I.

Conclusions:

The civil commitment of sexual offenders is a controversial matter, having been declared constitutional (with some reservations) by the United States Supreme Court, by only a 5 to 4 margin (*Kansas v. Hendricks*, 1997). It is questionable whether mental health professionals or lay jurors for that matter, can look into the crystal ball of the future and make accurate predictions. In general, mental health professionals are better at managing (i.e., reducing) risk, rather than trying to predict it in a vacuum.

Mental health professionals need to be able to acknowledge not only what they are capable of doing, but also their own limitations. Some things may not yet be possible. Actuarials can potentially be very misleading if one incorrectly attributes the overall risk of a previously screened group to a specific individual within it. An actuarial tool cannot first be used to “screen in” a group of persons to be considered for possible civil commitment; and then once again be used at the commitment hearing itself to further differentiate the likelihood of “future sexual violence” of a given individual within that group. If that fact is not made sufficiently clear at a civil commitment hearing, then the prejudicial effects of actuarial data (i.e., its capacity to be misleading) may outweigh its probative value (i.e., its capacity to assist in determining truth). For that reason, the use of actuarial data should be restricted to the screening process, rather than introducing it as evidence of a given individual’s likely risk, as is now being done, at the civil commitment hearing itself.

Finally, from an ethical perspective, it is important to note that actuarial methods represent a form of profiling. For example, arguably the likelihood of committing a future violent crime may be heightened amongst persons within a group who (1) have previously been convicted of a criminal offense involving a handgun, (2) have had a prior diagnosis of a personality disorder, (3) are impoverished, (4) are residents of an inner city

ethnic ghetto, (5) come from a single parent home, (6) had failed to graduate from high school, (7) had a history of school truancy and (8) are male. However, to deprive any given individual within such a group of his future liberty based primarily upon such group membership, ostensibly in order to treat his personality disorder, would likely never be tolerated. In a free society, predicting a given individual's future dangerousness based predominately upon membership in a purportedly "high risk" group, can itself constitute a dangerous precedent.

TABLE I

Sexual Recidivism Rates for the Static-99

STATIC-99 Score	Sample Size	% who sexually recidivated		
		5 years	10 years	15 years
0	107 (10%)	5%	11%	13%
1	150 (14%)	6%	7%	7%
2	204 (19%)	9%	13%	16%
3	206 (19%)	12%	14%	19%
4	190 (18%)	26%	31%	36%
5	100 (9%)	33%	38%	40%
6+	129 (12%)	39%	45%	52%
Average Score 3.2	1086 (100%)	18%	22%	26%

* As reported in Hanson & Thornton, 1999.

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