Risk Assessment

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Risk Assessment

Risk assessment is one of the most important and most frequent tasks required of those working with sexual offenders. Formal risk assessments are needed for many important decisions, including sentencing, family reunification, conditional release, and civil commitment. Risk assessment can also assist in the case management and treatment of sexual offenders. Community supervision officers routinely look for signs of imminent relapse. Treatment providers wonder whether their clients are getting better or worse.

Different types of risk decisions require the consideration of different types of risk factors (see Table 1). Static or historical variables, such as criminal history, can be useful for the assessment of long-term recidivism potential, as in civil commitment hearings. Those interested in treating sexual offenders, however, need to consider dynamic (changeable) risk factors (e.g., sexual preoccupations). Dynamic factors can be divided into stable factors that endure for relatively long periods of time (months, years; e.g., alcoholism) and acute, rapidly changing factors that may be present for weeks, days, or even minutes (e.g., intoxication, victim access). Treatment providers are most interested in stable dynamic factors that, once changed, are associated with an enduring reduction in recidivism risk. Community supervision officers are particularly sensitive to acute dynamic factors that signal when offenders are most at risk.

Predicting whether sexual offenders are going to recidivate is difficult. There is no shortage of studies in which expert evaluators failed to distinguish between low risk and high risk offenders (e.g., *Dix, 1976; Rice, Quinsey & Harris, 1989; Sturgeon & Taylor, 1980*). The predictive accuracy of the typical clinical judgement is only slightly above chance levels (r = .10; *Hanson & Bussière, 1998*). Despite the dismal performance of many of risk assessments, evaluators knowledgeable about recent research have the potential of providing risk assessments that are worthy of consideration in many applied contexts.

RECIDIVISM RISK FACTORS

Evaluators are most likely to provide valid assessments when they consider factors actually related to risk. The strongest evidence that a characteristic is a risk factor comes from follow-up studies. Follow-up studies compare the recidivism rate of offenders with a particular characteristic (e.g., married) to the rate of offenders with a different characteristic (e.g., single). No single risk factor is sufficiently related to recidivism that it can be used on its own. Evaluators need to consider a range of risk factors. As well, the risk factors for general recidivism are not identical to the risk factors for sexual recidivism.

PREDICTORS OF GENERAL RECIDIVISM

Sexual offenders are more likely to recidivate with a non-sexual crime than a sexual crime. After 4-5 years the observed recidivism rate for sexual offenses is 10% - 15%, compared to a rate of 10% - 15% for non-sexual violence and approximately 40% for any recidivism (*Hanson & Bussière, 1998*). Consequently, evaluators need to carefully consider the goals of the risk assessment (e.g., sexual, violent or any recidivism). In general, the factors that predict non-sexual recidivism among sexual offenders are very similar to the factors that predict recidivism among non-sexual offenders. Table 2 displays the risk factors for general (any) recidivism identified in the meta-analytic reviews of *Gendreau, Little and Goggin* (1996) and H*anson and Bussière* (1998). The results are presented as r, the correlation coefficient. The correlation coefficient can range from 0 to 1, with 0 indicating chance levels and 1 indicating perfect prediction. The values of r can be interpreted as the percentage difference in the recidivism rates of those offenders with or without a particular characteristics (*Farrington & Loeber, 1989*).

For both groups, the strongest predictors are prior criminal history, juvenile delinquency, antisocial personality, age, minority race and substance abuse. Low intelligence and personal distress were of little influence for either group. It is interesting to note that the two strongest predictors of general recidivism among the non-sexual criminals — companions and antisocial attitudes — have been largely ignored in the risk research with sexual offenders.

PREDICTORS OF SEXUAL RECIDIVISM

Table 3 presents the most well-established predictors of sexual offense recidivism drawn from *Hanson and Bussière* (1998). All of these factors have been replicated in at least four studies, allowing evaluators to be confident that the factors actually are related to recidivism risk. The strongest predictors of sexual offense recidivism are variables related to sexual deviancy, such as deviant sexual preferences, prior sexual offenses, early onset of sexual offending and the diversity of sexual crimes. The single strongest predictor was sexual interest in children as measured by phallometric assessment. Measures of criminal lifestyle were also related to sexual recidivism. Response to treatment is another factor worthy considering in risk assessment. Although there is a debate about the extent to which treatment is effective in reducing recidivism risk, it is clear that those offenders who fail to complete treatment are higher risk than offenders who complete treatment programs.

Table 3 is not intended to be an exhaustive list of relevant risk factors, but as a starting point for evaluators to develop their own lists. As research becomes available, new items should be added and the interpretation of existing items may change. Anger, for example, received only tentative support in the *Hanson and Bussière* (1998) meta-analysis, but prudent evaluators may want to include it on their lists given that chronic hostility predicted recidivism in subsequent research (*Quinsey, Khanna & Malcolm, 1998*).

Although empirically supported factors are the most easily defended, some plausible risk factors lack documented empirical support. No recidivism studies, for examples, have examined stated intentions to reoffend, but evaluators would be foolish to ignore such an obvious risk factor.

Review of Table 3 indicates that the most well-established risk factors are static (e.g., prior sexual offenses) or highly stable characteristics (e.g., personality disorders, deviant sexual interests). Clinicians, however, are interested in changeable (dynamic) factors. The research on dynamic factors is less well developed than the research on static factors, but there is some preliminary evidence supporting the value of dynamic factors (*Hanson & Harris, 1998;* in press).

For therapists interested in treatment targets, some of the more promising stable dynamic factors include the following:

- **intimacy deficits** — i.e., problems in forming satisfying love relationships
- **negative peer influences** — i.e., peers who support either deviant lifestyles or inadequate coping strategies
- **attitudes tolerant of sexual offending** — e.g., the idea that some women like being raped or adult-child sex is harmless
- **problems with emotional/sexual self-regulation** — e.g., feelings of sexual entitlement or the tendency to cope with negative affect through sexual thoughts or behaviour
- **general self-regulation** — i.e., poor self-control and the inability to follow the conventions of society.

Although negative mood does not predict long-term recidivism, an acute worsening of mood is associated with increased recidivism risk. An offender who is chronically upset is at no greater risk than an offender who is generally happy, but both of these types of offenders become at increased risk when their mood deteriorates. Other acute risk factors include substance use, acute anger, and lack of cooperation with community supervision. Further discussion of dynamic risk factors for sexual offenders can be found in *Hanson and Harris* (1998, 2000, in press) and *Hanson* (in press).

The risk factors discussed so far have been characteristics of the offender, but prudent evaluators would also want to consider the offender's environment. The research on negative environmental factors is limited, but we do know that sexual offenders are more likely to recidivate given uncontrolled released environments and ready access to victims (*Hanson & Harris, 1998*). Consequently, evaluators would want to consider the features of the offender's environment that inhibit or disinhibit sexual offending.

COMBINING FACTORS INTO ACTUARIAL RISK SCALES.

Several different scales have been developed that combine individual risk factors into summary scores. Table 4 presents some of the actuarial scales most commonly used to assess risk with sexual offenders. The first four scales were primarily developed to predict general or violent recidivism, whereas the later four scales focus on sexual offense recidivism. A detailed evaluation of the strengths and weaknesses of each measure is beyond the scope of this package; instead, only brief comments are provided on the measures' accuracy in predicting general, violent and sexual recidivism. In the table, "moderate" levels of predictive accuracy correspond to correlations in the .25 to .30 range (ROC areas ~ .70), and "high" accuracy corresponds to correlations in the .35 to .45 range (ROC areas ~ .75). ROC areas are computed from the number of "hits" versus "false alarms" at each level of the risk scale (Rice & Harris, 1995). The area under the ROC curve can be interpreted as the probability that a randomly selected recidivist would have a more deviant score than a randomly selected non-recidivist.

When considering the extent to which the scale has been successfully replicated, "high" indicates that consistent results have been found by several independent research teams, "moderate" indicates that the results have been found in at least two different settings, and "low" indicates that the results have been replicated, but all the samples were from the same setting.

The Level of Service Inventory – Revised (LSI-R; *Andrews & Bonta, 1995*) is one of the most well established measures of general criminal recidivism (*Gendreau et al., 1996*). Unlike the other measures in the table, the LSI-R has the important advantage of including a substantial number of dynamic factors. Evaluations of sexual offenders, however, should not rely exclusively on the LSI-R since it does not include items specifically related to sexual recidivism (e.g., relationship to victims). The Violence Risk Appraisal Guide (VRAG; *Quinsey, Harris, Rice & Cormier, 1998*) is among the most accurate risk measures for general violence, but it was not intended to assess the risk for sexual recidivism. The Sex Offender Risk Appraisal Guide (SORAG; *Quinsey et al., 1998*) is revision of the VRAG for sexual offenders. The resulting scale is a good predictor of general violent recidivism, but only a moderate predictor of sexual recidivism. Both the VRAG and the SORAG include the Psychopathy Checklist (PCL-R; *Hare, 1991*) along with a number of other indicators of negative childhood adjustment, demographics, and criminal history. On its own, the PCL-R is a moderate predictor of both general and violent recidivism (*Hemphill, Hare & Wong, 1998*).

The Minnesota Sex Offender Screening Tool (MnSOST; *Epperson, Kaul & Huot, 1995*) was specifically designed to assess the risk of sexual recidivism among extrafamilial child molesters and rapists (incest offenders excluded). The revised version of the MnSOST, the MnSOST-R, contains essentially the same items as the original version, but uses an empirically-based weighting system. The empirical weights increase the predictive accuracy of the scale, but the new weights have yet to be cross-validated on a fresh sample. Both the MnSOST and MnSOST-R were constructed from pre-established groups of recidivists and non-recidivists, which makes it difficult to directly translate the scores for these scales into recidivism rates.

The Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR; *Hanson, 1997*) was developed to assess the risk for sexual offense recidivism using a limited number of easily-scored items. The initial pool of items was selected from *Hanson and Bussière's* (1998) meta-analysis, and tested on seven different samples from Canada, the US, and the UK. The scale is moderately accurate in the prediction of sexual recidivism, but has little relationship to general or non-sexual violent recidivism.

Static-99 (*Hanson & Thornton, 1999*) combined the RRASOR items with the easily scored items from Thornton's Structured Anchored Clinical Judgement scale (SAC-J; *Grubin, 1998*). When tested in four diverse samples, the resulting scale predicted sexual offense recidivism (average r = .33) better than either original scale (RRASOR or SAC-J). Static-99 also shows at least moderate accuracy in predicting any violent recidivism (average r = .32). In comparison, *Hemphill et al.* (1998) reported the average correlation between the PCL-R and violent recidivism to be .27.

COMBINING RISK FACTORS

There is considerable controversy concerning the best approach to conducting risk assessments with sexual offenders. Everyone agrees that evaluators should consider valid risk factors, and that evaluations based on multiple sources of information are more likely to be reliable than those based on a single source (particularly when that source is the offender). Disagreement arises, however, on the best method for combining risk factors into comprehensive evaluations. Many of these debates

will remain active pending future research. Given the current state of knowledge, there are three plausible approaches to risk assessment: a) empirically-guided clinical judgement, b) pure actuarial prediction, and c) clinically adjusted actuarial prediction (*Hanson, 1998*).

Empirically-guided clinical judgement rates each offender on a list of established risk factors, such as prior offenses or marital status (single). The evaluator then formulates an overall assessment of risk based on the observed combination of risk factors (e.g., *Boer, Hart, Kropp & Webster, 1997*). Although the accuracy of clinical judgement has generally been unimpressive, there are several examples in which empirically-guided clinical judgements have yielded adequate results (*Epperson et al., 1995; Dempster, 1998*). The challenge in the empirically-guided approach is translating the observed risk factors into recidivism probabilities. Although offenders with all the risk factors would be considered high risk, and those with no risk factors would be considered low risk, this approach provides no explicit direction on how to gauge the risk of the typical offender who has *some* risk factors.

In contrast to the empirically-guided clinical approach, the actuarial approach provides explicit rules for combining risk factors into specific probability estimates. For example, each risk factor could be given a weight, and these weights could be summed into a total score. The scores can then be associated with specific probabilities of recidivism.

Actuarial approaches have many desirable features. They are typically easy to score and interpret, and their validity has been established by previous research. The major problem with actuarial approaches, however, is that no scale can claim to consider all relevant risk factors. It is always possible that an offender has special characteristics that mitigates the prediction provided by the actuarial scale. Consequently, many evaluators conduct clinically-adjusted actuarial predictions in which the actuarial predictions are adjusted up or down based on external factors. For example, the risk may be increased for a "low risk" offender who stated his intention to reoffend, or may be decreased for a "high risk" offender crippled by disease.

The optimal approach to risk assessment depends, to large extent, on the quality of the available research. In the murky, initial stages, simply identifying relevant risk factors is a significant advance. Given valid risk factors, evaluators can then consider how best to combine the factors into an overall assessment of risk. Given valid procedures for combining factors (i.e., actuarial scales), researchers can then consider which of an increasingly small pool of external risk factors should be used (or not) to adjust the initial assessment.

When actuarial tools are available, they have generally proved more accurate than clinical judgement (*Grove & Meehl, 1996*). The prediction of sexual recidivism is no exception (*Hanson & Bussière, 1998*). Some experts argue that any attempt to adjust actuarial predictions by external variables should be avoided (*Quinsey et al., 1998*). Advocates of the pure actuarial approach believe that clinical judgement is so inferior to actuarial predictions that introducing adjustments simply dilutes otherwise valid evaluations. Advocates of the clinical approach will argue that actuarial scales neglect potentially important risk factors.

In many cases, however, evaluators have no scales to use. Actuarial scales based on static items can be used to assess long-term recidivism potential, but cannot be used to identify treatment needs, evaluate change, or predict the timing of reoffense. For such tasks, evaluators must rely on an

empirically guided clinical approach. Current research has identified a number of dynamic factors plausibly related to sexual offense recidivism, but the evidence remains weak and the best methods to combine these factors remains unknown. Evaluators concerned with treatment outcome can only specify the factors they consider important and assess these factors as reliably as possible. In many contexts, the best that can be expected from evaluators is that their analysis of the particular case is guided by a sound knowledge of sexual offenders in general and of recidivism research in particular.

RECOMMENDATIONS

Evaluators may find it wise to routinely incorporate actuarial scales into their risk assessments. The choice of risk scale depends on the context of the evaluation. Those interested in predicting any recidivism should consider the LSI-R or VRAG. Of the two, the LSI-R has the advantage of including a substantial number of dynamic factors, whereas the VRAG is the superior predictor of violent recidivism. When the assessment focuses on sexual recidivism, the two most promising scales are the MnSOST-R and Static-99. In many contexts, evaluators will want to use more than one scale in order to consider separately the risk for sexual and non-sexual recidivism. Although the PCL-R is not the optimal measure of recidivism potential, it can be useful, nonetheless, when assessing the potential to conform to the demands of treatment and community supervision.

The extent to which evaluations deviate from the predictions provided by the scale will depend on several factors, not the least of which is the evaluators' perception of the quality of the scale: the better the scale, the fewer the adjustments. In general, adjustments to actuarial predictions are unjustified when the possible mitigating factors have already been considered (and rejected) or incorporated into the scale. Nevertheless, prudent evaluators should always consider whether external factors could influence the score provided by any of the existing actuarial scales. Evaluation experts have yet to reach consensus on the circumstances and amount that actuarial scales should be adjusted (if at all).

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TABLE 1.

The importance of static and dynamic risk factors to different types of assessment.

CONTEXT	STATIC FACTORS	DYNAMIC FACTORS	
		STABLE	ACUTE
Long-term sanctions			
(sexual predator, life-time supervision)			
Imposition	✓✓	✓	●
Release	✓	✓✓	✓
Community supervision			
(e.g., parole, probation)			
Placement	✓✓	✓✓	✓
Revocation/change	✓	✓	✓✓
Treatment			
Identification of goals/needs	●	✓✓	✓
Evaluating individual change	●	✓✓	✓
Child protection			
Long-term safety (placement)	✓✓	✓	●
Need for crisis intervention	✓	✓	✓✓

✓✓ very important
✓ relevant
● relevant, but not required

TABLE 2.

Predictors of general (any) recidivism among sexual and general offenders.

RISK FACTOR	SEXUAL OFFENDERS	GENERAL OFFENDERS
Companions	–	.21
Antisocial cognitions	–	.18
Antisocial personality	.16	.18
Adult criminal history	.23	.17
Juvenile delinquency	.28	.16
Minority race	.10	.16
Age (young)	.16	.11
Substance abuse	.11	.10
Low intelligence	.01	.07
Personal distress	.01	.05

Note: Values are averaged correlation coefficients from *Hanson & Bussière* (1998; sexual offenders) and *Gendreau et al.* (1996; general offenders).

TABLE 3.

Predictors of sexual offense recidivism.

RISK FACTOR	R	N (K)
Sexual deviance:		
PPG Sexual interest in children	.32	4,853 (7)
Any deviant sexual preference	.22	570 (5)
Prior sexual offenses	.19	11,294 (29)
Any stranger victims	.15	465 (4)
Early onset	.12	919 (4)
Any unrelated victims	.11	6,889 (21)
Any boy victims	.11	10,294 (19)
Diverse sexual crimes	.10	6,011 (5)
Criminal history/lifestyle:		
Antisocial personality	.14	811 (6)
Any prior offenses	.13	8,683 (20)
Demographic factors:		
Age (young)	.13	6,969 (21)
Single (never married)	.11	2,850 (8)
Treatment history:		
Treatment drop-out	.17	806 (6)

Note: r is the average correlation coefficient from *Hanson & Bussière* (1998). k is the number of studies and n is the total sample size.

TABLE 4.

Risk scales used to predict general, violent or sexual recidivism.

SCALE	NUMBER OF ITEMS	TYPE OF ITEMS	TYPE OF RECIDIVISM PREDICTED	STRENGTH OF PREDICTION	STRENGTH OF REPLICATION
LSI-R	54	Criminal history, education/employment, financial problems, family/marital problems, poor accommodation, criminal companions, substance abuse, emotional disturbance, procriminal attitudes	general violent	high moderate	high
VRAG	12	PCL-R, age, separation from parents, alcohol problems, childhood maladjustment, criminal history, marital status, victim injury, failure on conditional release	violent general	high high	high
SORAG	14	Similar to VRAG plus phallometric assessment	violent sexual	high moderate	low
PCL-R	20	Shallow affect, parasitic lifestyle, criminal versatility, impulsivity, lack of remorse, manipulative, glib, superficial	general violent	moderate moderate	high
MnSOST	21	Prior sexual offenses, violation of conditional release, use of force, age of victim, stranger victims, juvenile delinquency, substance abuse, employment, treatment dropout, age	sexual	moderate	moderate
MnSOST-R	16	Similar to MnSOST but with empirically-based weights	sexual	high	low
RRASOR	4	Prior sexual offenses, male victims, unrelated victims, age	sexual	moderate	moderate
Static-99	10	RRASOR items + non-sexual violence, total sentencing dates, stranger victims, unmarried, non-contact offenses	sexual violent	moderate moderate	moderate

LSI-R Level of Service Inventory — Revised (*Andrews & Bonta, 1995*).
VRAG Violence Risk Appraisal Guide (*Quinsey et al., 1998*).
SORAG Sex Offender Risk Appraisal Guide (*Quinsey et al., 1998*).
RRASOR Rapid Risk Assessment for Sexual Offense Recidivism (*Hanson, 1997*).
Static-99 (*Hanson & Thornton, 1999*).
PCL-R Hare Psychopathy Checklist (*Hare, 1991*).
MnSOST-R Minnesota Sex Offender Screening Tool — Revised (*Epperson, Kaul & Hesselton, 1998*).
MnSOST Minnesota Sex Offender Screening Tool (*Epperson, Kaul & Huot, 1995*).

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